# Deutsche Bank AG, Bangkok Branch

# Pillar 3 Report

# December 31, 2023

# Quantitative and Qualitative Disclosures about Credit, Market and Other Risk

## Scope of Basel III application

Deutsche Bank Aktiengesellschaft (“Deutsche Bank AG”), headquartered in Frankfurt am Main, Germany, is the parent institution of the Deutsche Bank group of institutions, which is subject to the supervisory provisions of the Banking Act and the SolvV. The Deutsche Bank AG, Bangkok Branch is a segment of Deutsche Bank Aktiengesellschaft and is not a separately incorporated legal entity. Risk management process of Deutsche Bank AG, Bangkok Branch follows risk management process of parent bank.

Included in the following section on quantitative and qualitative disclosure about credit, market and other risks is information regarding to Basel III of Deutsche Bank AG, Bangkok Branch according to Bank of Thailand’s related notifications. Certain portions excerpted from disclosure of parent bank. More information of parent bank can be found under website https://www.db.com/ir/en/regulatory-reporting.htm

## Key Risk Indicators

The table below presents Deutsche Bank AG, Bangkok Branch’s key risk indicators as at 31 December and 30 June 2023.

**Key risk indicators**

| Item | Dec-23 | Jun-23 |
|---|---|---|
| **Available capital (unit: MTHB)** | | |
| Total capital | 17,800 | 17,800 |
| Fully loaded ECL[1/] total capital | 17,800 | 17,800 |
| **Risk-weighted assets (unit: MTHB)** | | |
| Total risk-weighted assets (RWA) | 62,453 | 64,342 |
| **Risk-based capital ratios as a percentage of RWA (%)** | | |
| Total capital ratio | 28.50 | 27.66 |
| Fully loaded ECL total capital ratio | 28.50 | 27.66 |
| **Liquidity coverage ratio (LCR) (%)** [2/] | | |
| Total high-quality liquid assets (Total HQLA) (unit: MTHB) | 32,539 | 29,259 |
| Total net cash outflows within the 30-day period (unit: MTHB) | 12,967 | 15,649 |
| LCR (%) | 251 | 187 |

1/ Expected credit losses according to the Thai Financial Reporting Standard No.9 - Financial Instruments

Due to the first-time adoptio of Thai Financial Reporting Standard No.9 (TFRS 9), on 1 January 2020 the bank had an excess allow ance, w hich w as the difference betw een the allow ance for doubtful accounts determined based on prior year accounting policy and the allow ance for expected credit loss determined under TFRS 9. The Bank plans to reduce such excess allow ance on a straight-line basis over the 5-years period, w hich is in line w ith the Bank of Thailands's regulation.

2/ The disclosure of LCR data according to the Bank of Thailand Notification Re: Liquidity Coverage Ratio Standards can be found under w ebsite https://w w w .db.com/thailand/en/content/Liquidity-coverage-ratio-disclosure-standards.html

## Capital Structure

As at 31 December and 30 June 2023, assets maintained in Thailand for capital funds purpose were Bank of Thailand's Bonds and Thai Government Bonds that are funded from borrowings from other Deutsche Bank branches outside Thailand. The assets maintained and the source of funds were qualified as the bank capital funds as they were fully met with the conditions as specified according to Section 32 of the Financial Institutions Businesses Act B.E. 2551.

The table below presents Deutsche Bank AG, Bangkok Branch's capital structure as at 31 December and 30 June 2023.

**Capital Structure of Foreign Bank Branch**

Unit : MTHB

| Item | Dec-23 | Jun-23 |
|---|---|---|
| **1. Assets required to be maintained under Section 32** | **17,984** | **17,980** |
| **2. Sum of net capital for maintenance of assets under Section 32 and net balance of inter-office accounts (2.1+2.2)** | **19,871** | **23,687** |
| 2.1 Capital for maintenance of assets under Section 32 | 17,800 | 17,800 |
| 2.2 Net balance of inter-office accounts which the branch is the debtor (the creditor) to the head office and other branches located in other countries, the parent company and subsidiaries of the head office | 2,071 | 5,887 |
| **3. Total regulatory capital (3.1-3.2)** | **17,800** | **17,800** |
| 3.1 Total regulatory capital before deductions (The lowest amount among item 1 item 2 and item 2.1) | 17,800 | 17,800 |
| 3.2 Deductions ** | - | - |

** As at 31 December and 30 June 2023, the Bank had shortfall of allowance THB 139mn and THB 143mn, respectively, which was the difference between the minimum 1% allowance for doubtful accounts determined by Bank of Thailand and the allowance for expected credit loss determined under TFRS 9.

## Capital Adequacy

The following key principles are our approach to monitor capital adequacy of Deutsche Bank AG, Bangkok Branch.

- Organizes a monthly local Asset and Liability Committee (ALCO) meeting to monitor relevant risk dimensions and setting internal targets to maintain capital adequacy and a sufficient capital buffer as required by Bank of Thailand as well as calibrate the needs of the business divisions to the availability of capital.
- Accommodates the implementation of an Internal Capital Adequacy Assessment Process (ICAAP) required by Bank of Thailand which comes to effective in 2011. Deutsche Bank AG, Bangkok Branch has incorporated a large borrower concentration risk, sector concentration risk and interest rate in banking book for BIS ratio calculation.
- Develops a business plan to manage the businesses' projection growth and the adequacy of capital.

Besides of the above, Deutsche Bank AG, Bangkok Branch also conducts daily monitoring of deduction items from the capital funds according to Bank of Thailand's notifications i.e. assess fair values at end of day of prior working day of derivatives transactions and securities, monitor failed trades and net inter-office balance as well as assess estimated capital adequacy of the bank before undertaking material derivatives transactions.

The following tables represent minimum capital requirement for credit risk, market risk and operational risk as well as capital ratio of Deutsche Bank AG, Bangkok Branch as at 31 December and 30 June 2023.

Unit : MTHB

| **Minimum capital requirement for credit risk classified by type of assets under the SA** | **Dec-23** | **Jun-23** |
|---|---|---|
| **Performing claims** | | |
| 1. Claims on sovereigns and central banks, multilateral development banks (MDBs), and non-central governement public sector entities (PSEs) treated as claims on sovereigns | - | - |
| 2. Claims on financial institutions , non-central governement public sector entities (PSEs) treated as claims on financial institutions, and securities firms | 1,200 | 1,459 |
| 3. Claims on corporates , non-central governement public sector entities (PSEs) treated as claims on corporate | 2,545 | 2,562 |
| 4. Claims on retail portfolios | - | - |
| 5. Claims on housing loans | - | - |
| 6. Other assets | 15 | 19 |
| **Non-performing claims** | **-** | **-** |
| **First-to-default credit derivatives and Securitisation** | **-** | **-** |
| **Total minimum capital requirement for credit risk under the SA** | **3,760** | **4,040** |

Unit : MTHB

| **Minimum capital requirement for market risk (positions in the trading book)** | **Dec-23** | **Jun-23** |
|---|---|---|
| Calculate by Standardised approach | 2,826 | 2,779 |
| **Total minimum capital requirement for market risk** | **2,826** | **2,779** |

Unit : MTHB

| **Minimum capital requirement for operational risk** | **Dec-23** | **Jun-23** |
|---|---|---|
| Calculate by Basic Indicator Approach | 283 | 258 |
| **Total minimum capital requirement for operational risk** | **283** | **258** |

**Ratio of total capital to risk-weighted assets**

Unit : %

| **Ratio** | **Dec-23** | | **Jun-23** | |
|---|---|---|---|---|
| | **Capital ratio of the financial group** | **Minimum capital ratio according to the BOT regulations** | **Capital ratio of the financial group** | **Minimum capital ratio according to the BOT regulations** |
| Total capital to risk-weighted assets | 28.50 | 11.00 | 27.66 | 11.00 |

**Risk Exposure and Assessment**
**Risk Management Framework**

The risk management at the Bank is integral to DB Group’s risk management framework and processes.

The Bank’s business model requires to identify, assess, measure, aggregate and manage risks, and to allocate capital among our businesses. Risk and capital are managed via a framework of principles, organizational structures and measurement and monitoring processes that are closely aligned with the activities and organizational structure of the Bank.

- Core risk management responsibilities are embedded in the Bank’s Executive Committee and delegated to senior risk management committees responsible for execution and oversight. The Executive Committee regularly monitors the risk and capital profile.
- We operate a Three Lines of Defence (“3LoD”) risk management model. The First Line of Defense (“1st LoD”) are all the business divisions and service providing infrastructure areas (i.a., Group Technology Operations and Corporate Services) who are the "owners" of the risks. The Second Line of Defence (“2nd LoD”) are all the independent risk and control infrastructure functions. The Third Line of Defence (“3rd LoD”) is Group Audit, which assures the effectiveness of our controls. All 3LoD are independent of one another and accountable for maintaining structures that ensure adherence to the designed principles at all levels.
- Risk strategy is approved by the Executive Committee of the Branch on an annual basis and is defined based on the Risk Appetite and Strategic and Capital Plan in order to align risk, capital and performance targets.
- Cross-risk analysis reviews are conducted to validate that sound risk management practices and a holistic awareness of risk exist.
- All material risk types are centrally managed via risk management processes. Modeling and measurement approaches to assess risk in terms of capital demand. Reputational risk, model risk are implicitly covered in DB Group’s economic capital framework, primarily within operational and strategic risk.
- Monitoring, stress testing tools and escalation processes are in place for key capital and liquidity thresholds and metrics.
- Systems, processes and policies are critical components of our risk management capability. The Bank has a sound & efficient risk infrastructure in place.
- Recovery plan is managed via a centralized process. DB Group Recovery planning provides the escalation path for crisis management governance and supplies senior management with a list of actions designed to improve the capital and liquidity positions in a stress event.
- At the Group level, resolution planning is closely supervised by the Single Resolution Board (“SRB”). It provides a strategy to manage Deutsche Bank in case of default. It is designed to strengthen financial stability by the continuation of critical services delivered to the wider economy

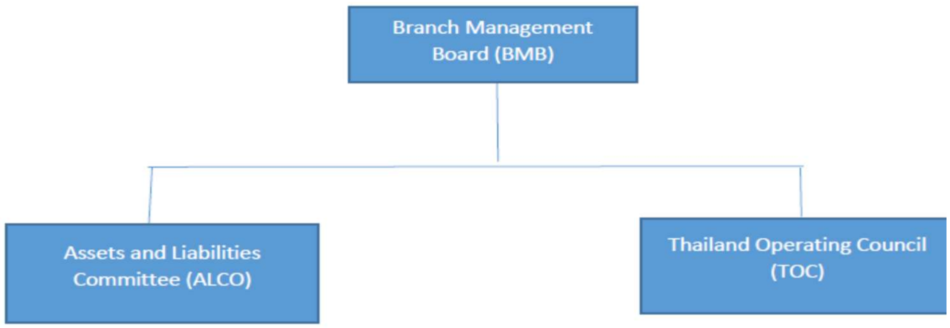
**Risk Governance**

Our operations throughout the world are regulated and supervised by relevant authorities in each of the jurisdictions in which we conduct business. Such regulation focuses on licensing, capital adequacy, liquidity, risk concentration and conduct of business as well as organizational and reporting requirements. The European Central Bank (the “ECB”) in connection with the competent authorities of EU countries which joined the Single Supervisory Mechanism via the Joint Supervisory Team act in cooperation as our primary supervisors to monitor our compliance with the German Banking Act and other applicable laws and regulations.

