2021 Financial Statements

Consolidated Income Statement

for the year ended 31 December 2021
(Expressed in millions of Hong Kong dollars)

	note	2021	2020
Interest income calculated using effective interest method		**28,030**	35,010
Interest income – others		**477**	687
Interest income	3	**28,507**	35,697
Interest expense	3	**(4,685)**	(8,791)
Net interest income		**23,822**	26,906
Fee income		**9,151**	8,588
Fee expense		**(2,574)**	(2,221)
Net fee income	4	**6,577**	6,367
Net income/(loss) from financial instruments measured at fair value through profit or loss	5	**4,346**	3,320
Gains less losses from financial investments	6	**206**	(10)
Dividend income	7	**176**	157
Net insurance premium income	8	**14,083**	15,301
Other operating income	9	**322**	2,281
Total operating income		**49,532**	54,322
Net insurance claims and benefits paid and movement in liabilities to policyholders	10	**(16,350)**	(18,254)
Net operating income before change in expected credit losses and other credit impairment charges		**33,182**	36,068
Change in expected credit losses and other credit impairment charges	11	**(2,807)**	(2,738)
Net operating income		**30,375**	33,330
Employee compensation and benefits		**(6,311)**	(6,102)
General and administrative expenses		**(5,285)**	(4,720)
Depreciation expenses		**(2,066)**	(2,086)
Amortisation of intangible assets		**(472)**	(297)
Operating expenses	12	**(14,134)**	(13,205)
Impairment loss on intangible assets		**(10)**	–
Operating profit		**16,231**	20,125
Net surplus/(deficit) on property revaluation	16	**82**	(636)
Share of profits/(losses) of associates		**72**	(75)
Profit before tax		**16,385**	19,414
Tax expense	17	**(2,439)**	(2,744)
Profit for the year		**13,946**	16,670
Profit attributable to:			
Shareholders of the Bank		**13,960**	16,687
Non-controlling interests		**(14)**	(17)
(Figures in HK$)			
Earnings per share – basic and diluted	18	**6.93**	8.36

The notes on pages 177 to 242 form part of these Financial Statements.

Consolidated Statement of Comprehensive Income

for the year ended 31 December 2021
(Expressed in millions of Hong Kong dollars)

	2021	2020
Profit for the year	**13,946**	16,670
Other comprehensive income		
Items that will be reclassified subsequently to the Consolidated Income Statement when specific conditions are met:		
Debt instruments at fair value through other comprehensive income ('FVOCI'):		
– fair value (losses)/gains taken to equity	**(1,391)**	759
– fair value losses/(gains) transferred to the Consolidated Income Statement:		
– on hedged items	**829**	(663)
– on disposal	**(98)**	(3)
– release of expected credit losses recognised in the Consolidated Income Statement	**–**	(2)
– deferred taxes	**41**	(4)
– exchange difference	**349**	4
Cash flow hedge reserve:		
– fair value gains/(losses) taken to equity	**2,207**	(823)
– fair value (gains)/losses transferred to the Consolidated Income Statement	**(2,464)**	1,115
– deferred taxes	**43**	(48)
Exchange differences on translation of:		
– financial statements of overseas branches, subsidiaries and associates	**522**	854
Items that will not be reclassified subsequently to the Consolidated Income Statement:		
Change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk		
– fair value gains/(losses) taken to equity	**4**	(1)
– deferred taxes	**(1)**	–
Equity instruments designated at fair value through other comprehensive income:		
– fair value (losses)/gains taken to equity	**(1,961)**	920
– exchange difference	**173**	250
Premises:		
– unrealised surplus/(deficit) on revaluation of premises	**1,310**	(1,542)
– deferred taxes	**(220)**	252
– exchange difference	**9**	19
Defined benefit plans:		
– actuarial gains/(losses) on defined benefit plans	**352**	(10)
– deferred taxes	**(58)**	2
Exchange difference and others	**(3)**	–
Other comprehensive income for the year, net of tax	**(357)**	1,079
Total comprehensive income for the year	**13,589**	17,749
Total comprehensive income for the year attributable to:		
– shareholders of the Bank	**13,603**	17,766
– non-controlling interests	**(14)**	(17)
	13,589	17,749

The notes on pages 177 to 242 form part of these Financial Statements.

