Bangkok Bank

Bangkok Bank Public Company Limited

Basel III - Pillar 3 Disclosures

As at December 31, 2020

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Introduction

Bangkok Bank ("the Bank") recognizes that effective risk management and good corporate governance are essential to the stability and sustainable credibility of the Bank and its subsidiaries in the Group ("the Group"). The Bank therefore places great emphasis on continually improving risk management processes and on having a sufficient level of capital to support business operations, at both the Bank level and the Group level.

The use of market discipline is deemed to be an important driver in the enhancement of the risk management system. Therefore disclosures of information regarding capital, risk exposures, risk assessment processes, and capital adequacy are provided at both the Bank level (Solo Basis) and the Group level (Full Consolidation Basis). The disclosures are in accordance with the disclosure requirements of the Bank of Thailand ("BOT").

The complete disclosure report of information regarding capital management in accordance with Basel III - Pillar 3 is provided, of which the quantitative information regarding key prudential metrics, capital structure, capital adequacy, market risk assessment and Liquidity Coverage Ratio (LCR) is disclosed semi-annually. As for the disclosure of qualitative information, it is updated annually or when there is a material change in the risk management policy. Disclosures will be made for information that the Bank considers to be of material nature. The Pillar 3 disclosure reports will be made available on the Bank's website under the section "Investor Relations" within four months after the end of relevant period.

Scope of Application

The disclosure report covers information at both the Bank level (Solo Basis) and the Group level (Full Consolidation Basis). There are 13 companies in the Group consisting of;

- Bangkok Bank Public Company Limited engaged in commercial banking (as the parent company)
- Bangkok Bank Berhad engaged in commercial banking
- Bangkok Bank (China) Company Limited engaged in commercial banking
- PT Bank Permata Tbk engaged in commercial banking
- Bualuang Securities Public Company Limited engaged in securities business
- BBL Asset Management Company Limited engaged in fund management
- Bangkok Capital Asset Management Company Limited engaged in fund management
- Sinsuptawee Asset Management Company Limited engaged in asset management
- Bualuang Ventures Limited engaged in venture capital
- BSL Leasing Company Limited engaged in leasing business
- BBL (Cayman) Limited engaged in finance business
- BBL Nominees (Tempatan) Sdn. Bhd engaged in supporting business
- PT Sahabat Finansial Keluarga engaged in finance business in Indonesia

The scope of consolidation for accounting and regulatory purposes has no difference (See Table 7).

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1. Key Prudential Metrics

Table 1: Quantitative Disclosure of Key Prudential Metrics

	Items	The Group		The Bank	
		31 December 2020	30 June 2020	31 December 2020	30 June 2020
Capital (Unit : Million Baht)					
1	Common Equity Tier 1 Capital (CET1)	407,621	383,208	404,418	379,103
1A	Common Equity Tier 1 Capital (CET1) after ECL[1/] (Fully loaded ECL CET1)	407,621	383,208	404,418	379,103
2	Tier 1 Capital	431,381	383,284	428,010	379,103
2A	Tier 1 Capital after ECL (Fully loaded ECL Tier1)	431,381	383,284	428,010	379,103
3	Total Capital	502,067	454,249	497,849	449,452
3A	Total Capital after ECL (Fully loaded ECL Total Capital)	502,067	454,249	497,849	449,452
Risk Weighted Assets (Unit : Million Baht)					
4	Total Risk Weighted Assets (RWA)	2,737,481	2,745,380	2,477,026	2,489,336
Capital to Risk Weighted Assets Ratio (%)					
5	Common Equity Tier1 Capital Ratio	14.89	13.96	16.33	15.23
5A	Common Equity Tier1 Capital Ratio after ECL (Fully loaded ECL CET1 Ratio)	14.89	13.96	16.33	15.23
6	Tier 1 Capital Ratio	15.76	13.96	17.28	15.23
6A	Tier 1 Capital Ratio after ECL (Fully loaded ECL Tier1 Ratio)	15.76	13.96	17.28	15.23
7	Total Capital Ratio	18.34	16.55	20.10	18.06
7A	Total Capital Ratio after ECL (Fully loaded ECL Total Capital Ratio)	18.34	16.55	20.10	18.06
Capital Buffer Ratio (%)					
8	Conservation Buffer Ratio	2.50	2.50	2.50	2.50
9	Countercyclical Buffer Ratio	-	-	-	-
10	High Loss Absorbency Ratio	1.00	1.00	1.00	1.00
11	Total Capital Buffer (Total Transaction 8 -10)	3.50	3.50	3.50	3.50
12	Common Equity Tier 1 Ratio Remaining after Minimum Requirement [2/]	9.76	7.96	11.28	9.23
Liquidity Coverage Ratio (LCR) (%)				**Average Value for the fourth quarter**	
				Year 2020	**Year 2019**
13	Total High-Quality Liquid Assets (Unit : Million Baht)			918,585	800,007
14	Total Expected Net Cash Outflows within the next 30 days (Unit : Million Baht)			315,896	255,041
15	LCR (%)			291	314

[1/] Expected Credit Loss (ECL) as prescribed in TFRS9 Financial Instruments (TFRS9) of the Federation of Accounting Professions

[2/] CET1 ratio remaining after minimum capital, it is not necessarily equal to the difference between the CET1 ratio in the 5th and the 4.5% minimum CET1 ratio requirement. Due to the CET1 ratio may be applied to maintain a minimum Tier1 ratio requirement of 6% and/or minimum total capital ratio requirement of 8.5%.

2. Capital Structure and Capital Adequacy

2.1 Capital Structure

The Bank's capital structure according to the regulations on capital requirements under the principles of BOT's Basel III, is revised into Common Equity Tier 1 Capital, Additional Tier 1 Capital and Tier 2 Capital.

- Common Equity Tier 1 Capital comprises
  1) Paid-up Share Capital
  2) Premium (discount) on Common Share
  3) Legal Reserves
  4) Reserves appropriated from net profit
  5) Retained earnings after appropriations
  6) Non-controlling Interest classified as Common Equity Tier 1 Capital
  7) Other Reserves
  8) Deductions such as goodwill, intangible assets and deferred tax assets
- Additional Tier 1 Capital consists of
  1) Long-term subordinated debt instrument with claims subordinated to depositors, general creditors and other subordinated debts, including debt instruments qualifiled as Tier 2 Capital.
  2) Non-controlling Interest classified as Additional Tier 1 Capital
- Tier 2 Capital consists of
  1) Long-term subordinated debt instrument with claims subordinated to depositors and general creditors
  2) General Provisions for normal assets not exceeding 1.25 percent of credit risk- weighted assets
  3) Non-controlling Interest classified as Tier 2 Capital

In adopting Basel III, the BOT relaxes for subordinated debt instruments classified as Tier 2 Capital of which the criteria do not meet qualifications under Basel III regarding capability for loss absorbency of the Bank at the point of non-viability i.e. no conversion feature to common shares or written off upon the authority's decision to make financial support to the Bank, the BOT requires phasing out capital at 10 percent p.a. starting from 2013 to 2022.

Table 2: Capital Structure

Unit : Million Baht

Capital	The Group		The Bank	
	31 December 2020	**30 June 2020**	**31 December 2020**	**30 June 2020**
Common Equity Tier 1 Capital	**407,621**	**383,208**	**404,418**	**379,103**
Tier 1 Capital	**431,381**	**383,284**	**428,010**	**379,103**
Tier 2 Capital	**70,686**	**70,965**	**69,839**	**70,349**
Total Capital	**502,067**	**454,249**	**497,849**	**449,452**

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2.2 Capital Adequacy

The objective of the Bank's and the Group's capital management policy is to maintain an adequate level of capital to support growth strategies within an acceptable risk framework, as well as to meet regulatory requirements and market expectations.

In compliance with the BOT's supervisory review process guidelines, the Bank's capital management process assesses the overall risk and capital adequacy under the Internal Capital Adequacy Assessment Process (ICAAP). The process covers projected assessments of all substantial risks to the Bank's operations, so that the Bank can effectively manage its risks and has a sound capital base for business operations under normal and stress scenarios. Therefore, the capital management process covers the Group level.

The Standardised Approach (SA) is used to measure credit risk, market risk, and operational risk for computing regulatory capital requirements under BOT's Basel III at both the Bank level and the Group level.

Under the principles of Basel III, the BOT requires that commercial banks registered in Thailand and their groups must maintain three minimum capital adequacy ratios: a Common Equity Tier 1 Capital adequacy ratio of no less than 4.50 percent, a Tier 1 Capital adequacy ratio of no less than 6.00 percent, and a Total Capital adequacy ratio of no less than 8.50 percent. The aforementioned minimum ratios have yet to include the Capital Conservation Buffer of more than 2.50 percent, Moreover, the BOT requires the Bank, which is classified as a Domestic Systemically Important Banks (D-SIB), to have additional capital to meet the Higher Loss Absorbency (HLA) requirement by 1.00 percent. Consequently, from January 1, 2020, Common Equity Tier 1 Ratio, Tier 1 Ratio and Total Capital Ratio must be more than 8.00, 9.50 and 12.00 percent, respectively, of the total risk-weighted assets.

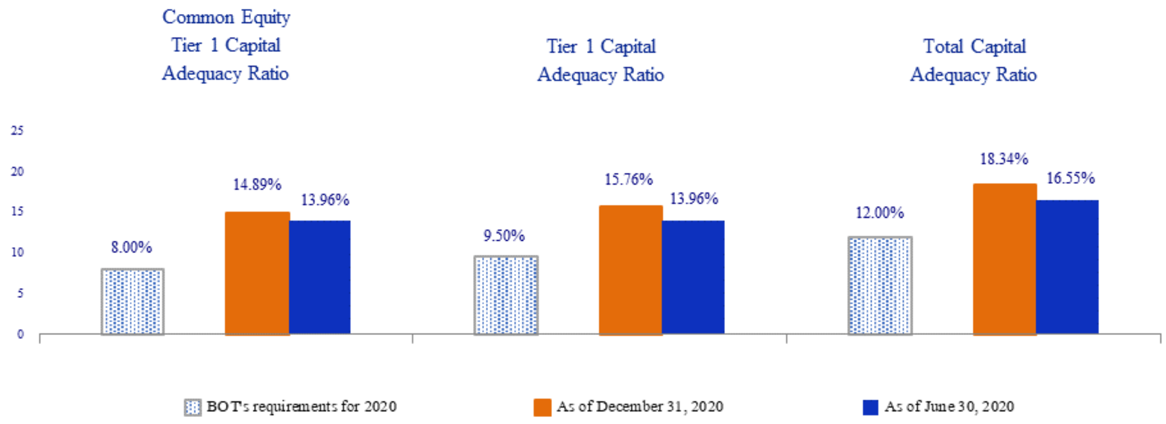
Moreover, the BOT may require banks to maintain additional capital for Countercyclical Buffer at maximum 2.50 percent. As at June 30, 2020, the Bank and the Group has adequate capital for such buffers.