Several layers of management provide cohesive risk governance:

- The Supervisory Board is informed regularly on our risk situation, risk management and risk controlling, as well as on our reputation and material litigation cases. It has formed various committees to handle specific tasks (for a detailed description of these committees, please see the "Corporate Governance Report" under "Management Board and Supervisory Board" - "Standing Committees").
- At the meetings of the Risk Committee, the Management Board reports on key risk portfolios, on risk strategy and on matters of special importance due to the risks they entail. It also reports on loans requiring a Supervisory Board resolution pursuant to law or the Articles of Association. The Risk Committee deliberates with the Management Board on issues of the overall risk appetite, aggregate risk position and the risk strategy and supports the Supervisory Board in monitoring the implementation of this strategy.
- The Integrity Committee, among other responsibilities, advises and monitors the Management Board with regard to the management's commitment to an economically sound, sustainable development of the company, monitors the Management Board's measures that promote the company's compliance with legal requirements, authorities' regulations and the company's own in-house policies, including risk policies. It also reviews the Bank's Code of Conduct and Ethics, and, upon request, supports the Risk Committee in monitoring and analyzing the Bank's legal and reputational risks.
- The Audit Committee, among other matters, monitors the effectiveness of the risk management system, particularly the internal control system and the internal audit system.
- The Management Board is responsible for managing Deutsche Bank Group in accordance with the law, the Articles of Association and its Terms of Reference with the objective of creating sustainable value in the interest of the company, thus taking into consideration the interests of the shareholders, employees and other company related stakeholders. The Management Board is responsible for establishing a proper business organization, encompassing appropriate and effective risk management, as well as compliance with legal requirements and internal guidelines. The Management Board established the Group Risk Committee ("GRC") as the central forum for review and decision on material risk and capital related topics.
- In Thailand, the Bank's operations are regulated and supervised by Bank of Thailand. Such regulations focuses on licensing, capital adequacy, liquidity, risks concentration, conduct of business as well as organizational and reporting requirements.
- The Branch Management Board (BMB) as the highest forum in Thailand is aware and kept regularly informed on special developments in our risk situation, risk management and risk controlling, as well as on our reputation and material litigation cases.
- The BMB is responsible for managing the Bank in accordance with the law, the Articles of Association and its Terms of Reference with the objective of creating sustainable value in the interest of the company, thus taking into consideration the interests of the shareholders, employees and other stakeholders.
- The BMB is responsible for establishing a proper business organization, encompassing an appropriate and effective risk management.
- Asset and liabilities Committee (ALCO) of the Branch in Thailand assumes the roles and responsibilities of the Group Risk committee as the central forum for review and decision on the material risk and capital related matter. It is also responsible for checking in compliance with the capital adequacy requirement under the laws and regulations in Thailand.
- Thailand Operating Council (TOC) manages all operations matters for the branch and being a central forum for operational risk management.

The following functional committees are central to the management of risk at the Bangkok Branch:




BMB = Branch Management Board
ALCO = Asset and Liabilities Committee
TOC = Thailand Operating Council

**Risk Culture**

The risk culture at the Bank is fully integrated in DB Group's risk culture framework and processes. This is underpinned in the below principles and practices.

DB Group seeks to promote a strong risk culture throughout the organization. It aims to help reinforce the Bank's resilience by encouraging a holistic approach to the management of risk and return throughout the organization as well as the effective management of DB Group's risk, capital and reputational profile. DB Group actively takes risks in connection with its business and as such the following principles define the risk culture within DB Group:

- Risk is taken within a defined risk appetite;
- Every risk taken needs to be approved within the risk management framework;
- Risk taken needs to be adequately compensated; and
- Risk should be continuously monitored and managed.

Employees at all levels are responsible for the management and escalation of risks. All employees are expected to exhibit behaviors that support a strong risk culture. To promote this DB Group policies require that behavior assessment is incorporated into our performance assessment and compensation processes. DB Group communicated the following risk culture behaviors through various communication vehicles:

- Being fully responsible for our risks;
- Being rigorous, forward looking and comprehensive in the assessment of risk;
- Inviting, providing and respecting challenges;
- Trouble shooting collectively; and
- Placing Deutsche Bank and its reputation at the heart of all decisions.

These behaviours are reinforced through a comprehensive risk culture training programme, as well as targeted communications and awareness campaigns.

**Risk and Capital Management**

**Risk and Capital Management Organization**

The DB Group's Chief Risk Officer (CRO), who is a member of the DB Group Management Board, is responsible for the identification, assessment, management and reporting of risks arising within operations across all businesses and risk types. The below functional committees are central to the Risk function:

- The DB Group's Risk Committee identifies, controls and manages all risks including risk concentrations at the DB Group. To fulfil this mandate, the DB Group's Risk Committee is supported by sub-committees that are responsible for dedicated areas of risk management, including the Non-Financial Risk Committee, the Enterprise Risk Committee, and the Group Reputational Risk Committee.
- The Non-Financial Risk Committee ensures oversight and decision-making on Non-Financial Risks.
- The Group Reputational Risk Committee ensures oversight, governance and decision-making on Reputational Risks. It also provides for an appropriate look-back and lessons learnt process.
- The Enterprise Risk Committee ensures oversight and decision-making on Financial Risks and cross-risks. It is responsible for aggregating and analyzing enterprise-wide risk information and recommending risk and return allocation across risks. Enterprise Risk Management will manage enterprise risk appetite and allocation across businesses and legal entities, integrate and aggregate risks to provide greater enterprise risk transparency to support decision making, govern and improve the effectiveness of risk management framework , and commission forward looking stress tests, and manage group recovery and resolution plans.

Dedicated Risk units are established with the mandate to:

- Ensure that the business conducted within each division is consistent with the DB Group's risk appetite;
- Formulate and implement risk and capital management policies, procedures and methodologies that are appropriate to the businesses within each division;
- Approve credit, market and liquidity risk limits;
- Conduct periodic portfolio reviews to ensure that the portfolio of risks is within acceptable parameters; and
- Develop and implement risk and capital management infrastructures and systems that are appropriate for each division.

The heads of the DB Group's Risk units, who are the members of DB's Group Risk Committee, are responsible for the performance of the units and report directly to DB Group's Chief Risk Officer.

DB Group's Finance and Group Audit departments support the Risk function where they operate independently of both the group divisions and of the Risk function.

**Structure and Responsibilities of Agencies of Risk Management**

Risk management responsibilities conducted by our local management committees which are as below:

**1) *Branch Management Board (BMB)***

The BMB is chaired by Chief Country Officer.

The BMB provides a forum for managing the branch issues in Thailand on:

- The businesses potential and development including return on capital and capital allocation
- Risk policy, organization and governance of risk management as well as an ensuring the oversight of execution of risk and capital management

- Oversees, governs and coordinates the management both financial risks and non-financial risks including establishes a cross-risk and holistic perspective risks of the branch
- Development and review of financial budgets to reflect the risk appetite and branch's strategy
- New product, new process and new transaction to accommodate the business direction
- Co-ordination of coverage of major clients including to review the client portfolio to match with the branch risk appetite
- Regulatory and reputation issues

**2) *Asset and Liability Committee (ALCO)***

The ALCO is chaired by the Treasurer responsible for Deutsche Bank AG, Bangkok Branch or delegate.

The local Asset and Liability Committee (ALCO) provides a forum for managing the capital, liquidity and funding position of Deutsche Bank AG, Bangkok Branch for ensuring regular monitoring of risk positions, capital requirements and regulatory compliance. The ALCO reviews other risk dimensions such as Credit and Market risk as required to comply with the local Internal Capital Adequacy Assessment Process (ICAAP).

Typical Activities are as below:

- Promotion of decisions and policies made on a Deutsche Bank Group level as applicable to the Bank
- Review of regulatory changes, decision making on and monitoring of implementation of adequate processes
- Discuss market developments and stress test results from adverse market movements on the branch's liquidity position
- Ensure compliance with internal and local external requirements (limits/ ratios/ targets) and/or regulatory requirements
- Calibrate the needs of the business divisions to the availability of capital, liquidity and balance sheet and assist them in adjusting their portfolios to the limited availability of these financial resources
- Setting and reviewing (where relevant) specific targets for risk weighted assets (RWA) by business line (if required), balance sheet size, unsecured funding and daily liquidity stress test.
- Monitoring relevant risk dimensions and setting internal targets to maintain capital adequacy and a sufficient capital buffer as required under the local ICAAP
- Assist in setting and reviewing (where relevant) limits/ targets by instrument for volumes, tenor and term structure, as well as market concentration, limits/ guidelines and targets for investor diversification

**3) *Thailand Operating Council (TOC)***

The TOC is chaired by Country Chief Operating Officer.

The council provides a forum for managing operation issues, including

- Disseminate information which is relevant to Council members in order for them to achieve both their and Bank's objectives
- Support the implementation of the Operational Risk Management framework across businesses and ensure that appropriate levels of resources from the members' respective business areas are allocated to participate in the implementation
- Monitor the operational risk profiles of each Division and prioritise actions to be taken to mitigate these risks as appropriate
- Review Internal & External Audit Reports and monitor audit points and ensure that appropriate actions are taken to resolve outstanding audit points in a timely manner
- Review Operational Risk Management status report, loss reports, etc.
- As appropriate, discuss and resolve cross business issues with a view to manage risk and improve service to the businesses
- Monitor cost development of various operations areas

- Monitor and keep updating regulatory changes and development
- Monitor reputational and regulatory and compliance issues
- Update new product and new operational process development & implementation
- Manage staffs and trainings issues

***4) Group Audit***

- Group Audit (GA) is an instrument of the Management Board ("MB"), and the Global Head of Group Audit reports administratively to the CEO and collectively to the MB. GA supports MB in identifying significant known and emerging weaknesses in the control framework, assessing whether risks, including the potential occurrences of fraud, anti-trust or misconduct, are appropriately identified and managed. GA is also responsible for assessing the effectiveness and efficiency of risk management, internal controls, governance processes and systems in a holistic and forward-looking manner.GA is not responsible for the design, installation, procedures, or operations of the institution's internal control systems. GA also assists MB in safeguarding the assets, reputation and sustainability of the Group.
- GA evaluates compliance of the Group's organisational units with the Group's policies and procedures and key laws and regulations, the integrity of the processes and techniques employed, assumptions and sources of information used in its internal models, and the quality and use of qualitative risk identification and assessment tools.
- GA's activities are based on a comprehensive, risk-based audit plan. GA maintains and updates an Audit Universe covering the Group's activities and processes, which are identified through a top-down and bottom-up review of the Group's business and operating units. The risk assessments and methodology underpinning the audit plan are reviewed at minimum annually.
- In order to maintain a dynamic, risk-based audit plan, GA undertakes Continuous Monitoring of the Group to facilitate an ongoing, holistic view of risk, leveraging a wide range of sources to determine whether the audit plan remains relevant.
- GA maintains an internal quality assurance and improvement program (QAIP) that covers all aspects of the GA activity, assesses the efficiency and effectiveness of GA's activities, GAs conformance with the IIA Standards and the UK Financial Services Code, whether internal auditors apply the IIA's Code of Ethics, and assess conformance against Basel and SR 13-1.

**Categories of Risk**

Group is exposed to a variety of risks, amongst them credit, market, operational, liquidity, reputational and business risks.

- **Credit risk**

Credit risk arises from all transactions where actual, contingent or potential claims against any counterparty, borrower or obligor (which we refer to collectively as "counterparties") exist, including those claims that the Bank plans to distribute.

The Bank understands the below dimensions as key drivers for credit risk:

- "Counterparty Risk", the most significant element of credit risk, is the risk that counterparties fail to meet contractual obligations in relation to the claims described above;
- "Country Risk" arising from a country's propensity to economic and political disruption. It therefore relates to the likelihood that changes in the business environment will occur that reduce the viability of doing business in the country or region. Country Risk shall mean the risk that the Bank may suffer a loss due to possible deterioration of economic conditions; political and social upheaval; nationalisation and expropriation of assets; government repudiation of external indebtedness; exchange controls or currency depreciation or devaluation in any given country;

- "Industry Risk" being the risk of adverse developments in the operating environment for a specific industry segment leading to a deterioration in the financial profile of counterparties operating in that segment and resulting in increased credit risk across this portfolio of counterparties.
- "Product Risk" being the risk driven by the underlying structure and economic dependencies of the product in question and can include factors such as tenor, recovery expectations and likelihood of having an exposure at the time of a default. This category also includes 'Settlement risk' arising from the non-simultaneous transfer of cash or securities due to the settlement or clearance of trades.

The Bank manages credit risk on the basis of policies and guidelines set by Group Credit Risk Management (CRM), an independent risk management function organised in alignment with the divisions of the Bank.

The Bank's CRM is based on the following principles:

- Accept credit risk with creditworthy clients based on proper client due diligence
- Manage concentration risk at counterparty, product, country and industry level. Actively mitigate concentration risk through collateralization, hedging and/or distribution
- Allocate credit risk appetite by considering sustainable risk/return

CRM is organised globally and carries out risk identification, assessment, management, monitoring and reporting of credit risks. The CRM department is independent from business. Accordingly, the Bank adopts the credit policies of DB Group and the Risk Manager is responsible for ensuring that local procedures are compliant with DB Group principles.

- **Market risk**

Market risk arises from the uncertainty concerning changes in market prices and rates (including interest rates, equity prices, foreign exchange rates and commodity prices), the correlations among them and their levels of volatility. Deutsche Bank assumes market risk in both trading and non-trading activities. The bank uses a combination of risk sensitivities, value-at-risk (VAR), stress testing and Economic Capital metrics to management market risks and establish limits.