Consolidated Balance Sheet

at 31 December 2021
(Expressed in millions of Hong Kong dollars)

	note	2021	2020
ASSETS			
Cash and balances at central banks	22	**16,896**	11,226
Trading assets	23	**47,433**	37,117
Derivative financial instruments	24	**13,224**	17,181
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	25	**31,326**	20,695
Reverse repurchase agreements – non-trading		**18,821**	13,360
Placings with and advances to banks	26	**72,493**	44,357
Loans and advances to customers	27	**997,397**	944,774
Financial investments	28	**500,386**	554,720
Interest in associates	31	**2,341**	2,358
Investment properties	32	**9,545**	9,415
Premises, plant and equipment	32	**31,205**	30,925
Intangible assets	33	**25,486**	24,733
Other assets	34	**53,632**	48,926
Total assets		**1,820,185**	1,759,787
LIABILITIES AND EQUITY			
Liabilities			
Deposits from banks		**5,333**	12,943
Current, savings and other deposit accounts	35	**1,230,216**	1,209,472
Repurchase agreements – non-trading		**16,592**	6,270
Trading liabilities	36	**44,291**	30,937
Derivative financial instruments	24	**12,252**	20,861
Financial liabilities designated at fair value	37	**27,399**	32,530
Certificates of deposit and other debt securities in issue	38	**81,567**	62,500
Other liabilities	39	**31,179**	31,334
Liabilities under insurance contracts	40	**154,551**	142,680
Current tax liabilities	41	**603**	282
Deferred tax liabilities	41	**7,302**	7,302
Subordinated liabilities	42	**24,484**	19,481
Total liabilities		**1,635,769**	1,576,592
Equity			
Share capital	43	**9,658**	9,658
Retained profits		**140,100**	137,580
Other equity instruments	44	**11,744**	11,744
Other reserves		**22,830**	24,118
Total shareholders' equity		**184,332**	183,100
Non-controlling interests		**84**	95
Total equity		**184,416**	183,195
Total equity and liabilities		**1,820,185**	1,759,787

Diana Cesar *Executive Director and Chief Executive*
Clement K M Kwok *Director*

Andrew W L Leung *Chief Financial Officer*

The notes on pages 177 to 242 form part of these Financial Statements.

Consolidated Statement of Changes in Equity

for the year ended 31 December 2021
(Expressed in millions of Hong Kong dollars)

				Other reserves							
	Share capital	Other equity instruments	Retained profits[1]	Premises revaluation reserve	Financial assets at FVOCI reserve	Cash flow hedge reserve	Foreign exchange reserve	Others[2]	Total shareholders' equity	Non-controlling interests	Total equity
At 1 January 2021	**9,658**	**11,744**	**137,580**	**17,960**	**4,557**	**260**	**658**	**683**	**183,100**	**95**	**183,195**
Profit for the year	–	–	13,960	–	–	–	–	–	13,960	(14)	13,946
Other comprehensive income (net of tax)	–	–	291	1,099	(2,058)	(214)	522	3	(357)	–	(357)
Debt instruments at fair value through other comprehensive income	–	–	–	–	(270)	–	–	–	(270)	–	(270)
Equity instruments designated at fair value through other comprehensive income	–	–	–	–	(1,788)	–	–	–	(1,788)	–	(1,788)
Cash flow hedges	–	–	–	–	–	(214)	–	–	(214)	–	(214)
Change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	–	–	–	–	–	–	–	3	3	–	3
Property revaluation	–	–	–	1,099	–	–	–	–	1,099	–	1,099
Actuarial gains on defined benefit plans	–	–	294	–	–	–	–	–	294	–	294
Exchange differences and others	–	–	(3)	–	–	–	522	–	519	–	519
Total comprehensive income for the year	–	–	14,251	1,099	(2,058)	(214)	522	3	13,603	(14)	13,589
Dividends paid[3]	–	–	(11,662)	–	–	–	–	–	(11,662)	–	(11,662)
Coupons paid on AT1 capital instruments	–	–	(703)	–	–	–	–	–	(703)	–	(703)
Movement in respect of share-based payment arrangements	–	–	3	–	–	–	–	(9)	(6)	–	(6)
Others	–	–	–	–	–	–	–	–	–	3	3
Transfers	–	–	631	(631)	–	–	–	–	–	–	–
At 31 December 2021	**9,658**	**11,744**	**140,100**	**18,428**	**2,499**	**46**	**1,180**	**677**	**184,332**	**84**	**184,416**

1 Retained profits are the cumulative net earnings of the Group that have not been paid out as dividends, but retained to be reinvested in the business. To satisfy the provisions of the Hong Kong Banking Ordinance and local regulatory requirements for prudential supervision purposes, the Group has earmarked a 'regulatory reserve' from retained profits. Movements in the reserve are made directly through retained earnings. As at 31 December 2021, the effect of this requirement is to restrict the amount of reserves which can be distributed by the Group to shareholders by HK$441m (2020: HK$1,323m).