Table 3: Capital Adequacy

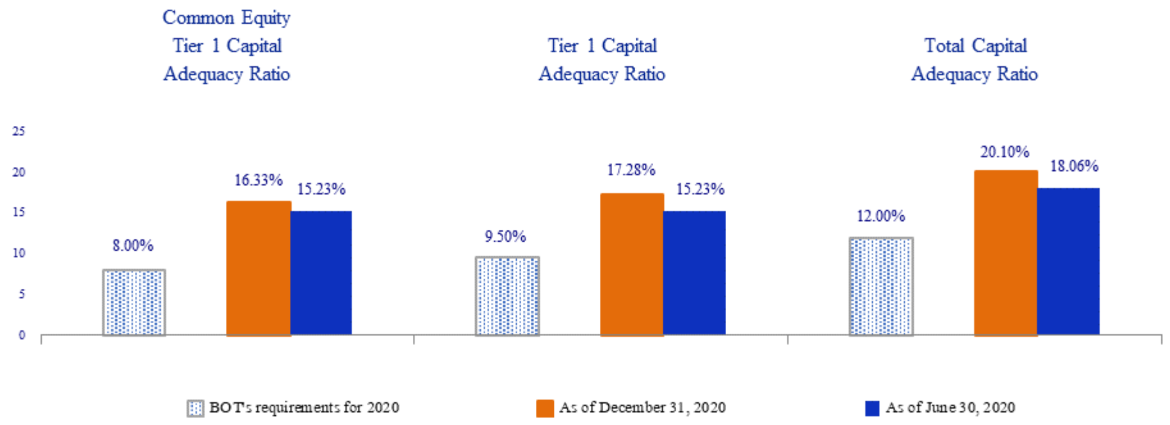
Capital	The Group		The Bank	
	31 December 2020	30 June 2020	31 December 2020	30 June 2020
Common Equity Tier 1 Capital	**14.89%**	**13.96%**	**16.33%**	**15.23%**
Tier 1 Capital	**15.76%**	**13.96%**	**17.28%**	**15.23%**
Tier 2 Capital	**2.58%**	**2.59%**	**2.82%**	**2.83%**
Total Capital	**18.34%**	**16.55%**	**20.10%**	**18.06%**

Capital Adequacy Ratio

Group Level (Full Consolidation Basis)



Bank Level (Solo Basis)



Remark: The BOT requires commercial banks to maintain an additional Capital Conservation Buffer reaches more than 2.5 percent. And the BOT also requires commercial banks to have additional capital requirement for Higher Loss Absorbency (HLA) requirement by increasing the Common Equity Tier 1 Capital adequacy ratio at 1 percent.

Table 4: Component of Capital

Unit : Million Baht

Component of Capital	The Group		The Bank	
	31 December 2020	30 June 2020	31 December 2020	30 June 2020
Tier 1 Capital	**431,381**	**383,284**	**428,010**	**379,103**
Common Equity Tier 1 Capital	**407,621**	**383,208**	**404,418**	**379,103**
Paid-up Share Capital	19,088	19,088	19,088	19,088
Premiums on Share Capital	56,346	56,346	56,346	56,346
Legal Reserves	25,000	24,500	25,000	24,500
Reserves appropriated from net profit	111,500	106,500	111,500	106,500
Net profit after appropriations	185,859	177,301	170,314	162,101
Other comprehensive income	47,386	39,789	53,184	45,542
Deductions from Common Equity Tier 1 Capital	(37,558)	(40,316)	(31,014)	(34,974)
Additional Tier 1 Capital	**23,760**	**76**	**23,592**	**-**
Subordinated Debenture	23,592	-	23,592	-
Non-controlling Interest	168	76	-	-
Tier 2 Capital	**70,686**	**70,965**	**69,839**	**70,349**
Subordinated Debenture*	42,593	42,593	42,593	42,593
General Provision	28,053	28,353	27,246	27,756
Non-controlling Interest	40	19	-	-
Total Capital	**502,067**	**454,249**	**497,849**	**449,452**

***Component of capital subject to phasing in (out)**

Unit : Million Baht

As at December 31, 2020	The Group		The Bank	
	Classified As Capital	Outstanding Balance for Phasing In (Out)	Classified As Capital	Outstanding Balance for Phasing In (Out)
Phasing in (out) at 10 percent p.a. beginning 2013 - 2022				
Subordinated Debenture	42,593	(5,907)	42,593	(5,907)

***Component of capital subject to phasing in (out)**

Unit : Million Baht

As at 30 June 2020	The Group		The Bank	
	Classified As Capital	Outstanding Balance for Phasing In (Out)	Classified As Capital	Outstanding Balance for Phasing In (Out)
Phasing in (out) at 10 percent p.a. beginning 2013 - 2022				
Subordinated Debenture	42,593	(5,907)	42,593	(5,907)

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Table 5: Minimum Capital Requirements for Each Type of Risks

Unit : Million Baht

Type of Risks	The Group		The Bank	
	31 December 2020	30 June 2020	31 December 2020	30 June 2020
Minimum Capital Requirements for Credit Risk	**206,609**	**206,338**	**188,587**	**188,747**
Performing	203,724	202,591	185,958	185,508
- Sovereigns and central banks, Multilateral development banks (MDBs[1]), and Provincial organizations/ Government entities/ State enterprises (PSEs[2]) which have the same risk weight as Sovereigns	2,566	3,789	2,737	3,787
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	9,530	10,549	9,827	9,179
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	148,961	147,083	127,844	129,713
- Retail	12,873	13,132	10,857	10,703
- Residential mortgage loans	9,339	9,234	8,797	8,708
- Other assets	20,455	18,804	25,896	23,418
Non-Performing	2,885	3,747	2,629	3,239
Minimum Capital Requirements for Market Risk	**6,748**	**7,550**	**5,986**	**6,603**
- Interest Rate Risk	4,088	4,791	3,905	4,476
- Equity Price Risk	480	550	-	-
- Foreign Exchange Risk	2,180	2,209	2,081	2,127
- Commodity Price Risk	-	-	-	-
Minimum Capital Requirements for Operational Risk	**19,329**	**19,469**	**15,973**	**16,244**
Total Minimum Capital Requirements	**232,686**	**233,357**	**210,546**	**211,594**

Remark

[1] Multilateral Development Banks

[2] Non-central Government Public Sector Entities

Table 6: Main Features of Regulatory Capital Instruments

	Ordinary Share	Subordinated Debenture	Subordinated Debenture	Subordinated Debenture
Issuer	Bangkok Bank Public Company Limited	Bangkok Bank Public Company Limited Hong Kong branch	Bangkok Bank Public Company Limited Hong Kong Branch	Bangkok Bank Public Company Limited Hong Kong Branch
ISIN Code	TH0001010006	USY06072AD75 (Reg S) US06000BAA08 (Rule 144A)	USY0606WBQ25 (Reg S) US059895AH54 (144A)	USY0606WCA63 (Reg S) US059895AT92 (Rule 144A)
Regulatory treatment				
Instrument type	Common Equity Tier 1	Additional Tier 1	Tier 2 Capital	Tier 2 Capital
Qualified Basel III	Qualified	Qualified	Non-qualified	Qualified
Non-qualified Basel III features	N/A	N/A	No loss absorption features	N/A
Phased-out or full-amount	Full-amount	Full-amount	Phased-out at 10% p.a.	Full-amount (Phrased-out 20% p.a. after year 10)
Eligible at solo/group level	Group & Solo	Group & Solo	Group & Solo	Group & Solo
Amount recognized in regulatory capital (Net of phasing out) (Unit: THB Million)	19,088	23,592	5,907	36,686
Par value	10 Baht	1,000 U.S. Dollar	1,000 U.S. Dollar	1,000 U.S. Dollar
Accounting classification	Shareholder's equity	Amortized-cost debt	Financial liabilities Measured at Fair Value Through Profit or Loss	Amortized-cost debt
Original date of issuance	Multiple	September 23, 2020	January 28, 1999	September 25, 2019
Perpetual or dated	Perpetual	Perpetual	Dated	Dated
Original maturity date	No maturity	No maturity	March 15, 2029	September 25, 2034
Issuer's authority to call subject to prior supervisory approval	No	Issuer call subject to prior supervisory approval	Issuer call subject to prior supervisory approval	Issuer call subject to prior supervisory approval
Optional call date, contingent call date and redemption amount	N/A	The Bank has the option to redeem the subordinated notes: (i) on the First Call Date (being 5 years from the Issue Date) and every Distribution Payment Date thereafter, on the revailing Principal Amount or the Optional Redemption Amount, plus accrued but not cancelled Distribution subject to adjustment following the occurrence of a Trigger Event or Non-Viability Event; and (ii) at any time upon the occurrence of Tax or Regulatory Events, at their Prevailing Principal Amount plus accrued but not cancelled Distribution subject to adjustment following the occurrence of a Trigger Event or Non-Viability Event, in any case, subject to approval from the Bank of Thailand and subject to the Terms and Condition of the Additional Tier 1 Subordinated Notes.	The Bank has the option to redeem the subordinated notes if there are changes in or amendments to the tax laws or regulations of Thailand and/or Hong Kong resulted that the Bank has additional amount to pay in respect to the withholding tax. The redemption amount of the notes shall be equal to total outstanding principal plus accrued interest.	The Bank has the option to redeem the subordinated notes at year 10, or upon certain Tax or Regulatory Events, subject to approval from the Bank of Thailand. The redemption amount of the notes shall be equal to total outstanding principal plus accrued interest subject to adjustment following the occurrence of a Non-Viability Event.