- **Operational risk**

Deutsche Bank applies the European Banking Authority's Single Rulebook definition of operational risk: "Operational Risk" means the risk of losses stemming from inadequate or failed internal processes, people and systems or from external events. Operational risk includes legal risk but excludes business and reputational risk and is embedded in all banking products and activities." Operational risk forms a subset of the bank's non-financial risks.

- **Liquidity risk**

Liquidity risk is the risk arising from our potential inability to meet payment obligations when they come due or only being able to meet these obligation at excessive costs. Liquidity risk management safeguards our ability to meet payment obligations. Our liquidity risk management framework has been an important factor in maintaining adequate liquidity and in managing the funding profile during 2023.

The Management Board defines our liquidity risk strategy, and in particular its tolerance for liquidity risk based on recommendations made by Treasury and Group Risk Committee.

- **Business risk**

Strategic risk is the risk of a shortfall in earnings (excluding other material risks) due to incorrect business plans (owing to flawed assumptions), ineffective plan execution or a lack of responsiveness to material plan deviations. Strategic risk arises from the exposure of the bank to the macroeconomic environment, changes in the competitive landscape, and regulatory and technological developments. Additionally, it could occur due to errors in strategic positioning, the bank's failure to execute its planned strategy and/or a failure to effectively address under-performance versus plan targets.

A Strategic and Capital plan is developed annually and presented to the Management Board (Branch Management Board) for discussion and approval. During the year, execution of business strategies is regularly monitored to assess the performance against strategic objectives and to seek to ensure we remain on track to achieve targets. A more comprehensive description of this process is detailed in the section 'Strategic and Capital Plan'.

- **Reputational risk**

Reputation risk is defined as the risk of possible damage to Deutsche Bank's brand and reputation, and the associated risk to earnings, capital or liquidity arising from any association, action or inaction, which could be perceived by stakeholders to be inappropriate, unethical or inconsistent with the Bank's values and beliefs.

Deutsche Bank seeks to ensure that reputational risk is as low as reasonably possible. The risk of possible damage in perception of our practices by our various stakeholders (e.g., public, clients, shareholders and regulators) have been upfront consideration and active assessment and decision-taking before the event. Deutsche Bank strives to promote sustainable standards that will enhance profitability and minimize reputational risk.

**Risk Management Tools**

The DB Group uses a comprehensive range of quantitative methodologies for assessing and managing risks. As a matter of policy, the DB Group continually assesses the appropriateness and the reliability of its quantitative tools and metrics in light of DB Group's changing risk environment. Some of these tools are common to a number of risk categories, while others are tailored to the particular features of specific risk categories. These advanced internal tools and metrics the DB Group currently uses to measure, manage and report its risk are:

**Economic Capital**

Economic capital measures the amount of capital DB Group needs to absorb from very severe unexpected losses arising from the DB Group's exposures. "Very severe" in this context means that economic capital is set at a level to cover with a probability of 99.98% the aggregated unexpected losses within one year. DB Group calculates economic capital for the default risk, transfer risk and settlement risk elements of credit risk, for market risk, for operational risk and for general business risk. DB Group continuously reviews and enhances its economic capital model as appropriate. It uses economic capital to show an aggregated view of its risk position from individual business lines up to its consolidated Group level. In addition, the Group considers economic capital, in particular for credit risk, when the Group measures the risk-adjusted profitability of its client relationships.

**Expected Loss**

Expected loss in context of the Groups Expected Credit Loss (ie IFRS9 - allowance for credit losses included in its financial statements) determination is a measurement of the credit loss the DB Group can expect within a one-year period for performing, i.e. stage 1 financial assets measured at Amortized Cost, Fair Value through Other Comprehensive Income and off-balance sheet lending commitments such as loan commitments and financial guarantees, or the expected lifetime for performing, but significantly deteriorated, i.e. stage 2, as well as non-performing, or defaulted for regulatory purposes, according to the Capital Requirements Regulation under Art. 178., i.e. stage 3 including “Purchased or originated credit impaired “POCI” financial assets, from these risks as of the respective reporting date. The DB Group uses three main components to measure ECL. These are Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD). The Group leveraged existing parameters used for determination of capital demand under the Basel Internal Ratings Based Approach and internal risk management practices as much as possible to calculate ECL. These parameters are adjusted where necessary to comply with TRS9 requirements (e.g. use of point in time ratings and removal of downturn elements in the regulatory parameters). Incorporating forecasts of future economic conditions into the measurement of expected credit losses influences the allowance for credit losses in Stage 1 and 2. In order to calculate lifetime expected credit losses, the Group’s calculation includes deriving the corresponding lifetime PDs from migration matrices that reflect economic forecasts.

For operational risk the-DB Group determines the expected loss from statistical averages of internal loss history, recent risk trends as well as forward looking expert estimates.
The-DB Group also uses expected loss as a tool of the risk management process and as part of DB Group’s management reporting systems.

**Value at Risk**

The DB Group uses the value-at-risk approach to derive quantitative measures for market risks. The Group’s value-at-risk figures play a role in both internal and external (regulatory) reporting. VaR is a quantitative measure of the potential loss (in value) of Fair Value positions due to market movements that should not be exceeded in a defined period of time and with a defined confidence level..

**Stress Testing**

The Bank stress tests its pillar 1 capital as required and specified by Bank of Thailand. The Bank’s Stress Tests are reported in the RCP report and regularly discussed by the BMB and ALCO. The BMB ensures that stress testing framework and scenarios used reflect all relevant material risks as well as local regulatory requirements. The BMB approves such stress testing framework, and is informed about the stress testing results regularly. It also assesses the viability of the Bank’s capital planning based on the stress test results. The BMB is responsible to initiate and properly document remedial measures and mitigating actions (including explanations that justify the credibility and feasibility of those actions) based on the stress test results under consideration of the risk appetite, if deemed appropriate or necessary. The Bank subjects all risk types covered under its EC concept (Pillar 2 risks), as well as liquidity risk, to regular stress tests. At Group level, the Stress Testing Committee is responsible for aligning scenario definitions between DB Group and legal entities according to the Global Stress Testing Policy.

**Risk Appetite Framework**

Risk appetite expresses the level of risk that we are willing to assume within our risk capacity in order to achieve our business objectives. Risk appetite is expressed in both qualitative statements and quantitative metrics. Risk capacity is defined as the maximum level of risk we can assume before breaching regulatory capital requirements and liquidity needs and our obligations to stakeholders.

Risk appetite is an integral element in our business planning processes via our Business and Risk Strategy, to promote the appropriate alignment of risk, capital and performance targets, while at the same time considering risk capacity and appetite constraints from both financial and non-financial risks. We leverage the stress testing process to test the compliance of the plan also under stressed market conditions. Top-down risk appetite serves as the limit for risk-taking for the bottom-up planning from the business functions.

The Risk Appetite Statement (RAS) at the Bank ensures that risk taking activities at the Bank is consistent with DB Group's strategy, business and risk overviews, as well as the local regulatory environment. Key objectives of the RAS are to:

- Articulate the Bank's risk appetite clearly via both quantitative metrics and qualitative statements;
- Detail an overall approach in communicating risk appetite across and within the Bank;
- Set ultimate boundaries for the Bank's risk/reward target setting;
- Ensure that the Bank has sufficient financial resources to support daily business at any given point in time and to absorb stressed market events;
- Be able to anticipate emerging risks and be adaptive towards changing economic and regulatory developments;
- Provide the basis for ongoing monitoring of our risk profile through the Bank's 'Risk and Capital Profile' report; and
- Define thresholds for each metrics at which escalation will be triggered.

In facilitating a consistent understanding of the nomenclatures around risk appetite, all key definitions established at DB Group level are adapted to the Bank as below:

<u>Risk Appetite Framework:</u> The overall approach, including policies, processes, controls, and systems through which risk appetite is established, communicated, and monitored;

<u>Risk Capacity:</u> The maximum level of risk that the Bank can assume before breaching regulatory capital and liquidity needs and its obligations to stakeholders;

<u>Risk Appetite:</u> The aggregate level of risk that the Bank is willing to assume within its risk capacity to achieve its business objectives;

<u>Limit:</u> Quantitative restriction on the size or amount of risk exposure based on forward looking assumptions;

<u>Risk Profile:</u> Point in time assessment of the Bank's gross and net risk exposures aggregated within, and across, each relevant risk type, business unit and legal entity based on current or forward-looking assumptions.

The Bank's Risk Appetite articulates the overall tone from the top in pursuing risk across the Bank and supports DB Group's risk culture, in reinforcing the bank's holistic risk management practices. In conjunction to the qualitative statements, the Bank desires to:

- Risk is taken within a defined risk appetite, which is actively managed and monitored in a timely manner, in order to maintain a robust risk profile and capital adequacy.
- Maintain stable funding and strategic liquidity to ensure that business is conducted within the liquidity risk appetite.
- Avoid any undue concentrations within the portfolios considering multiple dimensions. e.g. counterparty, region/ country, industries, products/ asset classes and business lines.
- Promote balanced risk adjusted performance and be fully responsible for accepting well compensated risks within risk appetite.
- Ensure that any business activity is supported by appropriate processes and controls to minimize operational risk.
- Minimize negative reputational, environmental and social impacts of our business activities.

The Bank assigns key risk appetite metrics that are sensitive to the material risks to which the bank is exposed to and which are able to function as key indicators of the bank's financial health in terms of liquidity and capital requirements. These key metrics are Common Equity Tier 1 (CET1) ratio, Economic Capital Adequacy (ECA) ratio, Liquidity Coverage Ratio (LCR), Stressed Net Liquidity Position (SNLP).

In order to determine risk appetite and capacity, thresholds are set and the escalation mechanism are defined for further action. The levels chosen reflect the Bank's strategic focus and business plan as well as additional internal and external stakeholders. Monitoring of risk profile using key risk appetite metrics is implemented using framework as described below:

Green status (within risk appetite): Performances are in line with the Bank's preparedness to accept risk to achieve its business objectives and risk management is considered to be operating in a normal environment. As part of normal risk management, measures are actively taken to ensure that the risk profile remains within our risk appetite, and move towards the externally disclosed strategic target as in the Risk and Capital Demand plan.

Amber status (within risk capacity): Issues that may position threats to the Bank's business model, deviate from our desired risk appetite and undermine the stakeholder expectations. Heightened risk management or mitigating actions may be applied in reference to the escalation matrix, in ensuring timely intervention.

Red status: Once the risk capacity is crossed, mitigating actions are invoked if not already triggered in the amber range.

In the event that the desired risk appetite is breached under either normal or stress scenarios, an escalation is made to the BMB which has to review and decide if further escalations to the Group and/or mitigating actions are required to bring risk profile back to the desired risk appetite range.

The following tables represent outstanding of on-balance sheet assets, off-balance sheet items and provisions of Deutsche Bank AG, Bangkok Branch as at 31 December 2023 and 2022.