2 Other reserves comprise share-based payment reserve and own credit risk reserve. The share-based payment reserve is used to record the amount relating to share awards and options granted to employees of the Group by the ultimate holding company. The own credit risk reserve is for the change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk.

3 Dividends paid represented the payment of fourth interim dividend of 2020 and the first three interim dividends of 2021 amounted to HK$5,353m and HK$6,309m respectively.

Consolidated Statement of Changes in Equity continued

for the year ended 31 December 2021
(Expressed in millions of Hong Kong dollars)

	Share capital	Other equity instruments	Retained profits[1]	Other reserves: Premises revaluation reserve	Other reserves: Financial assets at FVOCI reserve	Other reserves: Cash flow hedge reserve	Other reserves: Foreign exchange reserve	Other reserves: Others[2]	Total shareholders' equity	Non-controlling interests	Total equity
At 1 January 2020	9,658	11,744	133,734	19,889	3,296	16	(196)	669	178,810	107	178,917
Profit for the year	–	–	16,687	–	–	–	–	–	16,687	(17)	16,670
Other comprehensive income (net of tax)	–	–	(8)	(1,271)	1,261	244	854	(1)	1,079	–	1,079
Debt instruments at fair value through other comprehensive income	–	–	–	–	91	–	–	–	91	–	91
Equity instruments designated at fair value through other comprehensive income	–	–	–	–	1,170	–	–	–	1,170	–	1,170
Cash flow hedges	–	–	–	–	–	244	–	–	244	–	244
Change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	–	–	–	–	–	–	–	(1)	(1)	–	(1)
Property revaluation	–	–	–	(1,271)	–	–	–	–	(1,271)	–	(1,271)
Actuarial losses on defined benefit plans	–	–	(8)	–	–	–	–	–	(8)	–	(8)
Exchange differences and others	–	–	–	–	–	–	854	–	854	–	854
Total comprehensive income for the year	–	–	16,679	(1,271)	1,261	244	854	(1)	17,766	(17)	17,749
Dividends paid	–	–	(12,808)	–	–	–	–	–	(12,808)	–	(12,808)
Coupons paid on AT1 capital instruments	–	–	(700)	–	–	–	–	–	(700)	–	(700)
Movement in respect of share-based payment arrangements	–	–	17	–	–	–	–	15	32	–	32
Others	–	–	–	–	–	–	–	–	–	5	5
Transfers	–	–	658	(658)	–	–	–	–	–	–	–
At 31 December 2020	9,658	11,744	137,580	17,960	4,557	260	658	683	183,100	95	183,195

1 Retained profits are the cumulative net earnings of the Group that have not been paid out as dividends, but retained to be reinvested in the business. To satisfy the provisions of the Hong Kong Banking Ordinance and local regulatory requirements for prudential supervision purposes, the Group has earmarked a 'regulatory reserve' from retained profits. Movements in the reserve are made directly through retained earnings. As at 31 December 2021, the effect of this requirement is to restrict the amount of reserves which can be distributed by the Group to shareholders by HK$441m (2020: HK$1,323m).

2 Other reserves comprise share-based payment reserve and own credit risk reserve. The share-based payment reserve is used to record the amount relating to share awards and options granted to employees of the Group by the ultimate holding company. The own credit risk reserve is for the change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk.