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Table 6: Main Features of Regulatory Capital Instruments (Continued)

	Ordinary Share	Subordinated Debenture	Subordinated Debenture	Subordinated Debenture
Subsequent call dates, if applicable	N/A	First Call Date and every Distribution Payment Date thereafter (or any time upon the occurrence of Tax or Regulatory Events), subject to approval from the Bank of Thailand	Any date after original date of issuance	N/A
Coupons / dividends				
Fixed or floating dividend/coupon	Discretionary dividend amount	Fixed rate until the First Call Date and thereafter reset to Reset Distribution Rate every five-year according to the Terms and Condition of the Additional Tier 1 Subordinated Notes	Fixed rate	Fixed rate
Coupon rate and any related index	Distributable profit that has been declared as dividend	5.000% p.a. until the First Call Date and thereafter reset to Reset Distribution Rate according to the Terms and Condition of the Additional Tier 1 Subordinated Notes	9.025 % p.a.	3.733 % p.a.
Existence of a dividend stopper	No	No	No	No
Fully discretionary, partially discretionary or mandatory	Fully discretionary	Fully discretionary	Mandatory by the BOT	Mandatory by BOT
Existence of step up or other incentive to redeem	No	No	No	No
Non-cumulative or cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative
Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
Write-down feature	No	Yes	No	Yes
Position in subordination hierarchy in liquidation	The ordinary shareholders shall of the return of capital in a winding-up at the last position.	The subordinated noteholders' rights to payment of principal and Distribution (if any) on the Additional Tier 1 Subordinated Notes rank senior to rights of claims in respect of the Issuer's shares and obligations which by their terms or by operation of law rank junior to the Additional Tier 1 Subordinated Notes and junior to rights of claims in respect of all other types of the Issuer's creditors.	The subordinated noteholders shall of the return of capital in a winding-up after preferred shareholders, depositors and general creditors.	The Subordinated Noteholders' rights to receive their debt payments in a winding-up rank behind depositors and all creditors in respect of debts/ liabilities which by their terms rank senior to the Subordinated Notes.

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Table 7: Reconciliation of Regulatory Capital and Financial Statement under Consolidated Supervision

The Group Capital Unit : Million Baht

Item	31 December 2020 Amount	30 June 2020 Amount	References Based on Balance Sheet under the Consolidated Supervision
Tier 1 Capital			
Common Equity Tier 1 Capital			
Paid-up Common Shares	19,088	19,088	A
Premiums on Share Capital	56,346	56,346	B
Legal Reserves	25,000	24,500	C
Reserves Appropriated from Net Profit	111,500	106,500	D
Net Profit after Appropriation	185,859	177,301	E
Other Comprehensive Income			
Revaluation Surplus on Land Building and Condominium Appraisal	31,737	32,238	F
Revaluation Surplus on Investments	27,035	22,787	G
Foreign Currency Translation	(11,954)	(15,779)	H
Cash flow hedges reserve	565	540	I
Other Owner Changes Items	3	3	J
Total CET1 Capital before Regulatory Adjustments and Deduction	**445,179**	**423,524**	
Regulatory Adjustments on CET1	-	-	
Regulatory Deduction on CET1			
Goodwill	(29,563)	(31,207)	K
Intangible Assets	(2,503)	(2,787)	L
Deferred Tax Assets	(5,492)	(6,322)	M
Total Regulatory Deduction on CET1	**(37,558)**	**(40,316)**	
Total CET1	**407,621**	**383,208**	
Additional Tier 1 Capital			
Subordinated Debenture	23,592	-	N
Non-controlling Interest	168	76	O
Total Tier 1 Capital	**431,381**	**383,284**	
Tier 2 Capital			
Subordinated Debenture	42,593	42,593	P
General Provision	28,053	28,353	Q
Non-controlling Interest	40	19	R
Total Tier 2 Capital	**70,686**	**70,965**	
Total Regulatory Capital	**502,067**	**454,249**	

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Table 7: Reconciliation of Regulatory Capital and Financial Statement under Consolidated Supervision (Continued)

Balance Sheet under the Consolidated Supervision [1]

Unit : Million Baht

Items	31 December 2020 Amount	30 June 2020 Amount	References for the Group Capital Items
Assets			
Cash	73,886	65,818	
Interbank and Money Market Items, net	519,036	586,911	
Financial Assets Measured at Fair Value Through Profit or Loss	57,936	65,168	
Derivatives Assets	67,561	59,789	
Investments, net	758,482	683,587	
Investments in Subsidiaries and Associates, net	911	1,745	
Loans to Customers and Accrued Interest Receivables, net	2,189,102	2,182,458	
Qualified as Capital	28,053	28,353	Q
Properties for Sale, net	9,754	10,314	
Premises and Equipment, net	65,050	65,083	
Goodwill and Other Intangible Assets, net	32,308	33,994	
Deduction from Capital	(32,066)	(33,994)	K, L
Deferred Tax Assets	7,940	10,256	
Deduction from Capital	(5,492)	(6,322)	M
Collateral Placed with Financial Counterparties	12,833	13,499	
Other assets, net	28,161	27,741	
Total Assets	**3,822,960**	**3,806,363**	
Liabilities			
Deposits	2,810,863	2,852,295	
Interbank and Money Market Items	219,149	167,336	
Liability Payable on Demand	7,257	6,410	
Financial Liabilities Measured at Fair Value Through Profit or Loss	19,257	19,204	
Debt Instruments that are qualified as capital	5,907	5,907	P
Derivatives Liabilities	57,128	56,036	
Debt Issued and Borrowings	136,177	142,657	
Qualified as Additional Tier 1 Capital	23,592	-	N
Qualified as Tier 2 Capital	36,686	36,686	P
Provisions	27,306	24,279	
Deferred Tax Liabilities	2,447	3,933	
Other Liabilities	93,129	95,500	
Total Liabilities	**3,372,713**	**3,367,650**	

Table 7: Reconciliation of Regulatory Capital and Financial Statement under Consolidated Supervision (Continued)

Balance Sheet under the Consolidated Supervision[1]

Unit : Million Baht

Items	31 December 2020 Amount	30 June 2020 Amount	References for the Group Capital Items
Owner' Equity			
Share Capital			
Registered Share Capital			
Preferred Shares	17	17	
Common Shares	39,983	39,983	
Issued and Paid-up Share Capital			
Common Shares	19,088	19,088	A
Premium on Common Shares	56,346	56,346	B
Other Reserves	47,257	40,547	
Qualified as Capital	47,386	39,789	F, G, H, I, J
Retained Earnings			
Appropriated			
Legal Reserve	25,000	24,500	C
Others	111,500	106,500	D
Unappropriated	189,823	191,359	
Qualified as Capital	185,859	177,301	E
Total Bank's Equity	449,014	438,340	
Non-controlling Interest	1,233	373	
Qualified as Additional Tier 1 Capital	168	76	O
Qualified as Tier 2 Capital	40	19	R
Total Shareholders' Equity	**450,247**	**438,713**	
Total Liabilities and Shareholders' Equity	**3,822,960**	**3,806,363**	

Remark

[1] The scope of consolidation for accounting and regulatory purposes has no difference.

3. Information Related to the Risks

The effective risk management is fundamental to good banking practice of the Bank and the Group. Accordingly, the Bank has established guidelines for managing risk in each area of the business of the Bank and the Group to ensure that proper risk management mechanisms are in place. Over the past few years, the Bank proactively identified, monitored and analyzed major risk factors which could affect the financial operations of the Bank and the Group and, where necessary, has adjusted their organizational structure and risk management processes. This is to ensure that their risk management systems are effective and in line with international standards and are in accordance with the BOT guidelines.

The Risk Oversight Committee, the Board of Executive Directors and the senior management all play significant roles in prescribing and reviewing the sufficiency of the risk management policy and system. They also define the risk management strategy, and monitor and control the risk of the Bank and the Group to be at an appropriate level, in compliance with the risk management policy approved by the Board of Directors.

The risk management process of the Bank and the subsidiaries in the Group comprises the identification of significant risks which may potentially impact business operations, the assessment of each type of risk, the monitoring and control of risks to an appropriate level, and the reporting of the status for each type of risk to relevant parties so as to enable them to manage and/or handle the risks in a timely manner.

The key principle of risk management is based on each business unit being responsible for continuously managing its relevant risk exposures and ensuring each risk remains within the approved limits and is in compliance with the overall risk management policy approved by the Board of Directors, while the Risk Management Division is responsible for monitoring and controlling the overall risks on a regular basis. The Risk Management Division and all risk-generating units are audited by the Audit and Control Division to assess the effectiveness, adequacy and appropriateness of the internal control systems.

The approach used by the Bank and the subsidiaries in the Group for the management of credit risk, market risk and operational risk are as follows:

3.1 Credit Risk

Credit Risk is the risk that arises from the inability of borrowers or counterparties to perform their obligations under contractual agreements in relation to lending, investment and other contractual activities, for example the borrowers' failure to repay principal and/or interest as agreed in the contract.

3.1.1 Credit Risk Management

The Bank has established credit underwriting processes which include the formulation of the credit policy, credit risk ratings for customers, and the establishment of different levels of delegation of authority for credit approval, depending upon the type of business and/or the size of the credit line. In considering, the approval of loans in general, the Bank considers the purpose of the loan and assesses the repayment ability of the applicant, taking into account the applicant's operating cash flows, business feasibility, management capability, and collateral coverage. The Bank performs credit reviews which include reviewing credit risk rating on a regular basis. In order to effectively monitor and manage its credit risks, the Bank has, therefore, set up the following divisions.

- Risk Management Division is responsible for analyzing and reporting to management on the status of various risks of the Bank, as well as proposing recommendations for the review of the overall risk policy of the Bank in anticipation of, and in compliance with, new rules, regulations and international standards. The division is also responsible for overseeing the management of each type of risk to comply with the Bank's risk management policy.

- Credit Management Division is responsible for managing risks related to credit extension by supervising and monitoring credit extensions in accordance with the Bank's credit policies. The Credit Management Division comprises the Credit Policy unit, the Credit Acceptance unit, the Portfolio Management unit, the Risk Asset Review unit, the Special Asset Management unit, the Loan Recovery and Legal unit, and the Bank Property unit. The functions of each unit are summarized below
  - Credit Policy unit oversees the credit policy framework and coordinates the improvement and adjustment of the credit policy. It is also responsible for disseminating the credit policy, credit standards and credit processes; for monitoring and overseeing exceptional cases which are inconsistent with the credit policy; and for gathering various inputs which may be used for improving the credit policy.
  - Credit Acceptance oversees the quality of credit extensions to ensure they are in line with the credit policy and credit underwriting standards, reviews the appropriateness of loan structures as well as the results of customers' credit risk ratings, promotes the development of a good credit culture, and maintains a systematic and reliable credit extension process.
  - Portfolio Management unit is responsible for analyzing and making recommendations for adjustments to the portfolio structure, recommending the appropriate portfolio composition and the provision of reserves for loan losses at the portfolio level, developing and overseeing credit risk management tools and methodologies, constructing credit databases, and overseeing related management standards.
  - Risk Asset Review unit is charged with reviewing credit quality and credit management processes, assessing the adequacy of loan loss reserves, and evaluating compliance with credit policy, regulations and credit underwriting standards.
  - Special Asset Management unit is responsible for managing non-performing loans, and for determining and executing strategies for the resolution and restructuring of troubled loans.
  - Loan Recovery and Legal unit is responsible for taking legal actions, negotiating loan settlements, and seizing collateral for sale by public auction.
  - Bank Property unit is responsible for managing and selling foreclosed assets obtained from loan recovery processes and from legal actions.