**General information on credit risk ***

**Outstanding amounts of significant on-balance sheet assets and off-balance sheet items before the recognition of credit risk mitigation**

**(Show outstanding at the end of the period)**

Unit : MTHB

| Item | 2023 | 2022 |
|---|---|---|
| **1. On-balance sheet assets (1.1 + 1.2 + 1.3 + 1.4)** | **71,941** | **63,734** |
| 1.1 Loans and accrued interest receivable (net) [1/] | 15,622 | 16,473 |
| 1.2 Net investments in debt securities [2/] | 24,838 | 21,163 |
| 1.3 Deposits and accrued interest receivable (net) [3/] | 591 | 564 |
| 1.4 Derivatives | 30,890 | 25,534 |
| **2. Off-balance sheet items [4/] (2.1 + 2.2 + 2.3)** | **3,504,750** | **1,849,039** |
| 2.1 Aval of bills, guarantees, and letters of credit | 15,579 | 21,649 |
| 2.2 OTC derivatives [5/] | 3,487,982 | 1,826,187 |
| 2.3 Undrawn committed lines | 1,188 | 1,203 |

* Assets on balance sheet not including equity exposures. Off-balance sheet items including equity exposures

[1/] Including accrued interest income, net of deferred interest income, gains or losses due to changes in the conditions, and reserves for expected credit losses; including loans and accrued interest receivable of interbank and money market items

[2/] Including investments in receivables but excluding accrued interest receivable and net of reserves for adjustments of security values and reserves for expected credit losses

[3/] Including accrued interest income, net of reserves for expected credit losses

[4/] Before multiplying by credit conversion factors

[5/] Including equity-related derivatives

**Outstanding amounts of on-balance sheet assets and off-balance sheet items before the recognition of credit risk mitigation classified by country or geographic area of debtors**

Unit : MTHB

| 2023 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Country or geographic area of debtor | On-balance sheet assets | | | | | Off-balance sheet items [4/] | | | |
| | **Total** | Loans and accrued interest receivable (net) [1/] | Net Investment in debt securities [2/] | Deposits and accrued interest receivable (net) [3/] | Derivatives | **Total** | Aval of bills, guarantees, and letter of credits | OTC derivatives [5/] | Undrawn committed lines |
| 1. Thailand | **60,645** | 15,522 | 24,838 | 509 | 19,776 | **1,779,765** | 10,512 | 1,768,064 | 1,188 |
| 2. Asia Pacific (exclude Thailand) | **1,752** | 100 | - | - | 1,652 | **234,651** | 1,847 | 232,805 | - |
| 3. North America and Latin America | **50** | - | - | - | 50 | **3,199** | 383 | 2,816 | - |
| 4. Africa and Middle East | **-** | - | - | - | - | **2** | 2 | - | - |
| 5. Europe | **9,420** | - | - | 7 | 9,413 | **1,487,133** | 2,835 | 1,484,298 | - |
| 6. Others | **75** | - | - | 75 | - | **-** | - | - | - |
| **Total** | **71,941** | **15,622** | **24,838** | **591** | **30,890** | **3,504,750** | **15,579** | **3,487,982** | **1,188** |

Unit : MTHB

| 2022 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Country or geographic area of debtor | On-balance sheet assets | | | | | Off-balance sheet items [4/] | | | |
| | **Total** | Loans and accrued interest receivable (net) [1/] | Net Investment in debt securities [2/] | Deposits and accrued interest receivable (net) [3/] | Derivatives | **Total** | Aval of bills, guarantees, and letter of credits | OTC derivatives [5/] | Undrawn committed lines |
| 1. Thailand | **56,885** | 16,473 | 21,163 | 490 | 18,759 | **1,391,887** | 15,202 | 1,375,482 | 1,203 |
| 2. Asia Pacific (exclude Thailand) | **1,042** | - | - | - | 1,042 | **216,665** | 1,164 | 215,501 | - |
| 3. North America and Latin America | **70** | - | - | - | 70 | **5,827** | 2,591 | 3,236 | - |
| 4. Africa and Middle East | **-** | - | - | - | - | **-** | - | - | - |
| 5. Europe | **5,681** | - | - | 18 | 5,663 | **234,660** | 2,692 | 231,968 | - |
| 6. Others | **56** | - | - | 56 | - | **-** | - | - | - |
| **Total** | **63,734** | **16,473** | **21,163** | **564** | **25,534** | **1,849,039** | **21,649** | **1,826,187** | **1,203** |

[1/] Including accrued interest income, net of deferred interest income, gains or losses due to changes in the conditions, and reserves for expected credit losses; including loans and accrued interest receivable of interbank and money market items

[2/] Including investments in receivables but excluding accrued interest receivable and net of reserves for adjustments of security values and reserves for expected credit losses

[3/] Including accrued interest income, net of reserves for expected credit losses

[4/] Before multiplying by credit conversion factors

[5/] Including equity-related derivatives

**Outstanding amounts of on-balance sheet assets and off balance sheet items before the recognition of credit risk mitigation classified by residual maturity**

Unit : MTHB

| Item | 2023 | | | 2022 | | |
|---|---|---|---|---|---|---|
| | Maturity not exceeding 1 year | Maturity exceeding 1 year | **Total** | Maturity not exceeding 1 year | Maturity exceeding 1 year | **Total** |
| **1. On-balance sheet assets (1.1 + 1.2 + 1.3 + 1.4)** | **62,826** | **9,115** | **71,941** | **56,768** | **6,965** | **63,734** |
| 1.1 Loans and accrued interest receivable (net) [1/] | 14,949 | 672 | **15,622** | 16,288 | 184 | **16,473** |
| 1.2 Net investments in debt securities [2/] | 24,838 | - | **24,838** | 21,163 | - | **21,163** |
| 1.3 Deposits and accrued interest receivable (net) | 591 | - | **591** | 564 | - | **564** |
| 1.4 Derivatives | 22,447 | 8,443 | **30,890** | 18,753 | 6,781 | **25,534** |
| **2. Off-balance sheet items [4/] (2.1 + 2.2 + 2.3)** | **2,498,975** | **1,005,775** | **3,504,750** | **1,348,728** | **500,312** | **1,849,039** |
| 2.1 Aval of bills, guarantees, and letters of credit | 5,851 | 9,728 | **15,579** | 8,951 | 12,699 | **21,649** |
| 2.2 OTC derivatives [5/] | 2,492,527 | 995,456 | **3,487,982** | 1,338,812 | 487,375 | **1,826,187** |
| 2.3 Undrawn committed lines | 597 | 592 | **1,188** | 965 | 238 | **1,203** |

[1/] Including accrued interest income, net of deferred interest income, gains or losses due to changes in the conditions, and reserves for expected credit losses; including loans and accrued interest receivable of interbank and money market items

[2/] Including investments in receivables but excluding accrued interest receivable and net of reserves for adjustments of security values and reserves for expected credit losses

[3/] Including accrued interest income, net of reserves for expected credit losses

[4/] Before multiplying by credit conversion factors

[5/] Including equity-related derivatives

**Outstanding amounts of financial instruments* before the recognition of credit risk mitigation and provisions (General provision and specific provisions)**

Unit : MTHB

| 2023 | | | | | | |
|---|---|---|---|---|---|---|
| Item | Outstanding amount | | Amount of provisions [2/] | Provisions [2/] for exposures under the SA | | Net amount [3/] |
| | Non-performing claims [1/] | Performing claims [1/] | | General provisions | Specific provisions | |
| 1. Loans and accrued interest receivable [3/] | 1,024 | 14,711 | **114** | 112 | 2 | **15,622** |
| 2. Investments in debt securities [4/] | - | 24,846 | **8** | - | 8 | **24,838** |
| 3. Deposits and accrued interest receivable [5/] | - | 591 | **0** | - | 0 | **591** |
| 4. Committed lines and financial guarantees [6/] | 1,471 | 15,297 | **1** | - | 1 | **16,767** |
| **Total** | **2,496** | **55,446** | **123** | **112** | **11** | **57,819** |

Unit : MTHB

| 2022 | | | | | | |
|---|---|---|---|---|---|---|
| Item | Outstanding amount | | Amount of provisions [2/] | Provisions [2/] for exposures under the SA | | Net amount [3/] |
| | **Non-performing claims [1/]** | **Performing claims [1/]** | | General provisions | Specific provisions | |
| 1. Loans and accrued interest receivable [4/] | 892 | 15,694 | **114** | 112 | 2 | **16,473** |
| 2. Investments in debt securities [5/] | - | 21,169 | **6** | - | 6 | **21,163** |
| 3. Deposits and accrued interest receivable [6/] | - | 564 | **-** | - | - | **564** |
| 4. Committed lines and financial guarantees [7/] | 604 | 22,253 | **5** | - | 5 | **22,852** |
| **Total** | **1,496** | **59,680** | **124** | **112** | **12** | **61,052** |

* Only financial instruments subject to impairment requirements according to the Thai Financial Reporting Standard No.9 - Financial Instruments (TFRS 9)

[1/] Depending on the approach used by the reporting bank, namely (1) SA: Non-performing claims and performing claims; and (2) IRB: Defaulted exposures and non-defaulted exposures. In determining if any exposure is a "defaulted" exposure, commercial banks shall refer to the definition of credit-impaired assets (non-performing) as specified in the Bank of Thailand Notification Re: Asset Classification and Provisioning of Financial Institutions.

[2/] means reserves for expected credit losses according to TFRS 9. For financial instruments designated at fair value through other comprehensive income, the amount of provisions may not be disclosed according to the Thai Financial Reporting Standard No.7 - Disclosure Requirements for Financial Instruments (TFRS 7). And, the outstanding amounts of those instruments w ill be the amounts net of provisions.

[3/] Net amount = Outstanding amount - Provisions

[4/] Including accrued interest income, net of deferred income and gains or losses due to changes in the conditions, and including loans and accrued interest receivable of interbank and money market items

[5/] Excluding accrued interest receivable, net of reserves for adjustments of security values, and excluding investments in receivables

[6/] Including accrued interest income

[7/] Before multiplying by credit conversion factors

**Outstanding amounts of loans including accrued interest receivable and investments in debt securities before the recognition of credit risk mitigation classified by country or geographic area of debtors* and asset classifications as specified by the Bank of Thailand**

Unit : MTHB

| 2023 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Country or geographic area of debtors | Loans including accrued interest receivable [1/] | | | | | Investments in debt securities [2/] | | | | |
| | With an insignificant increase in credit risk | With a significant change in credit risk | Credit-impaired | Purchased and originated credit-impaired | **Total** | With an insignificant increase in credit risk | With a significant change in credit risk | Credit-impaired | Purchased and originated credit-impaired | **Total** |
| 1. Thailand | 15,636 | - | - | - | **15,636** | 24,846 | - | - | - | **24,846** |
| 2. Asia Pacific (excluding Thailand) | 100 | - | - | - | **100** | - | - | - | - | **-** |
| 3. North America and Latin America | - | - | - | - | **-** | - | - | - | - | **-** |
| 4. Africa and Middle East | - | - | - | - | **-** | - | - | - | - | **-** |
| 5. Europe | - | - | - | - | **-** | - | - | - | - | **-** |
| **Total** | **15,736** | **-** | **-** | **-** | **15,736** | **24,846** | **-** | **-** | **-** | **24,846** |

Unit : MTHB

| 2022 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Country or geographic area of debtors | Loans including accrued interest receivable [1/] | | | | | Investments in debt securities [2/] | | | | |
| | With an insignificant increase in credit risk | With a significant change in credit risk | Credit-impaired | Purchased and originated credit-impaired | **Total** | With an insignificant increase in credit risk | With a significant change in credit risk | Credit-impaired | Purchased and originated credit-impaired | **Total** |
| 1. Thailand | 16,586 | - | - | - | **16,586** | 21,169 | - | - | - | **21,169** |
| 2. Asia Pacific (excluding Thailand) | - | - | - | - | **-** | - | - | - | - | **-** |
| 3. North America and Latin America | - | - | - | - | **-** | - | - | - | - | **-** |
| 4. Africa and Middle East | - | - | - | - | **-** | - | - | - | - | **-** |
| 5. Europe | - | - | - | - | **-** | - | - | - | - | **-** |
| **Total** | **16,586** | **-** | **-** | **-** | **16,586** | **21,169** | **-** | **-** | **-** | **21,169** |

* Commercial banks shall classify countries or geographic areas according to their internal guidelines and shall explain supporting reasons.

[1/] Including accrued interest income, net of deferred income and gains or losses due to changes in the conditions, and including loans and accrued interest receivable of interbank and money market items

[2/] Excluding accrued interest receivable, net of reserves for adjustments of security values, and excluding investments in receivables

**Provisions (General provision and Specific provision) and write-offs during the period for loans including accrued interest receivable and investments in debt securities classified by country or geographic area of debtors***

Unit : MTHB

| 2023 | | | | | | |
|---|---|---|---|---|---|---|
| Country or geographic area of debtors | Loans including accrued interest receivable 1/ | | | Investments in debt securities 2/ | | |
| | Provisions 3/ for exposures under the SA | | Write-offs during the period | Provisions 3/ for exposures under the SA | | Write-offs during the period |
| | General provisions 4/ | Specific provisions | | General provisions 4/ | Specific provisions | |
| 1. Thailand | | 2 | - | | 6 | - |
| 2. Asia Pacific (excluding Thailand) | | - | - | | - | - |
| 3. North America and Latin America | | - | - | | - | - |
| 4. Africa and Middle East | | - | - | | - | - |
| 5. Europe | | - | - | | - | - |
| **Total** | **112** | **2** | **-** | **-** | **6** | **-** |

Unit : MTHB

| 2022 | | | | | | |
|---|---|---|---|---|---|---|
| Country or geographic area of debtors | Loans including accrued interest receivable 1/ | | | Investments in debt securities 2/ | | |
| | **Provisions 3/ for exposures under the SA** | | Write-offs during the period | **Provisions 3/ for exposures under the SA** | | Write-offs during the period |
| | General provisions 4/ | Specific provisions | | General provisions 4/ | Specific provisions | |
| 1. Thailand | | 2 | - | | 6 | - |
| 2. Asia Pacific (excluding Thailand) | | - | - | | - | - |
| 3. North America and Latin America | | - | - | | - | - |
| 4. Africa and Middle East | | - | - | | - | - |
| 5. Europe | | - | - | | - | - |
| **Total** | **112** | **2** | **-** | **-** | **6** | **-** |

* Commercial banks shall classify countries or geographic areas according to their internal guidelines and shall explain supporting reasons.