Consolidated Statement of Cash Flows

for the year ended 31 December 2021
(Expressed in millions of Hong Kong dollars)

	2021	2020
Profit before tax	**16,385**	19,414
Adjustments for non-cash items:		
Depreciation and amortisation	**2,538**	2,383
Net interest income	**(23,822)**	(26,906)
Dividend income	**(176)**	(157)
Gains less losses from financial investment	**(206)**	10
Share of profits/(losses) in associates	**(72)**	75
Net surplus/(deficit) on property revaluation	**(82)**	636
Change in expected credit losses and other credit impairment charges	**2,807**	2,738
Impairment loss on intangible assets	**10**	–
Loans and advances written off net of recoveries	**(1,066)**	(987)
Movement in present value of in-force long-term insurance business ('PVIF')	**188**	(2,082)
Interest received	**28,059**	35,139
Interest paid	**(4,195)**	(9,425)
Elimination of exchange differences and other non-cash items	**2,995**	(11,261)
Changes in operating assets and liabilities		
Change in trading assets	**(10,316)**	10,240
Change in derivative financial instruments	**(4,652)**	3,556
Change in financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**(10,631)**	(1,924)
Change in reverse repurchase agreements – non-trading maturing after one month	**804**	(7,701)
Change in placings with and advances to banks maturing after one month	**(21,390)**	10,054
Change in loans and advances to customers	**(56,634)**	(9,574)
Change in other assets	**4,048**	(1,808)
Change in repurchase agreements – non trading	**10,322**	4,392
Change in deposits from banks	**(7,610)**	10,452
Change in current, savings and other deposit accounts	**20,744**	6,014
Change in trading liabilities	**13,354**	(7,039)
Change in financial liabilities designated at fair value	**(5,131)**	2,950
Change in certificates of deposit and other debt securities in issue	**19,067**	45,310
Change in other liabilities	**661**	3,664
Change in liabilities under insurance contract	**11,871**	10,560
Dividends received from financial investments	**178**	157
Tax paid	**(2,227)**	(6,207)
Net cash from operating activities	**(14,179)**	82,673

Consolidated Statement of Cash Flows continued

for the year ended 31 December 2021
(Expressed in millions of Hong Kong dollars)

	2021	2020
Purchase of financial investments	(648,479)	(714,554)
Proceeds from sale or redemption of financial investments	672,930	657,899
Repayment of shareholders' loan from an associated company	2	2
Purchase of property, plant and equipment and intangible assets (excluding PVIF)	(2,146)	(2,110)
Net cash inflow from the sales of loan portfolio	2,267	6,059
Net cash from investing activities	24,574	(52,704)
Interest paid for subordinated liabilities	(336)	(541)
Principal and interest elements of lease payments	(584)	(596)
Dividends paid	(11,662)	(12,808)
Coupons paid on AT1 capital instruments	(703)	(700)
Proceeds from issuance of subordinated liabilities	5,000	–
Net cash from financing activities	(8,285)	(14,645)
Net increase in cash and cash equivalents	2,110	15,324
Cash and cash equivalents at 1 January	109,615	92,702
Exchange differences in respect of cash and cash equivalents	(591)	1,589
Cash and cash equivalents at 31 December	111,134	109,615
Cash and cash equivalents comprise[1]:		
– Cash and sight balances at central banks	16,896	11,226
– Balances with banks	10,078	6,039
– Items in the course of collection from other banks	3,744	5,062
– Placings with and advances to banks maturing within one month	33,202	30,494
– Reverse repurchase agreements with banks maturing within one month	10,674	4,409
– Treasury bills	28,873	54,793
– Net settlement accounts and cash collateral	13,769	3,908
– less: items in the course of transmission to other banks	(6,102)	(6,316)
	111,134	109,615

1 At 31 December 2021, the amount of cash and cash equivalents that was not available for use by the Group was HK$14,040m (2020: HK$28,169m), of which HK$8,153m (2020: HK$11,011m) was related to mandatory deposits at central banks.

Notes to the Financial Statements

For the year ended 31 December 2021
(Figures expressed in millions of Hong Kong dollars unless otherwise indicated)

1. Basis of preparation

(a) Compliance with Hong Kong Financial Reporting Standards

Hang Seng Bank Limited ('the Bank') and its subsidiaries ('the Group') are engaged in the provision of banking and related financial services. The Bank is a limited liability company incorporated in Hong Kong. The address of its registered office and principal place of business is 83 Des Voeux Road Central, Hong Kong.