For the credit process, credit applications are first considered by the business units and then submitted to the Credit Acceptance unit. The unit conducts additional analysis to help mitigate credit risk by ensuring that the proposals comply with the Bank's credit policies in areas such as credit underwriting standards, credit risk rating, and collateral appraisal. In handling non-performing loans, there is a specific unit to manage and resolve such loans. The Bank also has an independent unit to review credit quality and credit management processes; assess the adequacy of loan loss reserves for non-performing loans; evaluate the effectiveness in complying with credit policy, regulations and credit underwriting standards; and assess the appropriateness of portfolio composition, the adequacy of capital and the effectiveness of stress testing as specified by the Bank and the BOT. All the above units report on a regular basis to the senior management, the Board of Executive Directors and the Risk Oversight Committee.

The Bank has established different measures to control credit risk. For example, the Bank has instituted limits on the amount of total credit extended, contingent liabilities, and investment in a group of borrowers, an industry and a country. All of this will limit the loss of capital due to an economic downturn. Moreover, the Bank monitors and reports on these aspects to the senior management, the Board of Executive Directors and the Risk Oversight Committee to ensure that there will be adequate capital to safeguard the continuity of business operations in difficult times.

For the subsidiaries in the Group, credit risk management processes similar to that of the Bank have been established, but the organizational structure of the units that are responsible for the supervision and management of credit risk may vary according to the structure of each company.

3.1.2 Classification and Impairment of Assets

The Bank and each subsidiary in the Group follow the guidelines of the BOT and/or the relevant local regulators regarding the classification of assets and relevant provisions by classifying assets into three stages as credit exposures where there has not been a significant increase in credit risk (Performing or stage 1), credit exposures where there has been a significant increase in credit risk (Under-Performing or stage 2) and financial assets are assessed as credit impaired (Non-Performing or stage 3) according to Thai Financial Reporting Standards No. 9 regarding Financial Instruments (TFRS 9) which has been announced by the Federation of Accounting Professions and effective from January 1, 2020 by taking into consideration the length of time in default of payment whether of principal or interest, and also qualitative measures.

Under the Standardised Approach (SA) for measuring capital adequacy, the Bank and the subsidiaries in the Group's provisions are categorized into Specific Provision and General Provision as follows:

- Specific Provision comprise allowance for expected credit loss of assets and financial guarantees based on TFRS 9 which is allowance for loss that "Expected" to occur or may occur by taking into consideration the economic factors or other factors in the past, present, and expected to occur in the future which may affect the probability that borrowers will not comply with bank's agreements, and allowance for expected credit loss considered by managerial judgement to have additional provision (Management Overlay) for circumstances, limitations, or any other rational possibilities that may not be precisely captured by the model. However, Specific Provision does not include Performing and Under-performing assets' allowance into account, as Tier 2 capital has already taken it into account.
- General Provisions is provisions that has been set aside for assets classified as Performing and Under-Performing that are included in Tier 2 Capital.

The following tables present the quantitative information related to credit risk at the Bank and the Group level as at December 31, 2020 and 2019.

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Table 8: Significant on-statement of financial position assets and off-balance sheet items before credit risk mitigation classified by remaining maturity

Unit: Million Baht

Remaining maturity	The Group 31 December 2020								
	On-statement of financial position assets					Off-balance sheet items before multiplying by credit conversion factors			
	Net loans and accrued interest receivables*	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Up to 1 year	1,041,962	278,616	213,734	21,326	1,555,638	55,493	985,837	40,222	1,081,552
Over 1 year	1,473,356	444,488	4,975	46,234	1,969,053	11,914	1,466,396	100,029	1,578,339
Total	**2,515,318**	**723,104**	**218,709**	**67,560**	**3,524,691**	**67,407**	**2,452,233**	**140,251**	**2,659,891**

* Including interbank and money market items but excluding general provisions

Unit: Million Baht

Remaining maturity	The Group 31 December 2019								
	On-statement of financial position assets					Off-balance sheet items before multiplying by credit conversion factors			
	Net loans and accrued interest receivables*	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Up to 1 year	1,004,659	191,545	201,826	11,845	1,409,875	37,724	814,774	12,877	865,375
Over 1 year	1,185,249	354,953	-	37,962	1,578,164	19,503	1,319,021	81,187	1,419,711
Total	**2,189,908**	**546,498**	**201,826**	**49,807**	**2,988,039**	**57,227**	**2,133,795**	**94,064**	**2,285,086**

* Including interbank and money market items but excluding general provisions

Unit: Million Baht

Remaining maturity	The Bank								
	31 December 2020								
	On-statement of financial position assets					Off-balance sheet items before multiplying by credit conversion factors			
	Net loans and accrued interest receivables*	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Up to 1 year	864,731	242,268	128,100	20,120	1,255,219	48,581	927,436	31,954	1,007,971
Over 1 year	1,299,912	409,808	-	46,023	1,755,743	6,820	1,458,233	86,490	1,551,543
Total	**2,164,643**	**652,076**	**128,100**	**66,143**	**3,010,962**	**55,401**	**2,385,669**	**118,444**	**2,559,514**

* Including interbank and money market items but excluding general provisions

Unit: Million Baht

Remaining maturity	The Bank								
	31 December 2019								
	On-statement of financial position assets					Off-balance sheet items before multiplying by credit conversion factors			
	Net loans and accrued interest receivables*	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Up to 1 year	966,932	169,760	173,844	11,725	1,322,261	33,069	791,304	15,892	840,265
Over 1 year	1,164,423	347,479	-	37,962	1,549,864	14,625	1,319,020	81,187	1,414,832
Total	**2,131,355**	**517,239**	**173,844**	**49,687**	**2,872,125**	**47,694**	**2,110,324**	**97,079**	**2,255,097**

* Including interbank and money market items but excluding general provisions

Table 9: Significant on-statement of financial position assets and off-balance sheet items before credit risk mitigation classified by customer's country of residence

Unit: Million Baht

Customer's country of residence [1]	The Group 31 December 2020 On-statement of financial position assets					Off-balance sheet items before multiplying by credit conversion factors			
	Net loans and accrued interest receivables[2]	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Thailand	1,821,808	513,043	18,724	52,171	2,405,746	38,522	1,697,709	41,507	1,777,738
Asia	641,803	181,343	168,002	13,350	1,004,498	28,710	554,168	84,791	667,669
Europe	17,758	1,568	13,963	224	33,513	58	176,086	3,227	179,371
America	32,074	26,683	15,731	-	74,488	117	24,270	10,620	35,007
Others	1,875	467	2,289	1,815	6,446	-	-	106	106
Total	**2,515,318**	**723,104**	**218,709**	**67,560**	**3,524,691**	**67,407**	**2,452,233**	**140,251**	**2,659,891**

[1] Based on customer's country of residence

[2] Including interbank and money market items

Unit: Million Baht

Customer's country of residence [1]	The Group 31 December 2019 On-statement of financial position assets					Off-balance sheet items before multiplying by credit conversion factors			
	Net loans and accrued interest receivables[2]	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Thailand	1,718,399	421,257	37,131	42,237	2,219,024	33,712	1,583,498	53,872	1,671,082
Asia	420,852	118,549	137,113	6,172	682,686	23,253	382,236	29,721	435,210
Europe	22,084	933	5,825	1,345	30,187	105	155,548	129	155,782
America	13,114	1,283	20,753	37	35,187	157	9,897	9,657	19,711
Others	15,459	4,476	1,004	16	20,955	-	2,616	685	3,301
Total	**2,189,908**	**546,498**	**201,826**	**49,807**	**2,988,039**	**57,227**	**2,133,795**	**94,064**	**2,285,086**

[1] Based on customer's country of residence

[2] Including interbank and money market items but excluding general provisions

Unit: Million Baht

Customer's country of residence [1]	The Bank 31 December 2020 On-statement of financial position assets: Net loans and accrued interest receivables[2]	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Off-balance sheet items before multiplying by credit conversion factors: Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Thailand	1,772,087	508,880	9,176	51,229	2,341,372	38,525	1,693,874	41,507	1,773,906
Asia	340,710	114,765	90,780	12,875	559,130	16,701	491,439	62,984	571,124
Europe	17,848	1,567	13,240	224	32,879	58	176,086	3,227	179,371
America	32,101	26,397	12,615	-	71,113	117	24,270	10,620	35,007
Others	1,897	467	2,289	1,815	6,468	-	-	106	106
Total	**2,164,643**	**652,076**	**128,100**	**66,143**	**3,010,962**	**55,401**	**2,385,669**	**118,444**	**2,559,514**

[1] Based on customer's country of residence

[2] Including interbank and money market items but excluding general provisions

Unit: Million Baht

Customer's country of residence [1]	The Bank 31 December 2019 On-statement of financial position assets: Net loans and accrued interest receivables[2]	Net investment in debt securities	Deposits (including accrued interest receivables)	Derivatives assets	Total	Off-balance sheet items before multiplying by credit conversion factors: Avals, loan guarantees, letters of credit	OTC derivatives	Undrawn committed lines	Total
Thailand	1,714,871	408,410	30,117	42,230	2,195,628	33,712	1,573,555	53,872	1,661,139
Asia	365,827	102,137	116,292	6,059	590,315	13,720	368,821	32,736	415,277
Europe	22,084	933	5,819	1,345	30,181	105	155,548	129	155,782
America	13,114	1,283	20,621	37	35,055	157	9,897	9,657	19,711
Others	15,459	4,476	995	16	20,946	-	2,503	685	3,188
Total	**2,131,355**	**517,239**	**173,844**	**49,687**	**2,872,125**	**47,694**	**2,110,324**	**97,079**	**2,255,097**

[1] Based on customer's country of residence

[2] Including interbank and money market items but excluding general provisions

Table 10: Outstanding of financial instruments before credit risk mitigation and provisions