1/ Including the amounts of provisions and write-offs during the period for loans including accrued interest receivable of interbank and money market items

2/ Excluding investments in receivables

3/ Reserves for expected credit losses

4/ Total amount will be disclosed

**Outstanding amounts of loans including accrued interest receivable* before the recognition of credit risk mitigation classified by type of business and asset classifications as specified by the Bank of Thailand**

Unit : MTHB

| 2023 | | | | | |
|---|---|---|---|---|---|
| Type of business | With an insignificant increase in credit risk | With a significant change in credit risk | Credit-impaired | Purchased and originated credit-impaired | **Total** |
| - Agriculture and mining | - | - | - | - | **-** |
| - Manufacturing and commerce | 9,821 | - | - | - | **9,821** |
| - Real estate business and construction | 432 | - | - | - | **432** |
| - Public utilities and services | 1,023 | - | - | - | **1,023** |
| - Housing loans | - | - | - | - | **-** |
| - Others | - | - | - | - | **-** |
| - Finance business group | 4,460 | - | - | - | **4,460** |
| - Other service | - | - | - | - | **-** |
| **Total** | **15,736** | **-** | **-** | **-** | **15,736** |

Unit : MTHB

| 2022 | | | | | |
|---|---|---|---|---|---|
| Type of business | With an insignificant increase in credit risk | With a significant change in credit risk | Credit-impaired | Purchased and originated credit-impaired | **Total** |
| - Agriculture and mining | - | - | - | - | **-** |
| - Manufacturing and commerce | 10,167 | - | - | - | **10,167** |
| - Real estate business and construction | 294 | - | - | - | **294** |
| - Public utilities and services | 856 | - | - | - | **856** |
| - Housing loans | - | - | - | - | **-** |
| - Others | - | - | - | - | **-** |
| - Finance business group | 5,269 | - | - | - | **5,269** |
| - Other service | - | - | - | - | **-** |
| **Total** | **16,586** | **-** | **-** | **-** | **16,586** |

* Including accrued interest income, net of deferred income and gains or losses due to changes in the conditions, and including loans and accrued interest receivable of interbank and money market items

**General provisions and specific provisions and write-offs during the period for loans and accrued interest receivable * classified by business of debtors**

Unit : MTHB

| Item | 2023 | | | 2022 | | |
|---|---|---|---|---|---|---|
| | Provisions [1/] for exposures under the SA | | Write-offs during the period | Provisions [1/] for exposures under the SA | | Write-offs during the period |
| | General provisions [2/] | Specific provisions | | General provisions [2/] | Specific provisions | |
| - Agriculture and mining | | - | - | | - | - |
| - Manufacturing and commerce | | 1 | - | | 1 | - |
| - Real estate business and construction | | - | - | | - | - |
| - Public utilities and services | | - | - | | - | - |
| - Housing loans | | - | - | | - | - |
| - Others | | 1 | - | | 1 | - |
| **Total** | **112** | **2** | **-** | **112** | **2** | **-** |

* Including the amount of provisions and write-offs during the period for loans and accrued interest receivable of interbank and money market items

[1/] Reserves for expected credit losses

[2/] Total amount of the provisions will be disclosed

**Reconciliation of changes in available provisions (General provisions and specific provisions) for loans including accrued interest receivable ***

Unit : MTHB

| Item | 2023 | | | 2022 | | |
|---|---|---|---|---|---|---|
| | Provisions [1/] for exposures under the SA | | **Total** | Provisions [1/] for exposures under the SA | | **Total** |
| | General provisions | Specific provisions | | General provisions | Specific provisions | |
| Provisions at the beginning of the period | 112 | 2 | **114** | 168 | 58 | **226** |
| Increases or decreases in provisions during the period [2/] | - | - | **-** | - | - | **-** |
| Other provisions (provisions for FX losses, provisions for mergers and sales of businesses) | - | - | **-** | - | - | **-** |
| Write-offs during the period | - | - | **-** | (56) | (56) | **(112)** |
| Provisions at the end of the period | **112** | **2** | **114** | **112** | **2** | **114** |

* Including the amount of provisions for loans and accrued interest receivable of interbank and money market items

[1/] Reserves for expected credit losses

[2/] Excluding expected credit losses of financial instruments designated at fair value through other comprehensive income

**Outstanding amounts of on-balance sheet assets and credit equivalent amounts of off-balance sheet items (net of specific provisions) classified by type of assets under the SA**

Unit :MTHB

| Type of asset | 2023 | | | 2022 | | |
|---|---|---|---|---|---|---|
| | On-balance sheet assets | Off-balance sheet items [1/] | Total | On-balance sheet assets | Off-balance sheet items [1/] | Total |
| **1. Performing claims** | | | | | | |
| 1.1 Claims on sovereigns and central banks, multilateral development banks (MDBs), and non-central government public sector entities (PSEs) treated as claims on sovereigns | 25,503 | - | **25,503** | 21,690 | - | **21,690** |
| 1.2 Claims on financial institutions , non-central governement public sector entities (PSEs) treated as claims on financial institutions, and securities firms | 4,880 | 46,273 | **51,153** | 2,155 | 69,320 | **71,475** |
| 1.3 Claims on corporates , non-central governement public sector entities (PSEs) treated as claims on corporates | 12,734 | 13,702 | **26,436** | 14,861 | 15,256 | **30,117** |
| 1.4 Retail portfolios | - | - | **-** | - | - | **-** |
| 1.5 Housing loans | - | - | **-** | - | - | **-** |
| 1.6 Other assets | 31,307 | - | **31,307** | 25,980 | - | **25,980** |
| **2. Non-performing claims** | **-** | **-** | **-** | **-** | **-** | **-** |
| **3. First-to-default credit derivatives and Securitisation** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Total** | **74,424** | **59,975** | **134,399** | **64,686** | **84,576** | **149,262** |

[1/] Including all repo-style transactions (as well as reverse repo transactions)

## Credit risk exposure under the Standardized Approach (SA)

Deutsche Bank AG, Bangkok Branch calculates regulatory capital requirement for credit risk using the Standardized Approach (SA) methodology according to the Bank of Thailand's notification Re: Regulations for Credit Risk Asset Calculations for Commercial Banks Using the Standardized Approach (SA).

In setting risk weights of claims on sovereigns and central banks, claims on financial institutions, claims on securities companies and claims non-central government public sector entities (PSEs) treated as claims on sovereigns and treated as claims on financial institutions, Deutsche Bank use countries rating assessed by External Credit Assessment Institutions (ECAIs) as below:

1. Standard and Poor's
2. Moody's Investors Service
3. Fitch Ratings (Thailand)

In the absence of credit rating from ECAIs, then the rating of the country risk classification of OECD will be used.

In setting risk weights of claims on corporate and claims non-central government public sector entities (PSEs) treated as claims on corporate, Deutsche Bank use rating assessed by External Credit Assessment Institutions (ECAIs) as below:

1. Standard and Poor's
2. Moody's Investors Service
3. Fitch Ratings (Thailand)
4. TRIS Rating

For Fitch Ratings (Thailand), Deutsche Bank use Senior Unsecured Debt rating while for TRIS Rating, Deutsche Bank use company rating.

Deutsche Bank then match the debtor's credit rating given by ECAIs with the rating grade as set out in the Bank of Thailand's notification in order to identify the risk weights by type of claims on each debtor.
*Setting Risk Weights given Multiple Credit Ratings*

- Where the claim/debtor has 1 credit rating from the selected ECAI, Deutsche Bank use that rating to assign the risk weight for that claim/debtor.
- Where there are 2 different credit ratings from the selected ECAI with varying risk weights, Deutsche Bank use the higher risk weight.
- Where there are more than 2 credit ratings from the selected ECAI with varying risk weights, Deutsche Bank compare the two lowest risk weights, and use the higher risk weight; except where 2 or more credit ratings correspond to the lowest risk weight, Deutsche Bank use that risk weight.

The table below represents outstanding amount of net on-balance sheet assets and off-balance sheet items (after multiplying credit conversion factor) after adjusted by credit risk mitigation for each type of asset, classified by risk weight under the Standardized Approach (SA) as at 31 December 2023 and 2022.

**Credit risk exposures under the SA***

**Outstanding amount of net on-balance sheet assets and off-balance sheet items* after adjusted by credit risk mitigation for each type of asset, classified by risk weight under the SA**

Unit :MTHB

| Type of asset | 2023 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Rated outstanding amount | | | | | Unrated outstanding amount | |
| Risk weight (%) | 0 | 20 | 50 | 100 | 150 | 0 | 100 |
| **Performing claims** | | | | | | | |
| 1. Claims on sovereigns and central banks, multilateral development banks (MDBs), and non-central governement public sector entities (PSEs) treated as claims on sovereigns | 25,503 | - | - | - | - | | - |
| 2. Claims on financial institutions , non-central governement public sector entities (PSEs) treated as claims on financial institutions, and securities firms | 1,687 | 24,891 | 3,178 | 4,343 | - | | - |
| 3. Claims on corporates , non-central governement public sector entities (PSEs) treated as claims on corporate | 7 | 3,233 | 14 | 0 | - | | 22,486 |
| 4. Claims on retail portfolios | | | | | | | - |
| 5. Claims on housing loans | | | | | | | - |
| 6. Other assets | | | | | | 31,170 | 137 |
| Risk weight (%) | | | 50 | 100 | 150 | | |
| **Non-performing claims** | | | - | - | - | | |
| **Capital deduction items prescribed by the Bank of Thailand** | | | | | | | |

| Type of asset | 2022 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Rated outstanding amount | | | | | Unrated outstanding amount | |
| Risk weight (%) | 0 | 20 | 50 | 100 | 150 | 0 | 100 |
| **Performing claims** | | | | | | | |
| 1. Claims on sovereigns and central banks, multilateral development banks (MDBs), and non-central governement public sector entities (PSEs) treated as claims on sovereigns | 21,690 | - | - | - | - | | - |
| 2. Claims on financial institutions , non-central governement public sector entities (PSEs) treated as claims on financial institutions, and securities firms | 235 | 17,646 | 3,105 | 19,394 | - | | - |
| 3. Claims on corporates , non-central governement public sector entities (PSEs) treated as claims on corporate | 7 | 4,930 | 657 | 224 | - | | 22,974 |
| 4. Claims on retail portfolios | | | | | | | - |
| 5. Claims on housing loans | | | | | | | - |
| 6. Other assets | | | | | | 25,829 | 152 |
| Risk weight (%) | | | 50 | 100 | 150 | | |
| **Non-performing claims** | | | - | - | - | | |
| **Capital deduction items prescribed by the Bank of Thailand** | | | | | | | |

* After multiplying credit conversion factor

1/ For the portion claims with no credti risk mitigation of which risk weight are determined by the proportion of provision to total amount of claims

## Credit risk mitigation under the Standardized Approach (SA)

### Credit Risk Mitigation Techniques

In addition to determining counterparty credit quality and the risk appetite, the Bank also uses various credit risk mitigation techniques to optimize credit exposure and reduce potential credit losses. Credit risk mitigants are applied in the following forms:

- Comprehensive and enforceable credit documentation with adequate terms and conditions.
- Collateral held as security to reduce losses by increasing the recovery of obligations.
- Risk transfers, which shift the probability of default risk of an obligor to a third party including hedging executed by our Credit Portfolio Strategies Group.
- Netting and collateral arrangements which reduce the credit exposure from derivatives and repo- and repo-style transactions.

### Collateral Held as Security

The Bank regularly agrees on collateral to be received from or to be provided to customers in contracts that are subject to credit risk. Collateral is security in the form of an asset or third-party obligation that serves to mitigate the inherent risk of credit loss in an exposure, by either substituting the borrower default risk or improving recoveries in the event of a default. While collateral can be an alternative source of repayment, it generally does not replace the necessity of high quality underwriting standards.