Unit: Million Baht

Item	The Group 31 December 2020 Outstanding amounts Non-Performing exposures	Outstanding amounts Performing exposures	Total Provisions	Provisions under SA Approach General Provision	Provisions under SA Approach Specific Provision	Provisions under IRB Approach	Net Value
Loans and accrued interest receivables[1]	106,258	2,568,975	185,717	25,802	159,915	-	2,489,516
Investment in debt securities[2]	1,473	721,767	7	-	7	-	723,233
Deposits and accrued interest receivables[3]	-	218,872	250	87	163	-	218,622
Loan commitment and financial guarantees	3,042	617,347	9,006	6,634	2,065	-	611,383
Total	**110,773**	**4,126,961**	**194,980**	**32,523**	**162,150**	**-**	**4,042,754**

[1] Including EIR adjustments, net of interest received in advance and gain/loss from new loan conditions (debt restructuring)

[2] Excluding accrued interest receivables and net of allowances for revaluation and excluding investment in receivables

[3] Including EIR adjustments

Unit: Million Baht

Item	The Bank 31 December 2020 Outstanding amounts Non-Performing exposures	Outstanding amounts Performing exposures	Total Provisions	Provisions under SA Approach General Provision	Provisions under SA Approach Specific Provision	Provisions under IRB Approach	Net Value
Loans and accrued interest receivables[1]	93,693	2,212,950	163,684	21,623	142,000	-	2,142,959
Investment in debt securities[2]	1,473	650,737	4	-	4	-	652,206
Deposits and accrued interest receivables[3]	-	128,241	217	75	141	-	128,024
Loan commitment and financial guarantees	2,538	536,218	7,473	5,548	1,831	-	531,283
Total	**97,704**	**3,528,146**	**171,378**	**27,246**	**143,976**	**-**	**3,454,472**

[1] Including EIR adjustments, net of interest received in advance and gain/loss from new loan conditions (debt restructuring)

[2] Excluding accrued interest receivables and net of allowances for revaluation and excluding investment in receivables

[3] Including EIR adjustments

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Table 11: Loans and accrued interest receivables (including interbank and money market items) and investment in debt securities before credit risk mitigation classified by customer's country of residence and by asset classification guidelines specified by regulators

Unit: Million Baht

Customer's country of residence*	The Group 31 December 2020							
	Loans and accrued interest receivables				Investment in debt securities			
	Performing	Under-Performing	Non-Performing	Total	Performing	Under-Performing	Non-Performing	Total
Thailand	1,756,518	104,964	81,889	1,943,371	511,026	594	1,473	513,093
Asia	620,141	34,891	24,309	679,341	180,703	644	-	181,346
Europe	17,620	573	37	18,230	1,567	-	-	1,567
America	32,073	105	13	32,191	26,765	-	-	26,765
Others	2,064	26	10	2,100	468	-	-	468
Total	**2,428,416**	**140,559**	**106,258**	**2,675,233**	**720,529**	**1,238**	**1,473**	**723,240**

* Based on customer's country of residence

Unit: Million Baht

Customer's country of residence*	The Bank 31 December 2020							
	Loans and accrued interest receivables				Investment in debt securities			
	Performing	Under-Performing	Non-Performing	Total	Performing	Under-Performing	Non-Performing	Total
Thailand	1,707,292	104,964	81,803	1,894,059	506,864	594	1,473	508,931
Asia	339,311	8,923	11,829	360,063	114,765	-	-	114,765
Europe	17,620	573	37	18,230	1,567	-	-	1,567
America	32,073	104	14	32,191	26,479	-	-	26,479
Others	2,064	26	10	2,100	467	-	-	467
Total	**2,098,360**	**114,590**	**93,693**	**2,306,643**	**650,142**	**594**	**1,473**	**652,209**

* Based on customer's country of residence

Table 12: General and specific provisions and bad debt written off for loans and accrued interest receivables (including interbank and money market items) and investment in debt securities classified by customer's country of residence

Unit: Million Baht

Customer's country of residence*	The Group 31 December 2020 Loans and accrued interest receivables Provisions under SA Approach General Provision	Specific Provision	Bad debt written off	Investment in debt securities Provisions under SA Approach Specific Provision
Thailand		121,563	17,040	4
Asia		37,538	4,545	3
Europe		472	-	-
America		117	-	-
Others		225	-	-
Total	**25,802**	**159,915**	**21,585**	**7**

* Based on customer's country of residence

Unit: Million Baht

Customer's country of residence*	The Group 31 December 2019 Loans and accrued interest receivables Provisions under SA Approach General Provision	Specific Provision	Bad debt written off	Investment in debt securities Provisions under SA Approach Specific Provision
Thailand		121,456	10,730	3,076
Asia		23,618	388	48
Europe		726	-	-
America		1,047	14	96
Others		353	-	26
Total	**28,339**	**147,200**	**11,132**	3,246

* Based on customer's country of residence

Unit: Million Baht

Customer's country of residence*	The Bank			
	31 December 2020			
	Loans and accrued interest receivables			Investment in debt securities
	Provisions under SA Approach		Bad debt written off	Provisions under SA Approach
	General Provision	Specific Provision		Specific Provision
Thailand		121,972	17,031	4
Asia		19,353	1,200	-
Europe		381	-	-
America		90	-	-
Others		204	-	-
Total	**21,623**	**142,000**	**18,231**	4

* Based on customer's country of residence

Unit: Million Baht

Customer's country of residence*	The Bank			
	31 December 2019			
	Loans and accrued interest receivables			Investment in debt securities
	Provisions under SA Approach		Bad debt written off	Provisions under SA Approach
	General Provision	Specific Provision		Specific Provision
Thailand		121,361	10,730	3,076
Asia		21,976	315	48
Europe		726	-	-
America		1,047	14	96
Others		353	-	26
Total	**25,893**	**145,463**	**11,059**	3,246

* Based on customer's country of residence

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Table 13: Loans and accrued interest receivables (including interbank and money market items) before credit risk mitigation, classified by business type and by asset classification guidelines specified by regulators

Unit: Million Baht

	The Group			
	31 December 2020			
Type of Business	**Performing**	**Under-Performing**	**Non-Performing**	**Total**
Agriculture and mining	38,405	1,886	1,566	41,857
Manufacturing and commercial	352,065	67,725	28,699	448,489
Real estate and construction	98,710	12,709	5,613	117,032
Utilities and services	248,524	38,096	14,044	300,664
Housing loans	145,709	12,656	6,702	165,067
Others	1,545,003	7,487	49,634	1,602,124
Total	**2,428,416**	**140,559**	**106,258**	**2,675,233**

Unit: Million Baht

	The Bank			
	31 December 2020			
Type of Business	**Performing**	**Under-Performing**	**Non-Performing**	**Total**
Agriculture and mining	49,593	1,030	2,280	52,903
Manufacturing and commercial	574,153	49,500	41,954	665,607
Real estate and construction	159,850	9,612	9,499	178,961
Utilities and services	435,867	36,213	24,048	496,128
Housing loans	239,028	11,932	10,875	261,835
Others	639,869	6,303	5,037	651,209
Total	**2,098,360**	**114,590**	**93,693**	**2,306,643**

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Table 14: General and specific provisions and bad debt written off for loans and accrued interest receivables (including interbank and money market items) classified by business type

Unit: Million Baht

Type of Business	The Group					
	31 December 2020			31 December 2019		
	Provisions under SA Approach		Bad debt written off	Provisions under SA Approach		Bad debt written off
	General Provision	Specific Provision		General Provision	Specific Provision	
Agriculture and mining		3,317	160		3,085	122
Manufacturing and commercial		76,699	14,027		80,792	7,374
Real estate and construction		12,994	1,377		14,312	1,549
Utilities and services		47,858	1,576		30,563	700
Housing loans		5,903	1,363		6,854	795
Others		13,144	3,082		11,594	592
Total	**25,802**	**159,915**	**21,585**	**28,339**	**147,200**	**11,132**

Unit: Million Baht

Type of Business	The Bank					
	31 December 2020			31 December 2019		
	Provisions under SA Approach		Bad debt written off	Provisions under SA Approach		Bad debt written off
	General Provision	Specific Provision		General Provision	Specific Provision	
Agriculture and mining		2,369	122		3,041	122
Manufacturing and commercial		65,661	12,148		79,607	7,301
Real estate and construction		11,410	1,361		14,192	1,549
Utilities and services		45,451	1,451		30,446	700
Housing loans		5,610	1,363		6,848	795
Others		11,499	1,786		11,329	592
Total	**21,623**	**142,000**	**18,231**	**25,893**	**145,463**	**11,059**

Table 15: Reconciliation of general and specific provisions for loans and accrued interest receivables (including interbank and money market items)

Unit: Million Baht

	The Group					
	31 December 2020			31 December 2019		
	Provisions under SA Approach			Provisions under SA Approach		
Item	General Provision	Specific Provision	Total	General Provision	Specific Provision	Total
Beginning balance	28,339	147,201	175,539	28,206	126,863	155,069
Doubtful accounts	(2,537)	34,249	31,713	133	33,667	33,800
Others	-	50	50	-	(2,198)	(2,198)
Bad debt written off	-	(21,585)	(21,585)	-	(11,132)	(11,132)
Ending balance	**25,802**	**159,915**	**185,717**	**28,339**	**147,200**	**175,539**

Unit: Million Baht

	The Bank					
	31 December 2020			31 December 2019		
	Provisions under SA Approach			Provisions under SA Approach		
Item	General Provision	Specific Provision	Total	General Provision	Specific Provision	Total
Beginning balance	25,893	145,465	171,358	25,833	125,354	151,187
Doubtful accounts	(4,270)	14,764	10,494	60	33,085	33,145
Others	-	2	2	-	(1,917)	(1,917)
Bad debt written off	-	(18,231)	(18,231)	-	(11,059)	(11,059)
Ending balance	**21,623**	**142,000**	**163,623**	**25,893**	**145,463**	**171,356**

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Table 16: On-statement of financial position assets and credit equivalent amount of off-balance sheet items, net of specific provisions, classified by asset type under SA approach

Unit: Million Baht

	The Group					
	31 December 2020			31 December 2019		
Type of Asset	**On-statement of financial position assets**	**Off-balance sheet items***	**Total**	**On-statement of financial position assets**	**Off-balance sheet items***	**Total**
Performing						
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	903,334	72,764	976,098	676,660	54,033	730,693
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	251,612	72,913	324,525	242,515	57,686	300,201
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	1,681,772	282,153	1,963,925	1,502,623	255,909	1,758,532
- Retail	227,299	10,065	237,364	214,060	10,044	224,104
- Residential mortgage loans	260,384	15	260,399	236,784	-	236,784
- Other assets	421,835	-	421,835	278,413	-	278,413
Non-Performing	35,413	1,048	36,461	28,423	352	28,775
Total	**3,781,649**	**438,958**	**4,220,607**	**3,179,478**	**378,024**	**3,557,502**

* Including repo-style transactions

Unit: Million Baht

Type of Asset	The Bank					
	31 December 2020			31 December 2019		
	On-statement of financial position assets	Off-balance sheet items *	Total	On-statement of financial position assets	Off-balance sheet items*	Total
Performing						
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	761,983	25,145	787,128	642,010	54,033	696,043
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	226,969	71,887	298,856	220,648	58,173	278,821
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	1,432,564	248,878	1,681,442	1,446,413	243,680	1,690,093
- Retail	196,470	9,766	206,236	210,300	9,958	220,258
- Residential mortgage loans	248,927	-	248,927	236,775	-	236,775
- Other assets	471,106	-	471,106	304,095	-	304,095
Non-Performing	32,516	918	33,434	28,258	352	28,610
Total	**3,370,535**	**356,594**	**3,727,129**	**3,088,499**	**366,196**	**3,454,695**

* Including repo-style transactions

3.1.3 Credit Rating

In assigning risk weights for the calculation of risk weighted assets (RWA) using the Standardised Approach (SA) under Basel III, the Bank and the subsidiaries in the Group use credit ratings from the external credit assessment institutions (ECAIs) who meet the qualifications specified by the BOT. The credit rating from Standard & Poor's is applied for sovereign and financial institutions, while the credit ratings from Fitch Ratings (Thailand) and TRIS Rating are applied for corporate. The process of mapping the ECAI's ratings with the borrower risk weights is prescribed by the BOT.