We segregate collateral received into the following two types:

- Financial and other collateral, which enables us to recover all or part of the outstanding exposure by liquidating the collateral asset provided, in cases where the borrower is unable or unwilling to fulfill its primary obligations. Cash collateral, securities (equity, bonds), and collateral assignments of other claims or inventory, equipment (i.e., plant, machinery) and real estate typically fall into this category.
- Guarantee collateral, which complements the borrower's ability to fulfill its obligation under the legal contract and as such is provided by third parties. Letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and risk participations typically fall into this category.

Our processes seek to ensure that the collateral we accept for risk mitigation purposes is of high quality. This includes seeking to have in place legally effective and enforceable documentation for realizable and measurable collateral assets which are evaluated regularly by dedicated teams. The assessment of the suitability of collateral for a specific transaction is part of the credit decision and must be undertaken in a conservative way, including collateral haircuts that are applied. We have collateral type specific haircuts in place which are regularly reviewed and approved. In this regard, we strive to avoid "wrong-way" risk characteristics where the borrower's counterparty risk is positively correlated with the risk of deterioration in the collateral value. For guarantee collateral, the process for the analysis of the guarantor's creditworthiness is aligned to the credit assessment process for borrowers.

### Risk Transfers

Risk transfers to third parties form a key part of our overall risk management process and are executed in various forms, including outright sales, single name and portfolio hedging, and securitizations. Risk transfers are conducted by the respective business units.

### Netting and Collateral Arrangements for Derivatives and Securities Financing Transactions

Netting is applicable to over-the-counter ("OTC") derivative transactions. Netting is also applied to securities financing transactions as far as documentation, structure and nature of the risk mitigation allow netting with the underlying credit risk.

In order to reduce the credit risk resulting from OTC derivative transactions, where Central clearing counterparty is not available, the Bank regularly seeks the execution of standard master agreements (such as master agreements for derivatives published by the International Swaps and Derivatives Association, Inc. (ISDA) with our counterparts. A master agreement allows for the close-out netting of rights and obligations arising under derivative transactions that have been entered into under such a master agreement upon the counterparty's default, resulting in a single net claim owed by or to the counterparty. For parts of the derivatives business (i.e., foreign exchange transactions) we also enter into master agreements under which payment netting applies in respect to transactions covered by such master agreements, reducing our settlement risk. In our risk measurement and risk assessment processes we apply close-out netting only to the extent we have satisfied ourselves of the legal validity and enforceability of the master agreement in all relevant jurisdictions.

Also, we enter into credit support annexes ("CSA") to master agreements in order to further reduce our derivatives-related credit risk. These annexes generally provide risk mitigation through periodic, usually daily, margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when we believe the annex is enforceable, we reflect this in our exposure measurement.

Certain CSAs to master agreements provide for rating dependent triggers, where additional collateral must be pledged if a party's rating is downgraded. We also enter into master agreements that provide for an additional termination event upon a party's rating downgrade. These downgrading provisions in CSAs and master agreements usually apply to both parties but may also apply to us only. We analyze and monitor our potential contingent payment obligations resulting from a rating downgrade in our stress testing approach for liquidity risk on an ongoing basis.

## Concentrations within Credit Risk Mitigation

Concentrations within credit risk mitigations taken may occur if a number of guarantors and credit derivative providers with similar economic characteristics are engaged in comparable activities with changes in economic or industry conditions affecting their ability to meet contractual obligations. We use a range of quantitative tools and metrics to monitor our credit risk mitigating activities. These also include monitoring of potential concentrations within collateral types.

The following table represents credit risk mitigation under the Standardized Approach (SA) as at 31 December 2023 and 2022.

**Credit risk mitigation* under SA**
**Part of outstanding that is secured by collateral under SA classified by type of assets and collateral**

Unit : MTHB

| Type of asset | 2023 | | 2022 | |
|---|---|---|---|---|
| | Eligible financial collateral[1/] | Guarantee and credit derivatives | Eligible financial collateral[1/] | Guarantee and credit derivatives |
| **Performing claims** | | | | |
| 1. Claims on sovereigns and central banks, multilateral development banks (MDBs), and non-central governement public sector entities (PSEs) treated as claims on sovereigns | - | - | - | - |
| 2. Claims on financial institutions , non-central governement public sector entities (PSEs) treated as claims on financial institutions, and securities firms | 17,054 | - | 31,095 | - |
| 3. Claims on corporates , non-central governement public sector entities (PSEs) treated as claims on corporate | 695 | - | 1,325 | - |
| 4. Claims on retail portfolios | - | - | - | - |
| 5. Claims on housing loans | - | - | - | - |
| 6. Other assets | - | - | - | - |
| **Non-performing claims** | **-** | **-** | **-** | **-** |
| **Total** | **17,749** | **-** | **32,421** | **-** |

* Excluding securitisation.
** Values after on-balance sheets and off-balance sheets netting
[1/] Eligible financial collateral that the Bank of Thailand allows to use for risk mitigation. The value after haircut.

**Market risk**

Deutsche Bank AG, Bangkok Branch uses Internal Model Approach for internal risk management.

**Market risk exposure under the Standardized Approach (SA)**

Deutsche Bank AG, Bangkok Branch calculates regulatory capital requirement for market risk using the Standardized Approach (SA) methodology according to the Bank of Thailand's notification Re: Market Risk Supervision Guidelines for Financial Institutions.

The table below represents minimum capital requirements for each type of market risk under the Standardized Approach (SA) as at 31 December and 30 June 2023.

**Market risk under the Standardised Approach**

**Minimum capital requirements for each type of market risk under the Standardised Approach**

Unit : MTHB

| Minimum capital requirements for market risk under the Standardized Approach | Dec-23 | Jun-23 |
|---|---|---|
| Interest rate risk | 2,752 | 2,441 |
| Equity position risk | - | - |
| Foreign exchange rate risk | 74 | 338 |
| Commodity risk | - | - |
| **Total minimum capital requirements** | **2,826** | **1,744** |

**Trading Market Risk**

**Market Risk**

The vast majority of the Group's businesses are subject to market risk, defined as the potential for change in the market value of the Group's trading and non-trading positions. Risk can arise from adverse changes in interest rates, credit spreads, foreign exchange rates, equity prices, commodity prices and other relevant parameters, such as market volatility and market implied default probabilities.

The primary objective of Market and Valuation Risk Management (MVRM), as part of the Group's independent Risk function, is to ensure that the business units optimize the risk-reward relationship and do not expose the Group to unacceptable losses outside of its risk appetite. To achieve this objective, MVRM works closely together with risk takers ("the business units") and other control and support groups.

The Group differentiates between three substantially different types of market risk:

- **Trading market risk** arises primarily through the market-making activities of the Corporate and Investment Bank Division. This involves taking positions in debt, equity, foreign exchange, or other securities and commodities as well as in equivalent derivatives.
- **Traded default risk** arising from defaults and rating migrations.
- **Non-trading market risk** arises from market movements, primarily outside the activities of the trading units, in the banking book and from off-balance sheet items; this includes interest rate risk, credit spread risk, investment risk and foreign exchange risk as well as market risk arising from pension schemes, guaranteed funds and equity compensation; nontrading market risk also includes risk from the modeling of client deposits as well as savings and loan product.

## Trading Market Risk Management Framework

### Trading Market Risk Management Framework at Deutsche Bank

The Group's primary mechanism to manage trading market risk is the application of risk appetite framework of which the limit framework is a key component. The Management Board, supported by Market Risk Management, sets group-wide value-at-risk, economic capital and portfolio stress testing limits for market risk in the trading book. Market Risk Management allocates this overall appetite to the Corporate Divisions and their individual business units based on established and agreed business plans. Deutsche Bank also has business aligned heads within Market Risk Management who establish business unit limits, by allocating the limit down to individual portfolios, geographical regions and types of market risks.

Value-at-risk, economic capital and portfolio stress testing limits are used for managing all types of market risk at an overall portfolio level. As an additional and important complementary tool for managing certain portfolios or risk types, Market Risk Management performs risk analysis and business specific stress testing. Limits are also set on sensitivity and concentration/liquidity, exposure, business-level stress testing and event risk scenarios, taking into consideration business plans and the risk vs return assessment.
Business units are responsible for adhering to the limits against which exposures are monitored and reported. The market risk limits set by Market Risk Management are monitored on a daily, weekly and monthly basis, dependent on the risk management tool being used.

### Quantitative Risk Management Tools

- **Value-at-Risk**
- Value-at-risk is a quantitative measure of the potential loss (in value) of trading positions due to market movements that will not be exceeded in a defined period of time and with a defined confidence level.
- The Group's Value-at-Risk for the trading businesses is based on its own internal Value-at-Risk model. Deutsche Bank AG, Bangkok Branch uses VaR measurements only for internal control purposes. Deutsche Bank AG, Bangkok Branch's Regulatory Capital requirement for market risk is calculated using Standardized Approach.

- Deutsche Bank calculates value-at-risk using a 99% confidence level and a one day holding period. This means Deutsche Bank estimates there is a 1 in 100 chance that a mark-to-market loss from our trading positions will be at least as large as the reported value-at-risk.

- Deutsche Bank's Value-at-Risk model is based on Historical Simulation approach, based on a 261 trading day history (corresponding to one calendar year) with equal weighting being given to each observation. VaR is calculated at 99% confidence with 1-day holding period for internal risk management purpose, and 10-day holding period for regulatory purpose.

- Our VaR model is designed to take into account all relevant risk factors as well as their implied volatilities

- The VaR measure enables us to apply a constant and uniform measure across businesses and products. It allows a comparison of risk in different businesses, and also provides a means of aggregating and netting positions within a portfolio to reflect correlations and offsets between different asset classes. Furthermore, it facilitates comparisons of our market risk both over time and against our daily trading results.

- Back-testing provides an analysis of the predictive ability of the value-at-risk calculations based on actual experience. Deutsche Bank compares the hypothetical daily profits and losses under the buy-and-hold assumption with the estimates from our value-at-risk model.

- A committee chaired by MVRM and with participation from Market Risk Analysis and Control (MRAC), Finance and others, meets every month to discuss back-testing results of Deutsche Bank AG, Bangkok Branch and of individual businesses. The committee analyzes performance fluctuations and assesses the predictive ability of our VaR model, which in turn allows us to improve the risk estimation process.

- **Sensitivities**
- Sensitivities show the effect on mark to market P&L of a change in an underlying risk factor. Sensitivities are typically used at a desk level by traders to micro-manage their position on an intra-day basis.

- Sensitivities are able to describe the economic effects of risks not catered for by other risk measures (such as VAR) and can be aggregated across numerous businesses which take similar risk. The sensitivities are reflected on the Daily Risk Report which provides an aggregated picture of Deutsche Bank AG, Bangkok Branch's market risk exposure for close of business on the previous day.

- **Stress Testing and Event Risk Scenarios (ERS)**
- A key limitation of VaR is that it is based on relatively recent historical data, and therefore typically reflects losses only under normal market conditions. To address this, Deutsche Bank performs stress tests in which the bank values its trading portfolios under extreme market scenarios not covered by the confidence interval of our VaR model.

- The stress tests can be derived from historically observed severe market shocks or by creating hypothetical scenarios.

- Deutsche Bank AG, Bangkok Branch performs three different types of stress tests to investigate the potential losses under crisis scenario on weekly basis. Global Market Stress Testing - under which the, Bangkok Branch's positions in each currency are stressed to see the potential loss under various crisis situations, e.g. foreign currency devaluation, shock in interest rate market and etc. This is the main stress test for Deutsche Bank AG, Bangkok Branch.

- Deutsche Bank also performs Foreign Exchange Options Stress Tests and Interest Rate Options Stress Test which complements the Global Market Stress Tests and involves non-linear effects from options portfolio that is not captured by Global Market Stress Tests.

- For Emerging Markets, including Thailand, the Group calculates country-specific Event Risk Scenario (ERS) stress test and assesses the results of such event risks. A specialist committee reviews the country risk ratings and scenario loss limits monthly. Ad hoc reviews take place as required. For each major emerging markets country (determined by the size of Deutsche Bank's activities in the country), a "tailor-made" stress scenario is determined, which covers a combination of market disruptions affecting the major risk factors based on historically observable events or hypothetical situations. By and large, these scenarios are a combination of FX devaluation, credit spreads widening, increasing interest rates and depreciating equity prices..

- Our stress testing results are necessarily limited by the number of stress tests executed and the fact that not all downside scenarios can be predicted and simulated. While our risk managers have used their best judgment to define worst case scenarios based upon the knowledge of past extreme market moves, it is possible for our market risk positions to lose more value than even our estimates. Deutsche Bank also continuously assesses and refines its stress tests in an effort to ensure they capture material risks as well as reflect possible extreme market moves.