Table 17: On-statement of financial position assets and credit equivalent amount of off-balance sheet items, net of specific provisions, after credit risk mitigation for each asset type classified by risk weights under SA approach

Unit: Million Baht

Type of Asset	The Group – 31 December 2020														
	Rating					No Rating									
Risk weight (%)	0	20	50	100	150	0	20	35	50	75	100	250	625	937.5	100/8.5%
Performing															
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	1,016,089	199	21,357	4,077	10,263										
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	-	129,437	104,174	12,290	353		20				21,320				
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	-	88,775	85,390	58,060	40,958	136	4,788		13,282		1,564,937				
- Retail										198,364	2,675				
- Residential mortgage loans								214,901		43,386	2,110				
- Other assets						176,978	590		273		240,386				1

Risk weight (%)	0	20	50	75	100	150
Non-Performing	203	-	4,579	234	30,343	752

Items deducted from capital	37,558

Unit: Million Baht

Type of Asset	The Group 31 December 2019														
	Rating					No Rating									
Risk weight (%)	0	20	50	100	150	0	20	35	50	75	100	250	625	937.5	100/8.5%
Performing															
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	730,946	78	32,940	4,573	11,591										
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	-	91,906	136,051	36,209	378						1,651				
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	-	118,937	70,972	45,678	39,187	98			9,283		1,370,949				
- Retail										179,761	4,803				
- Residential mortgage loans								194,444		40,359	1,977				
- Other assets						115,710	1,140				160,080	820			1

Risk weight (%)	0	20	50	75	100	150
Non-Performing	613	-	5,101	626	19,167	3,205

Items deducted from capital	3,938

Unit: Million Baht

Type of Asset	The Bank 31 December 2020														
	Rating					No Rating									
Risk weight (%)	**0**	**20**	**50**	**100**	**150**	**0**	**20**	**35**	**50**	**75**	**100**	**250**	**625**	**937.5**	**100/8.5%**
Performing															
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	817,027	10,256	21,357	4,078	10,263										
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	-	99,736	93,817	26,900	353		20				21,320				
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	-	83,585	70,656	58,829	37,498				9,743		1,332,053				
- Retail										169,741	427				
- Residential mortgage loans								209,320		37,494	2,111				
- Other assets						165,990	581				304,534				1

Risk weight (%)	**0**	**20**	**50**	**75**	**100**	**150**
Non-Performing	204	-	4,579	234	27,341	752

Items deducted from capital	31,014

Unit: Million Baht

Type of Asset	The Bank														
	31 December 2019														
	Rating					No Rating									
Risk weight (%)	**0**	**20**	**50**	**100**	**150**	**0**	**20**	**35**	**50**	**75**	**100**	**250**	**625**	**937.5**	**100/8.5%**
Performing															
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	696,379	-	32,940	4,573	11,591										
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial Institutions	-	82,295	124,282	36,209	378						1,651				
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	-	118,937	70,972	45,678	39,187				9,283		1,309,871				
- Retail										179,220	4,344				
- Residential mortgage loans								194,444		40,351	1,977				
- Other assets						111,798	1,107				190,988	201			1

Risk weight (%)	**0**	**20**	**50**	**75**	**100**	**150**
Non-Performing	613	-	5,101	621	19,007	3,205

Items deducted from capital	2,875

3.1.4 Credit Risk Mitigation

It is a policy of the Bank and the subsidiaries in the Group to mitigate credit risk through the use of collateral to reduce the potential loss which may arise when borrowers are unable or unwilling to repay loans. Documentation relating to collateral must be in order and verified for validity prior to loan drawdown and ongoing compliance with the conditions of the collateral agreement shall be monitored. Processes, procedures and regulations for collateral valuation have been defined, consistent with the BOT's guidelines on collateral valuation and foreclosed assets obtained from debt repayment of financial institutions.

Credit risk mitigations used in the Bank's and the Group's capital adequacy calculation under Basel III - SA approach are as follows:

1. For financial collaterals such as cash, deposits, debt securities and equity securities, the Comprehensive Approach is currently adopted for credit risk mitigation and the Standard Supervisory Haircut specified by the BOT is used.
2. On-balance sheet netting is used for repo-style transactions where the counterparties enter into a Global Master Repurchase Agreement that complies with the BOT guidelines.
3. Guarantees that may be used as credit risk mitigants must be issued by qualified guarantors from either of the following 2 groups:
    - Guarantors which are sovereigns, central banks, provincial organizations, government entities, state enterprises, financial institutions and securities companies, provided that the guarantors must have risk weights lower than the borrower.
    - Corporate guarantors must have risk weights lower than the borrower.

Credit risk mitigation is applied in accordance with the BOT guidelines.

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Table 18: Secured portion of credit exposures after on- and off-balance sheet netting for each asset type under SA approach classified by credit risk mitigation types

Unit: Million Baht

Type of Asset	The Group			
	31 December 2020		31 December 2019	
	Financial collateral	Guarantees and credit derivatives	Financial collateral	Guarantees and credit derivatives
Performing				
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	16,556	-	18,545	2,910
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial institutions	1,870	72,351	4,731	47,720
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	88,627	40,364	83,123	35,679
- Retail	16,255	20,070	21,140	18,400
- Residential mortgage loans	2	-	4	-
- Other assets	3,608	-	662	-
Non-Performing	349	208	63	619
Total	**127,267**	**132,993**	**128,268**	**105,328**

Unit: Million Baht

Type of Asset	The Bank			
	31 December 2020		31 December 2019	
	Financial collateral	Guarantees and credit derivatives	Financial collateral	Guarantees and credit derivatives
Performing				
- Sovereigns and central banks, Multilateral development banks (MDBs), and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Sovereigns	16,556	-	18,545	2,910
- Financial institutions, Securities firms, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Financial institutions	1,760	72,351	4,731	47,720
- Corporates, and Provincial organizations/ Government entities/ State enterprises (PSEs) which have the same risk weight as Corporates	71,657	38,812	75,855	35,684
- Retail	16,029	20,038	18,293	18,400
- Residential mortgage loans	2	-	4	-
- Other assets	-	-	-	-
Non-Performing	324	208	63	619
Total	**106,328**	**131,409**	**117,491**	**105,333**

3.2 Market Risk

Market risk is the risk of loss in on- and off-balance sheet positions of the Bank and the Group arising from movements in market prices such as interest rates, equity prices, foreign exchange rates, and commodity prices.

3.2.1 Market Risk Management

The Bank's market risk arises from financial services activities provided to customers and/or financial institutions. These involve buying and selling foreign exchange and debt securities, as well as financial derivative transactions, such as foreign exchange forward contracts, cross currency swap, interest rate swap and foreign exchange option. The Bank manages market risk arising from the position from customer-driven transactions to be at acceptable levels by hedging or reducing the risk exposure. Market risk exposures also arise from the Bank's mismatched own asset and liability positions.

The primary objective of market risk management is to manage the risks resulting from changes in market factors to be at acceptable levels and in line with the overall risk management policy. The Bank and the subsidiaries in the Group have therefore established market risk management policies and specified market risk measurement metrics and limits taking into consideration the nature and complexities of the respective financial activities.

The committee and functional units that are mainly responsible for managing, monitoring and controlling the market risk are:

- The Asset-Liability Management Committee is responsible for establishing and reviewing policies and guidelines for asset and liability management and market risk management as well as monitoring and controlling these risks to be at acceptable levels and in compliance with the risk management policy set by the Risk Oversight Committee and the Board of Directors.
- The Treasury Division is responsible for executing the trading strategy for the Bank through buying and selling financial products such as foreign exchange, bonds, and derivatives instruments, as well as managing the Bank's foreign exchange risk, interest rate risk and liquidity risk to be within the limits according to ALCO's guidelines and the Bank's acceptable risk level.
- Market Risk unit, which is part of the Risk Management Division, is accountable for assessing, monitoring, reporting and controlling market risk positions against specified limits. The Market Risk unit reports to ALCO and senior management on a regular basis and is responsible for proposing the enhancement of the market risk policies, measurement metrics and limits in response to change in operating environment, the Bank's business plans, and the complexities of financial activities. Moreover, the Market Risk unit coordinates with the subsidiaries of the Group to ensure that their risk management policies and processes are in line with the Bank's practices.

The market risk management practices of the subsidiaries in the Group are similar to the Bank's practices, although the relevant units responsible for overseeing, monitoring and managing the risks may differ depending on each company's organizational structure.

3.2.2 Traded Market Risk

The main traded market risks for the Bank and the Group are interest rate risk and foreign exchange risk.

Risk Assessment and Monitoring for Traded Market Risk

Various tools and measurement techniques are used to assess market risk exposures in the trading book, including:

1. Value-at-Risk (VaR)

VaR is a statistical technique that estimates the maximum potential losses on risk exposures as a result of movements in market rates and prices over a specified time horizon and at a given level of confidence. The Bank uses a historical simulation approach at a 99% confidence level over a one-day holding period to measure interest rate risk (only for general market risk) and foreign exchange risk. Historical Simulation VaR estimates the maximum potential losses assuming plausible future scenarios from the observed historical market movements. To validate the accuracy of the VaR model, the Bank conducts back testing against hypothetical profit and loss of the trading book positions and analyses whether the number of exceptions, i.e. the incidents where hypothetical profit and loss exceed the calculated VaR, are within an acceptable range. Hypothetical profit and loss is calculated by assuming that the previous day's exposures remain unchanged.

2. Other measurements

Apart from the statistical measurement technique, the Bank also uses non-statistical measurements, such as Present Value of a Basis Point (PV01), portfolio size, and mark-to-market profit and loss, to regularly assess major market risk exposures in the trading book as deemed appropriate for each transaction type. The PV01 measures the sensitivity of the value of securities to one basis point change in interest rate.

3. Stress Testing

The Bank performs market risk stress testing on its trading book position at least on a quarterly basis to determine if the impact of potential losses from extreme market movements or crisis situations on the Bank's capital are within the risk tolerance limits. Stress testing also enhances the Bank's understanding of its risk exposures and vulnerability as well as facilitates proactive risk management.

Risk Control for Traded Market Risk

Traded market risk is controlled primarily through a series of limits, such as VaR Limit, PV01 Limit, and Maximum Loss Limit, etc. These limits are specified by ALCO, and approved by the Risk Oversight Committee, the Board of Executive Directors and the Board of Directors. They are reviewed and updated at least once a year or more frequently when warranted by a material change in circumstances.

By using the historical simulation approach, the Bank's and the Group's VaR of the trading book for a one-day holding period with a 99 percent confidence level as of December 31,2020, was 492 million Baht and 500 million Baht, respectively.

The subsidiaries in the Group also use, to varying degrees based on the size and complexity of transactions, similar measurement tools and techniques to assess their market risk exposures in the trading book and have specified limits to control these exposures.

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Capital Treatment for Traded Market Risk

The Bank currently adopts the Standardised Approach (SA) for the calculation of minimum capital requirement for market risk at both the Bank level and the Group level. In addition, the Bank and the subsidiaries in the Group use VaR models internally to measure, monitor and control traded market risks, as mentioned above in the risk assessment and monitoring section.

Minimum capital requirement for market risk at the Bank and the Group level as at December 31, 2020 and June 30, 2020 are as follows:

Table 19: Minimum capital requirements for market risk based on Standardised Approach (SA)

Unit: Million Baht

	The Group		The Bank	
Capital Requirements for Market Risk	**31 December 2020**	**30 June 2020**	**31 December 2020**	**30 June 2020**
Interest Rate Risk	4,088	4,791	3,905	4,476
Equity Price Risk	480	550	-	-
Foreign Exchange Risk	2,180	2,209	2,081	2,127
Commodity Price Risk	-	-	-	-
Total Capital Requirement	**6,748**	**7,550**	**5,986**	**6,603**

3.2.3 Interest Rate Risk in the Banking Book (IRRBB)

Interest rate risk in the banking book normally arises when the repricing and/or maturity schedule of assets, liabilities, and off-balance sheet positions are not matched, or when the movements of reference interest rates on assets and liabilities are not correlated, negatively affecting net interest income (NII) and/or economic value of equity (EVE).

Sources of Interest Rate Risk can be classified as follows:

- Repricing risk arises from timing differences in maturity (for fixed rate items) and repricing period (for floating rate items) of the Bank's assets, liabilities, and off-balance sheet positions. Repricing risk is the primary form of interest rate risk.
- Yield curve risk arises from changes in the shape and slope of yield curves arising from unparallel shifts of the yield curves, including yield curve twist.
- Basis risk arises from imperfect correlation of reference interest rates applicable to the Bank's assets, liabilities and off-balance sheet positions.
- Embedded option risk arises from changes in interest rate, causing uncertainty of cash flows due to the options embedded in assets, liabilities and off-balance sheet positions, such as non-maturity deposits and loans without prepayment penalty.

Risk Assessment and Monitoring for IRRBB

The measurement of interest rate risk in the banking book provides an assessment of the potential impact of interest rate change on NII, which will help the Bank and the subsidiaries in the Group to manage the risk and determine alternative balance sheet strategies to achieve business return targets. Furthermore, it also provides an assessment of the potential impact on EVE reflecting the sensitivity of the value of assets, liabilities and off-balance sheet positions to changes in interest rates.

The Bank employs both static analysis tools and dynamic simulation techniques to assess interest rate risk in the banking book, including:

1. Repricing Gap Analysis and Sensitivity Analysis

Repricing gap analysis is a traditional method widely used to assess the interest rate risk of current balance sheet positions. It captures repricing risk which is a primary form of interest rate risk, but does not capture yield curve risk, basis risk and embedded option risk.

The Bank uses repricing gap analysis to assess NII impact in the year ahead assuming assets, liabilities and off-balance sheet positions are static and interest rates change immediately across the curves. Repricing gap analysis is also used in conjunction with duration-based weights to estimate the potential impact of interest rate change on EVE.

The Bank assesses and monitors interest rate risk in the banking book through NII impact and EVE impact on a monthly basis.

2. Net Interest Income Simulation (NII Simulation)

NII simulation is a more granular and complex technique than repricing gap analysis. The Bank also uses NII simulation to measure interest rate risk because this technique allows for a projection of future NII under various interest rate scenarios, based on current positions of assets, liabilities, and off-balance sheet items, and assumptions regarding new business activities (dynamic position). This includes assumptions regarding the growth in the positions of balance sheet items, maturity profile of new transactions, product pricing, and the launch of new products. NII simulation is able to capture other types of interest rate risks i.e. yield curve risk, basis risk, and embedded option risk.

The Bank uses NII simulation technique to assess interest rate risk and project future NII from the business plan at least once a year.

3. Stress Testing

The Bank performs stress testing for interest rate risk in the banking book at least on a quarterly basis using static NII simulation on the current position, to assess the potential negative impact to NII under various stress scenarios. The results of stress testing are analyzed and used to determine alternative balance sheet strategies more suited to the business environment in order to achieve the business return target under an acceptable level of risk.

The NII impact for the Bank and the Group of a 100 bp interest rate change using NII Simulation as at December 31, 2020 and 2019 are as follows:

Table 20: Net Interest Income Impact if interest rate rises by 100 bps

Unit: Million Baht

Currency	The Group			
	31 December 2020		31 December 2019	
	NII Impact	% Earning at Risk	NII Impact	% Earning at Risk
THB	(1,713)	(2.22%)	(123)	(0.17%)
USD	1,084	1.41%	1,802	2.54%
Others	683	0.88%	521	0.73%
Total NII Impact	**55**	**0.07%**	**2,200**	**3.10%**
Estimated NII in next 12 months	**77,046**		**71,071**	

Unit: Million Baht

Currency	The Bank			
	31 December 2020		31 December 2019	
	NII Impact	% Earning at Risk	NII Impact	% Earning at Risk
THB	(1,734)	(2.59%)	(148)	(0.22%)
USD	628	0.94%	1,741	2.55%
Others	381	0.57%	248	0.36%
Total NII Impact	**(725)**	**(1.08%)**	**1,841**	**2.70%**
Estimated NII in next 12 months	**66,890**		**68,255**	

Risk Control for IRRBB

The Bank monitors and controls interest rate risk by specifying a NII Impact Limit (being the cumulative NII impact within 1 year) and an EVE Impact Limit, assuming interest rates change immediately by 100 bps. These limits are reviewed by ALCO and approved by the Board of Executive Directors, the Risk Oversight Committee and the Board of Directors at least annually or more frequently when warranted by material changes in circumstances.

The Bank manages the interest rate risk by adjusting its asset and liability structure in line with forecast interest rate trends, taking into consideration the changes in NII impact and EVE impact. The Bank may deploy plain vanilla derivatives, such as interest rate swaps and cross currency interest rate swaps, to hedge or mitigate interest rate risk to be within the risk tolerance limit, and manage the risk in accordance with ALCO's guidelines.

The subsidiaries in the Group with significant interest rate risks in the banking book use repricing gap analysis to assess and control IRRBB in the similar fashion as mentioned above.

3.2.4 Equity Exposure in the Banking Book

Equity price risk is the risk associated with equity price changes resulting in the deterioration of investment value and affecting the Bank's and the Group's capital.

Objectives of equity investment in the banking book are as follows

- To enhance income in terms of dividends and capital gains for medium to long-term investments
- To support core banking business by establishing good relationships with customers and creating networks of strategic investment partners
- To exchange for debt repayments from debt restructuring agreements

The Bank's equity price risk arises from various types of investments in both domestic and overseas markets in order to diversify risk, to enhance returns, and to support the development of the Thai capital market, such as investments in property funds and infrastructure funds. In the past year, the Bank's portfolio of equity investment grew considerably, mainly from investment in domestic and foreign listed companies.

The Bank and the subsidiaries in the Group classify equity investments in the banking book in accordance with the applicable accounting standards, with marketable securities classified as available-for-sale investment, non-marketable securities classified as general investment, investment in subsidiaries and investment in associated companies.

Risk Assessment and Monitoring for Equity Exposure in the Banking Book

The market risk management policy is used as a guideline by the Bank and the subsidiaries in the Group in assessing, monitoring, and controlling equity price risk. Measurement techniques for the assessment of equity price risk can be categorized by equity type as follows:

- Listed equity securities: Fair value is used for risk assessment. Stress testing is performed on a quarterly basis, based on the stress scenarios implied from historical movements of the security exchange indices, to estimate the maximum potential losses that may occur during volatile market conditions.
- Other equity securities: Fair value is used for risk assessment, the reliability of which is reviewed at least annually or more frequently as warranted by market conditions.

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In managing equity risk in the banking book, the Bank, as the parent company, controls the ratio of equity exposures to total capital to be in accordance with the BOT's regulation and the Bank's internal guidelines.

Valuation Policy for Equity Exposure in the Banking Book

In establishing the fair value of equity securities, the Bank and the subsidiaries in the Group adopts the following valuation policy:

- Listed equity securities are fair valued by referencing the last bid price on the last business day of the period. If this is not available, the last closing price will be applied. Listed equity securities under rehabilitation are fair valued using the discounted cash flow approach or the net asset value approach, as appropriate.
- Other equity securities that are non-listed equity securities are fair valued using the discounted cash flow approach or the net asset value approach, as appropriate. For unit trusts, the fair value is based on net asset value (NAV) as at the end of the period.