**Backtesting of Trading Market Risk**

Backtesting is a procedure used to verify the predictive ability of the VaR calculations involving the comparison of hypothetical daily profits and losses under the buy-and-hold assumption with the estimates from the value-at-risk model. An outlier is a hypothetical buy-and-hold trading loss that exceeds the Group's value-at-risk estimate.

**Interest Rate Risk in the Banking Book**

In Deutsche Bank, the majority of the interest rate risk arising from non-trading asset and liability positions is transferred through internal hedges to Treasury and is thus managed on the basis of Banking Book Value-at-Risk.

**Operational Risk**

Deutsche Bank's operational risk appetite sets out the amount of operational risk it is willing to accept as a consequence of doing business. The bank takes on operational risks consciously, both strategically as well as in day-to-day business. While the bank may have no appetite for certain types of operational risk events (such as violations of laws or regulations and misconduct), in other cases a certain amount of operational risk must be accepted if the bank is to achieve its business objectives. In case a residual risk is assessed to be outside risk appetite, risk reducing actions must be undertaken, including remediating the risks, insuring risks or ceasing business.

The Operational Risk Management Framework is a set of interrelated tools and processes that are used to identify, assess, mitigate and monitor the bank's operational risks. Its components have been designed to operate together to provide a comprehensive, risk-based approach to managing the bank's most material operational risks. Operational Risk Management Framework components include the Group's approach to setting and adhering to operational risk appetite, the operational risk type and control taxonomies, the policies and procedures for operational risk management processes including the respective tools, and the bank's operational risk capital model.

***Organizational and Governance Structure for Deutsche Bank AG, Bangkok Branch***

The roles and responsibilities of the NFRM function with respect to Country Coverage are defined as part of the 'Operational Risk Country Coverage Guidance – NFRM'. The lead country coverage risk manager in NFRM Thailand is responsible for overseeing its adequate implementation.

The lead country coverage risk manager in NFRM for Thailand is a permanent member of the Thailand Operating Council ("TOC") and updates the committee about the non-financial risk profile of the country through the Country Risk Profile that includes, but is not limited to:

- The aggregated operational loss reporting and outline of material events
- Country Risk Rating and Top Risk Theme
- Operational risk capital developments
- Overview of the management of issues and findings

***Organisational and Governance Structure for Deutsche Bank Group (Global):***

While the day-to-day management of operational risk is the primary responsibility of business divisions and infrastructure functions, where these risks are generated, Non-Financial Risk Management (NFRM) oversees the Group-wide management of operational risks, identifies and reports risk concentrations, and promotes a consistent application of the Operational Risk Management Framework across the bank. NFRM is part of the Group risk function, the Chief Risk Office, which is headed by the Chief Risk Officer.

The Chief Risk Officer appoints the Head of NFRM, who is accountable for the design, oversight and maintenance of an effective, efficient and regulatory compliant Operational Risk Management Framework, including the operational risk capital model. The Head of NFRM monitors and challenges the Operational Risk Management Framework's Group wide implementation and monitors overall risk levels against the bank's operational risk appetite.

The Non-Financial Risk Committee, which is chaired by the Chief Risk Officer, is responsible for the oversight, governance and coordination of the management of operational risk in the Group on behalf of the Management Board, by establishing a cross-risk perspective of the key operational risks of the Group. Its decision-making authorities include the review, advice and management of all operational risk issues that may impact the risk profile of business divisions and infrastructure functions. Several sub-fora with attendees from both the 1st LoD and 2nd LoD support the Non-Financial Risk Committee to effectively fulfil its mandate. In addition to the Group level Non-Financial Risk Committee, business divisions have established 1st LoD non-financial risk fora for the oversight and management of operational risks on various levels of the organization.

The governance of operational risks follows the bank's 3LoD approach to managing all of its financial and non-financial risks. The Operational Risk Management Framework establishes the operational risk governance standards including the core 1st and 2nd LoD roles and their responsibilities, to ensure effective risk management and appropriate independent challenge.

Operational risk requirements for the 1st LoD: Risk owners as the 1st LoD have full accountability for their operational risks and manage these against a defined risk appetite.

Risk owners are those roles in the bank whose activities generate - or who are exposed to - operational risks. As heads of business divisions and infrastructure functions, they must determine the appropriate organizational structure to identify their operational risk profile, actively manage these risks within their organization, take business decisions on the mitigation or acceptance of operational risks to ensure they remain within risk appetite, and establish and maintain 1st LoD controls.

Operational risk requirements for the 2nd LoD: Risk Type Controllers act as the 2nd LoD control functions for all sub-risk types under the overarching risk type "Operational Risk".

Risk Type Controllers establish the framework and define Group level risk appetite statements for the specific operational risk type they oversee. Risk Type Controllers define the minimum risk management and control standards and independently monitor and challenge risk owners' implementation of these standards in their day-to-day processes, as well as their risktaking and risk management activities. Risk Type Controllers provide independent operational risk oversight and prepare aggregated risk type profile reporting. Risk Type Controllers monitor the risk type's profile against risk appetite and have a right to veto risk decisions leading to foreseeable risk appetite breaches. As risk type experts, Risk Type Controllers define the risk type and its taxonomy and support and facilitate the implementation of the risk type framework in the 1st LoD. To maintain their independence, Risk Type Controller roles are located only in infrastructure functions.

Operational risk requirements for NFRM as the Risk Type Controller for the overarching risk type "Operational Risk": As the Risk Type Controller / risk control function for operational risk, NFRM establishes and maintains the overarching Operational Risk Management Framework and determines the appropriate level of capital to underpin the Group's operational risk.

– As the 2nd LoD risk control function, NFRM defines the bank's approach to operational risk appetite and monitors its adherence, breaches and consequences; NFRM is the independent reviewer and challenger of the 1st LoD's risk and control assessments and risk management activities relating to the holistic operational risk profile of a unit (while Risk Type Controllers monitor and challenge activities related to their specific risk types); NFRM provides the oversight of risk and control mitigation plans to return the bank's operational risk to its risk appetite, where required; it also establishes and regularly reports the bank's operational risk profile and operational top risks, i.e. the bank's material operational risks which are outside of risk appetite

– As the subject matter expert for operational risk, NFRM provides independent risk views to facilitate forward-looking management of operational risks, actively engages with risk owners (1st LoD) and facilitates the implementation of risk management and control standards across the bank
– NFRM is accountable for the design, implementation and maintenance of the approach to determine the adequate level of capital required for operational risk, for recommendation to the Management Board; this includes the calculation and allocation of operational risk capital demand and expected loss under the Advanced Measurement Approach (AMA)

***Managing Our Operational Risk***

To manage the broad range of sub-risk types underlying operational risk, the Operational Risk Management Framework provides a set of tools and processes that apply to all operational risk types across the bank. These enable the bank to determine its operational risk profile in relation to risk appetite for operational risk, to systematically identify operational risk themes and concentrations, and to define risk mitigating measures and priorities.

In 2023, the bank continued to mature the management of operational risks by further integrating and simplifying the risk management process. This was achieved through enhancement of the bank's central controls inventory; upgrading the application used to analyze operational risk loss events by integrating "lessons learned" functionality; introduction of residual risk tolerance zones in the risk appetite framework and by extending framework adherence monitoring to also cover 2LoD activities.

Loss data collection: Data on internal and relevant external operational risk events (with a P&L impact ≥ €10,000) is independently validated a in a timely manner. Material operational risk events trigger clearly defined lessons learned and read across analyses, which are performed in the 1st LoD in close collaboration between business partners, risk control and other infrastructure functions. Lessons learned reviews analyse the reasons for significant operational risk events, identify their root causes, and document appropriate remediation actions to reduce the likelihood of their reoccurrence. Read across reviews take the conclusions of the lessons learned process and seek to analyse whether similar risks and control weaknesses identified in a lessons learned review exist in other areas of the bank, even if they have not yet resulted in problems or losses. This allows preventative actions to be undertaken. In 2023, lesson learned documentation functionality was integrated into the operational risk event management application (EMApp), allowing for direct technical linkage to the underlying operational risk event and enhanced lessons learned monitoring, governance and reporting.

Scenario analysis. The operational risk profile is complemented and further substantiated by incorporating exploratory scenario analysis into day-to-day risk management activities. Scenario analysis is used as a risk identification and management tool that enables risk owners and Risk Type Controllers to explore potential exposure to risk as the basis for identifying potential gaps in the banks existing operational risk profile. Furthermore, it is used as an input into the calculation of operational risk capital for the bank. Scenario storylines build on internal losses, emerging risk reviews, top risk and risk concentrations, and findings, as well as the review of external peer operational risk loss events. Information from actual and potential future loss events are systematically utilized to identify thematic susceptibilities and actively seek to reduce the likelihood of similar incidents, for example through deep dive analyses or risk profile reviews.

In 2023, the scenario analysis process has been strengthened by further tightening the roles and responsibilities within the 1st LoD and 2nd LoD in executing scenarios and scenario analysis continues to play an important role in operational resilience exercises, particularly in assessing impacts of emerging risk themes. Additionally, work as started which will allow scenario analysis to be performed in the event management application (EMApp) in order to automate the capture, governance and reporting.

Risk & Control Assessment: The risk and control assessment process comprise of a series of bottom-up assessments of the risks generated by business divisions and infrastructure functions, the effectiveness of the controls in place to manage them, and the remediation actions required to bring the risks within the risk appetite perimeter. The Risk & Control Assessment is performed at a global business level and as such covers all jurisdictions. It is designed to assist Senior Management to determine whether operational risks are being managed and controlled adequately via a dynamic assessment approach which covers all applicable Risk Types from the Group's Non-Financial Risk Type Taxonomy (NFRTT). The Risk & Control Assessment puts a greater emphasis on assessing and mitigating risks that are outside of appetite and risks that drive unethical and inappropriate market conduct within the bank.

Top Risks: The Top Risk process is a regular process to identify the risks which pose greatest concern across Group and divisions, in addition to ensuring there is commensurate remediation activity associated to mitigate the risk. The associated Top Risk reporting provides a forward-looking perspective on the impact of top risk reduction programs, comprising of planned remediation and control enhancements, indicating the expected timeframe for reduction. The reporting also contains emerging risks and themes that have the potential to influence the top risk population in the future. The top risk identification process is closely connected to both the risk and control assessment and risk appetite, consuming the risk exposure from the former and the appetite levels from the latter to help inform the top risk population.

Transformation Risk Assessment: To identify and appropriately manage risks from material change initiatives within the bank, a transformation risk assessment process is in place to assess the impact of transformation on the bank's risk profile and control environment. The assessment considers impacts to financial and non-financial risk types and is mandatory for a subset of initiatives, categorized as key deliverables (typically includes regulatory initiatives, technology migrations, remediation initiatives, strategy and organizational changes). In 2023, the scope of the transformation risk assessment was expanded to cover to bank's future joint ventures and strategic investments, to implement requirements of the bank's updated Joint Venture and Strategic Investment Policy.

Risk appetite: Non-financial risk appetite reflects the amount of non-financial risk the bank is willing to accept to pursue its strategy. The non-financial risk appetite framework provides a common approach to define the level of risk appetite across the firm and monitor exposure against this appetite. NFR appetite metrics are used to monitor the operational risk profile against the bank's defined risk appetite, and to alert the organization to impending problems in a timely fashion. In 2023, design amendments have been made resulting in the introduction of residual risk tolerance zones which allow for a more precise articulation of tolerance for residual risk assessed by the risk and control assessment process. This introduces defined consequences for given combinations of livelihood and severity of impact for a given risk type.

Findings and issue management: The findings and issue management process facilitates the bank in mitigating the risks associated with known control weaknesses and deficiencies, and enables management to make risk-based decisions over the need for further remediation or risk acceptance. Outputs from the findings management process must be able to demonstrate to internal and external stakeholders that the bank is actively identifying its control weaknesses and taking steps to manage associated risks within acceptable levels of risk appetite. In 2023, Group Audit's review and approval role in the lifecycle of Self-Identified Issues was enhanced. Additionally, the scope of the "Findings to Control" linkage was expanded to cover all Risk Types and integrated in the Findings management tool.

Framework Adherence: Operational Risk Framework Adherence is a key activity to oversee, monitor and test the conformity to NFR Framework component requirements by key stakeholders. Operational Risk Framework Adherence results aim to proactively identify implementation improvements required of users of the NFR Framework and highlight potential Framework design improvements. In 2023, Operational Risk Framework Adherence monitoring was expanded to also cover 2$^{nd}$ LoD activities.

### *Operational risk type frameworks*

Operational risk is a risk type on the Group's Risk Type Taxonomy. Together with Reputational Risk it forms Non-Financial risk. The Operational Risk Management Framework is a set of interrelated tools and processes that are used to identify, assess, measure, monitor and mitigate Deutsche Bank Group's operational risks according to regulatory and industry-established definition of operational risk. It applies to the operational sub-risk types on a more granular level and enables the bank to aggregate and monitor its operational risk profile. These operational sub-risk types are controlled by various infrastructure functions and include the following:

- The Compliance department performs an independent 2nd level control function that protects the bank's license to operate by promoting and enforcing compliance with the law and driving a culture of compliance and ethical conduct in the bank; the Compliance department assists and challenges the business divisions and works with other infrastructure functions and regulators to establish and maintain a risk-based approach to the management of the bank's compliance risks in accordance with the bank's risk appetite and to help the bank detect, mitigate and prevent breaches of laws and regulations; the Compliance department performs the following principal activities: the identification, assessment, mitigation, monitoring and reporting on compliance risk; performs second level controls; the results of these assessments and controls are regularly reported to the Management Board and Supervisory Board; the Compliance department also assists the Regulatory Management team with regulatory engagement

- Financial crime risks are managed by the Anti-Financial Crime (AFC) function via maintenance and development of a dedicated program; the AFC program is based on regulatory and supervisory requirements; AFC has defined roles and responsibilities and established dedicated functions for the identification and management of financial crime risks resulting from money laundering, terrorism financing, compliance with sanctions and embargoes, the facilitation of tax evasion as well as other criminal activities including fraud, bribery and corruption and other crimes; AFC updates its strategy for financial crime prevention via regular development of internal policies processes and controls, institution-specific risk assessment and staff training

- The Legal department is a fully independent infrastructure function, mandated to provide legal advice to the Management Board, the Supervisory Board (restricted to matters that do not give rise to conflict of interest), corporate divisions and infrastructure functions, and to support the Management Board in setting up and guarding the bank's corporate governance framework and manage the bank's legal corporate governance framework, antitrust legal and data privacy risk.
  The Legal Department carries out its mandate through the following responsibilities:

  - Advising the Management Board and Supervisory Board on legal aspects of their activities
  - Providing legal advice to all Deutsche Bank units to facilitate adherence to legal and regulatory requirements in relation to their activities respectively.
  - Supporting other bank units managing Deutsche Bank Group's interactions with regulatory authorities
  - Engaging and managing external lawyers used by Deutsche Bank Group (in conjunction with the Outside Counsel Management team in Regulatory & Exam Management
  - Managing Deutsche Bank Group's litigation and contentious regulatory matters, (including contentious HR matters), and managing Deutsche Bank Group's response to external regulatory enforcement investigations
  - Establishing appropriate processes for the prespartion, review and execution of transactional documentation
  - Preserving documents in connection with the management of Continuous Matters by issuing Legal Holds
  - Advising on legal aspects of internal investigations
  - Setting the global governance framework for Deutsche Bank Group, facilitating its cross-unit application and assessing its implementation

- Developing and safeguarding efficient corporate governance structures suitable to support efficient decision-making, to align risk and accountability based on clear and consistent roles and responsibilities.
- Maintaining Deutsche Bank Group's framework for policies, procedures, framework and key operating documents and serving in particular as guardian for the same
- Setting the framework for the establishment, composition and functioning of joint decision-making bodies, ensuring its consistent implementation and providing a framework and platforms for sustainable, and auditable documentation of decision-making events, allowing for central swift retrieval of information
- Setting the framework for and facilitating the legal entity approval processes
- Advising on internal corporate governance topics to ensure the implementation of the governance frameworks, including the analysis of corporate governance specific laws and regulations, interaction with supervisors on internal corporate governance-related topics and the ongoing development of solutions for organizational/structural topics of Deutsche Bank Group
- Advising on data privacy laws, rules and regulation and maintaining Deutsche Bank Group's data privacy risk and control framework
- Ensuring appropriate quality assurance in relation to all of the above

- Deutsche Bank's New Product Approval and Systematic Product Review processes form a control framework designed to manage the risks associated with new products and services and their lifecycle management; these processes are overseen by Product Governance, within the Non-Financial Risk function; existing products and services are reviewed in one- to three year cycles designed to assess whether they remain fit for purpose and consistent with their respective target markets' characteristics and objectives; each product or service must be sponsored by a business Managing Director who bears ultimate accountability for it; breaches of the New Product Approval requirements are in scope of the bank's Red Flag consequence management process.

- NFRM is the Risk Type Controller for a number of operational resilience risks; its mandate includes second line oversight of controls over transaction processing activities, as well as infrastructure risks to prevent technology or process disruption, maintain the confidentiality, integrity and availability of data, records and information security, and ensure business divisions and infrastructure functions have robust plans in place to recover critical business processes and functions in the event of disruption including technical or building outage, or the effects of cyber-attack or natural disaster as well as any physical security or safety risk; NFRM Risk Type Controller also manages the risks arising from the bank's internal and external vendor engagements via the provision of a comprehensive third party risk management framework.

***Measuring Operational Risks***

**Measuring Operational Risk within Deutsche Bank AG, Bangkok Branch**

For risk management purposes on a global level, the Deutsche Bank Group uses Advanced Measurement Approach ("AMA") methodology across all divisions and legal entities to calculate the regulatory capital requirements for operational risk. Locally, the Bank uses the Basic Indicator Approach ("BIA") to assess its local regulatory capital requirements for operational risk. The operational risk capital charge using BIA is equal to the average of a fixed percentage (15%) of positive annual gross income over the previous three years. Gross income figures are categorised into twelve quarters (equivalent to three years), and if the annual gross income for any given year is negative or zero, the figure shall not be included for the purposes of calculating the operational risk charge.

**Measuring Operational Risk at Deutsche Bank Group**

Deutsche Bank calculates and measures the regulatory and economic capital requirements for operational risk using the Advanced Measurement Approach (AMA) methodology. The AMA capital calculation is based upon the loss distribution approach. Gross losses from historical internal and external loss data (Operational Riskdata eXchange Association consortium data) complemented by scenario data are used to estimate the risk profile (i.e., a loss frequency and a loss severity distribution). The loss distribution approach model includes conservatism by recognizing losses on events that arise over multiple years as single events in the historical loss profile.

Within the loss distribution approach model, the frequency and severity distributions are combined in a Monte Carlo simulation to generate potential losses over a one-year time horizon. Finally, the risk mitigating benefits of insurance are applied to each loss generated in the Monte Carlo simulation. Correlation and diversification benefits are applied to the net losses in a manner compatible with regulatory requirements to arrive at a net loss distribution at Group level, covering expected and unexpected losses. Capital is then allocated to each of the business divisions considering qualitative adjustments after deducting expected loss.

The regulatory and economic capital requirements for operational risk is derived from the 99.9% percentile; see the section "Internal Capital Adequacy" for details. Both regulatory and economic capital requirements are calculated for a time horizon of one year.

The regulatory and economic capital demand calculations are performed on a quarterly basis. NFRM establishes and maintains the approach for capital demand quantification and ensures that appropriate development, validation and change governance processes are in place, whereby the validation is performed by an independent validation function and in line with the Group's model risk management process.

***Measuring Operational Risks***

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**Equity exposure in the banking book**

Equity investments which are neither consolidated for regulatory purposes nor deducted from the Group’s own funds are held as equity positions in the regulatory banking book. In the Group’s consolidated balance sheet, these equity investments are either classified as “Financial assets available for sale (“AFS”)” or “Equity method investments”. An immaterial amount of financial assets designated at fair value through profit and loss which are equity interests is included in the banking book.

Accounting and Valuation Policies for Equity Investments

AFS equity instruments are initially recognized at fair value plus transaction costs that are directly attributable to the acquisition of that financial asset. Financial assets classified as AFS are carried at fair value with the changes in fair value generally reported in equity unless the asset is subject to a fair value hedge or is impaired. At each balance sheet date, management assesses whether there is objective evidence that an individual asset is impaired. Objective evidence of impairment includes a significant or prolonged decline in the fair value of the investment below cost. The amount of impairment is the difference between the acquisition cost and current fair value of the asset less previously recognized impairment. Impairments of AFS equity investments cannot be reversed. Increases in their fair value after impairment are recognized in equity.
Consistent with the valuation of financial instruments, fair value of equity securities is initially and subsequently determined using quoted prices in active markets or valuation techniques, where prices quoted in active markets are not available.

The Group reports investments in associates and joint ventures under the equity method of accounting. Equity method investments are initially recorded at cost, and subsequently increased (or decreased) to reflect both the Group’s pro-rata share of the post-acquisition net income (or loss) and other movements included directly in the equity of the entity. Goodwill arising on the acquisition is included in the carrying value of the investment (net of accumulated impairment loss). At each balance sheet date, the Group assesses whether there is objective evidence that the investment in an associate or jointly controlled entity is impaired. If there is objective evidence of impairment, an impairment test is performed by comparing the investment’s recoverable amount, which is the higher of its value in use and fair value less costs to sell, with its carrying amount. Equity method losses in excess of the Group’s carrying value of the investment in the entity are charged against other assets held by the Group related to the investee. If those assets are written down to zero, a determination is made whether to report additional losses based on the Group’s obligation to fund such losses.

The Group holds equity investments with the intent to realize profits by taking advantage of market opportunities as well as for strategic reasons. Only a smaller part of the investments are intended to support a specific business strategy of a business division as part of a complex customer transaction.

From a management point of view, the following group divisions assume responsibility for equity investments the Group entered into:

- The Corporate Investments Group Division ("CI") manages the global principal investment activities of the Group. The principal investment activities include certain credit exposures, certain private equity and venture capital investments, certain private equity fund investments, certain corporate real estate investments, the industrial holdings of the Group and certain other non-strategic investments. Historically, the mission of CI has been to provide financial, strategic, operational and managerial capital to enhance the values of the portfolio companies in which the group division has invested.
- The group divisions Corporate Banking & Securities and Private Clients & Asset Management mainly hold investments in the bank's alternative asset portfolio for profit realization as well as for strategic reasons.

Our equity exposures in the banking book contain only shares received from loan restructuring which Deutsche Bank use the market price at end of each month from the Stock Exchange of Thailand to mark to market value of the shares. However, Deutsche Bank have no intention to trade these equities.

The table below shows equity exposures in banking book as at 31 December 2023 and 2022.

**Equity exposures in the banking book**

Unit: MTHB

| Equity exposures | 2023 | 2022 |
|---|---|---|
| 1. Equity exposures | | |
| 1.1 Equity securities listed and publicly traded on a stock exchange (domestic and foreign securities) | - | - |
| 1.2 Other equity securities (domestic and foreign securities) | 4 | 4 |
| 2. Gains (losses) from sales of equity securities during the period | - | - |
| 3. Revaluation surplus (deficit) of investments in equity securities designated at fair value through other comprehensive income | (4) | (4) |
| 4. Minimum capital requirements for equity exposures classified by the calculation method: | | |
| - SA | - | - |
| - IRB | - | - |
| 5. Equity exposures for the IRB reporting bank permitted by the Bank of Thailand to use the SA | - | - |
| **Total** | **-** | **-** |

**Interest rate risk exposure in banking book**

Interest rate risk in the banking book (IRRBB) is the current or prospective risk, to both the Group's capital and earnings, arising from movements in interest rates, which affect the Group's banking book exposures. This includes gap risk, which arises from the term structure of banking book instruments, basis risk, which describes the impact of relative changes in interest rates for financial instruments that are priced using different interest rate curves, as well as option risk, which arises from option derivative positions or from optional elements embedded in financial instruments. Deutsche Bank AG, Bangkok Branch is in line with the DB Group in managing the interest rate risk in the banking book.

Deutsche Bank AG, Bangkok Branch assesses the interest rate risk in the banking book using DEVE (i.e. change in economic value of equity), calculating the changes in the net present value of the banking book resulting from interest rate movements. The following table is showing the DEVE as of 31 December 2023 under parallel shift of the yield curve.

| **Change in Economic Value of Equity (DEVE)** In MTHB | **Dec 23** |
|---|---|
| Parallel Down | +65.5 |
| Parallel Up | -23.3 |