Equity exposure in the banking book for the Bank and the Group as at December 31, 2020 and 2019 are as follows:

Table 21: Equity exposures in the banking book

Unit: Million Baht

	The Group		The Bank	
Equity exposures	**31 December 2020**	**31 December 2019**	**31 December 2020**	**31 December 2019**
Equity exposures				
• Equity securities listed on a securities exchange (domestic and foreign)	72,326*		175,203*	
- Cost value	-	32,503**	-	32,503**
- Market value	-	57,359**	-	57,359**
• Other equity securities (domestic and foreign)	19,986*	40,372**	57,113*	74,285**
Gains (losses) on sales of equity securities for the year	203	19,531	52	18,869
Unrealized gains (losses) on revaluation from available-for-sale equity securities	-	27,327	-	27,284
Unrealized gains (losses) on investments at fair value through other comprehensive income	23,599	-	24,107	-
Minimum capital for equity exposures under SA approach	16,939	8,388	19,718	11,188

* Net Fair Value for the investment in equity securities

** Net of the impairment charges for the investment in equity securities

3.3 Liquidity Coverage Ratio (LCR)

According to the Basel III guideline, the Bank is subject to the Liquidity Coverage Ratio (LCR) requirement imposed by the BOT. This guideline aims to ensure that a bank has adequate liquidity to support short-term severe liquidity stress scenarios by requiring a bank to maintain High-Quality Liquid Assets (HQLA) to cover Total Net Cash Outflows over the next 30 calendar days under severe liquidity stress scenarios (Net COF). The BOT requires commercial banks to maintain LCR at the end of each month not less than 60%, starting from January 1, 2016. The LCR requirement is to increase by 10% yearly until it reaches 100% on January 1, 2020. The LCR calculation is as follow.

$$LCR = \frac{\text{Stock of High-Quality Liquid Asset}}{\text{Total Net Cash Outflow over the next 30 days estimated under severe liquidity stress scenarios}}$$

HQLA is unencumbered high-quality liquid asset that can be easily and immediately converted into cash at little or no loss of value even under severe liquidity stress scenarios. All high-quality liquid assets must also meet the minimum standard as stipulated by the BOT. When calculating the amount of HQLA, the value of all qualified assets must be combined and deducted by the haircut value as specified by the BOT. The caps of each class of HQLA must be considered.

Net COF is calculated by deducting the total expected cash inflow from the total expected cash outflow within the period of 30 days during the severe liquidity stress scenario. The total expected cash inflow cannot exceed 75% of the total expected cash outflow and cannot include those assets that are already qualified as HQLA. In calculating expected cash inflow and outflow, the Bank estimates the flows by applying the inflow rates and the run-off rates specified by the BOT.

The Bank's quarterly LCR which is an average of month-end value in each quarter is shown below.

Table 22: Liquidity Coverage Ratio

Unit: Million Baht

Items	Average Value for the fourth quarter[2]	
	Year 2020	Year 2019
Total High-Quality Liquid Assets	918,585	800,007
Total expected net cash outflows within the next 30 days	315,896	255,041
LCR[1]	291%	314%
Minimum LCR required by the Bank of Thailand	100%	90%

Note

[1] The LCR is computed as an average ratio of month-end LCR in the quarter. This may not be equal to an LCR computed with the average values of HQLA and Net COF.

[2] Average of month-end value in the quarter.

The Bank's average LCR for the third quarter and the fourth quarter of 2020 in comparison with those of 2019 are shown below.

Table 23: Comparison of Liquidity Coverage Ratio

Average LCR	Year 2020	Year 2019
The third quarter	296%	322%
The fourth quarter	291%	314%

For the fourth quarter of 2020, the Bank's average LCR was 291 percent, well above the regulatory minimum requirement of 100 percent.

The Bank's average HQLA was 918,585 million Baht for the fourth quarter of 2020. Of this amount, 91 percent was Level 1 HQLA, which included cash and qualifying debt securities issued or guaranteed by governments, central banks and state enterprises. The remaining was Level 2 HQLA, which were mainly qualifying corporate debt securities rated at least A or equivalent and promissory notes issued by Thailand's Ministry of Finance.

The Bank's average Net COF was 315,896 million Baht for the fourth quarter of 2020. The expected net cash outflows of the Bank were mainly driven by deposits and borrowings from retails and corporates, as well as contingent bond bought. The main drivers of the Bank's inflows were fully- performing loans, interbank placement and contingent bond sold.

The Bank assesses, monitors and controls liquidity risk through a variety of measurements, along with the LCR, such as loan-to-deposit ratio, cumulative net cash flow positions, funding concentration and Net Stable Funding Ratio. The Bank also regularly monitors the early warning indicators to detect any potential liquidity crisis. This is to ensure that the Bank has sufficient liquidity for business operation as usual and can proactively manage liquidity risk.

3.4 Operational Risk

Operational Risk is the risk of loss from inadequate or failed internal processes, people and systems, or from external events. This includes legal risks, but does not include strategic risks and reputational risks.

The Bank understands that good operational risk management is vital to sustainable business success, particularly in the current environment of uncertainty, both domestic and international, prevail. Thus, effective operational risk management with sufficient coverage of all aspects of operations is a key priority for the Bank and the Group, and includes being well-prepared to deal promptly with unexpected events, including the compliance with regulations in Thailand and overseas which has become more demanding.

Furthermore, the Bank pays close attention to quality of customer service and customer care, suitability of products and services sold, reinforcement in system security, information systems, and all electronic/digital channels as well as risk management of fraud related to bank products and services such as credit cards, ATM cards and electronic services to ensure customer confidence. In relation to a new product launches, the product and service risks must be well analyzed, assessed and controlled to be at the acceptable level, and the appropriate risk control procedures must be in place.

Operational Risk Management

The process by which the Bank and the subsidiaries in the Group addresses operational risk management covers defining, assessing, monitoring, mitigating and controlling risk. Each unit in the organization is directly responsible for managing its operational risk and for establishing measures to mitigate, monitor and control risk to the designated level by allocating appropriate resources and establishing an organizational culture for managing operational risk.

The Bank has The Operational Risk Management Committee ("ORMC"), comprising senior executives from various business and support units, which is responsible for supporting and overseeing the functioning of the Bank's operational risk management and business continuity management to comply with the Bank's policy.

The Bank has a dedicated unit for operational risk management under its Risk Management Division, which is responsible for the operational risk management system,such as monitoring and supporting every unit in implementing the operational risk management framework at the unit level, managing operational risk at the organization level, reviewing operational risk management in the process of product and service development, calculating the capital required for operational risk under the Basel framework, and maintaining and analyzing data on the operational risk loss data system.

The Bank also ensures the cooperation among Operational Risk Unit, Compliance and Audit and Control Division, in respect of information sharing, analyzing and setting of controls to enhance the efficiency of operational risk management and internal control of the Bank

Likewise, the subsidiaries in the Group have assigned the responsibility for operational risk management at both the unit and the organization level, in line with the Bank's practices, although the relevant units responsible for overseeing, monitoring, and managing operational risk may differ depending on each company's organizational structure.

Operational Risk Assessment and Monitoring

A key principle underlying the Bank and the subsidiaries' operational risk management is to educate staff throughout the organizationby providing them with a consistent understanding of operational risk, and to cultivate a sustainable operational risk culture as part of day-to-day business activities across the Bank, through Operational Risk Management Tools, e.g. Risk Control Self-assessment (RCSA), so that they are able to accurately and completely identify the operational risks, assess the risk, analyze details of the risks, assess the effectiveness of controls, find appropriate solutions to mitigate risks, and implement the selected solutions to minimize risks. This is followed by systematic monitoring of progress, measurement of potential risk, e.g., Risk Monitoring Information (RMI) and Loss Data collection, and the use of reporting systems as key elements of compiling and analyzing preventive and control measurements, and/or effectively diminishing operational risk, as well as regular reviews of the entire process.

Loss data arising from operational risk events for the Bank and the subsidiaries in the Group are maintained in a database. Reports on operational risk exposures and operational risk management are provided on a regular basis.

Operational Risk Mitigation

An important mechanism in controlling, preventing, and mitigating operational risk is an effective internal control system with strong participation of management. Each business unit must enforce operational controls vigorously, ensure compliance with regulations including anti-money laundering measures, implement the segregation of duties and procedures for verification and reconciliation, define approval authorities as well as establish limits commensurate with the scale of the business, the business type and level of staff. The reliability of the information technology system and the security measures related thereto is also of paramount importance.

The Bank and the subsidiaries in the Group have implemented Business Continuity Management (BCM) to enhance their resilience and their capability of responding to unexpected interruptions. The Group has adopted a BCM Policy and a Business Continuity Plans, which are reviewed and updated in accordance with potential threats, as well as being tested on an annual basis.

The Calculation of Value Equivalent to Operational Risk-weighted Asset

The Bank currently uses the Standardised Approach - Operation Risk (SA-OR) to calculate the value equivalent to operational risk-weighted asset at both the Bank level and the Group level. This calculation approach allocates the gross income into business lines and multiplies with a Beta value each business line as prescribed by the BOT.

3.5 Information Technology Risk

Information Technology (IT) Risk is the potential risk from using technology which will have an impact on the system or operation, and the risk from cyber threats.

Key IT risk factors of the Bank are composed of internal factors and external factors. Internal factors are the Bank's systems, in terms of their capability, their complexity and the adoption of technology for the Bank's business operations; the issue of system and data security, the issue of system and data security, especially personal data; the accuracy and completeness of data processing; personnel knowledge of new technologies and development of competency in using new technologies; and the adequacy of the Bank's personnel regarding IT risk awareness and understanding, including malicious and inadvertent insiders. External factors are more diversified, rapid and complex forms of IT risk and cyber threats. Moreover, current risks from changes in the business-chain environment that rely on technology. Moreover, current business supply chain are changing including the interconnection of business information causing linkage in technology risks in the business supply chain and creating business impact as well as risk due to the transformation of the business landscape in the era of digitalization.

The Bank is aware of the risks arising from the use of IT and the importance of information security and cybersecurity. The Bank has developed an IT Risk Management Policy and updated the Information Security Policy to cover cybersecurity. Moreover, the Bank has enhanced the readiness of its IT governance and IT risk management throughout the Bank by putting in place a framework for the following areas: strengthening cyber security to meet the most up-to-date standards and covering new technology adoption processes; assessing cyber risk and making appropriate adjustments to the assessment framework according to each situation; regularly building awareness and understanding of cyber security with staff and customers; developing contingency plans to rapidly and effectively handle different forms of cyber risk to reduce its impact; and collaborating with external organizations to further strengthen the Bank's readiness to both effectively prevent and handle cyber risk.