The consolidated financial statements comprise the financial statements of the Group made up to 31 December 2021. The consolidated financial statements have been prepared in accordance with all applicable Hong Kong Financial Reporting Standards ('HKFRS'), the provisions of the Hong Kong Companies Ordinance and accounting principles generally accepted in Hong Kong. HKFRS comprises Hong Kong Financial Reporting Standards, Hong Kong Accounting Standards ('HKAS'), and interpretations issued by the Hong Kong Institute of Certified Public Accountants ('HKICPA'). In addition, these financial statements comply with the applicable disclosure provisions of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited. A summary of the significant accounting policies adopted by the Group is set out in note 2.

Standards adopted during the year ended 31 December 2021

There were no new standards applied during the year ended 31 December 2021. During 2021, the Group adopted a number of amendments to standards which had an insignificant effect on the consolidated financial statements of the Group.

(b) Presentation of information

The following have been included in the audited sections of the 'Management Discussion and Analysis' ('MD&A'):

- Disclosure under HKFRS 4 *'Insurance Contracts'* concerning the nature and extent of risks relating to insurance contracts under Insurance Risk in 'Risk' section.

- Disclosure under HKFRS 7 '*Financial Instruments: Disclosures*' concerning the nature and extent of risks relating to financial instruments under Credit Risk, Treasury Risk and Market Risk in 'Risk' section.

- Capital disclosures under HKAS 1 *'Presentation of Financial Statement'* in 'Capital Management' under Treasury Risk in 'Risk' section.

- IBOR transition in 'Areas of special interest' section.

In accordance with the Group's policy to provide disclosures that help stakeholders to understand the Group's performance, financial position and changes thereto, the information provided in the Notes to the Financial Statements and the Risk disclosures in the MD&A goes beyond the minimum levels required by accounting standards, statutory and regulatory requirements.

(c) Consolidation

The Group controls and consequently consolidates an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Control is initially assessed based on consideration of all facts and circumstances, and is subsequently reassessed when there are significant changes to the initial setup.

Where an entity is governed by voting rights, the Group would consolidate when it holds, directly or indirectly, the necessary voting rights to pass resolutions by the governing body. In all other cases, the assessment of control is more complex and requires judgement of other factors, including having exposure to variability of returns, power over relevant activities or holding the power as agent or principal.

All intra-group transactions are eliminated on consolidation.

The consolidated financial statements also include the attributable share of the results and reserves of associates based on the financial statements prepared at dates not earlier than three months prior to 31 December 2021.

1. Basis of preparation continued

(d) Future Accounting Developments

The HKICPA has issued a number of new standards which are not yet effective for the year ended 31 December 2021 and which have not been adopted in the financial statements. Key changes of new standards are summarised as follows:

HKFRS 17 '*Insurance contracts*' was issued in January 2018 with amendments to the standard issued in October 2020. The standard sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. Following the amendments, HKFRS 17 is effective from 1 January 2023. The Group is in the process of implementing HKFRS 17. Industry practice and interpretation of the standard is still developing. Additionally, the impact on the forecast future returns of our insurance business is dependent on the growth, duration and composition of our insurance portfolio. Therefore, the likely financial impact of its implementation remains uncertain. However, the estimated impact compared with the Group's current accounting policy for insurance contracts, which is set out in policy 2(t) below:

- Under HKFRS 17, there will be no present value of in-force business ('PVIF') asset recognised. Instead the estimated future profit will be included in the measurement of the insurance contract liability as the contractual service margin ('CSM') and this will be gradually recognised in revenue as services are provided over the duration of the insurance contract. While the profit over the life of an individual contract will be unchanged, its emergence will be later under HKFRS 17. The removal of PVIF asset and the recognition of CSM will reduce equity. The PVIF asset will be eliminated to equity on transition, together with other adjustments to assets and liabilities to reflect HKFRS 17 measurement requirements and any consequential amendments to financial assets in the scope of HKFRS 9;

- HKFRS 17 requires increased use of current market values in the measurement of insurance liabilities. Changes in market conditions for certain products measured under the General Measurement Approach are immediately recognised in profit or loss, while changes in market conditions for other products measured under the Variable Fee Approach are included in the measurement of CSM;

- In accordance with HKFRS 17, directly attributable costs will be incorporated in the CSM and recognised in the results of insurance services as a reduction in reported revenue, as profit is recognised over the duration of insurance contracts. Costs that are not directly attributable will remain in operating expenses. This may result in a reduction in operating expenses compared to the current accounting policy.

- We intend to provide an update on the likely financial impacts on our insurance business in later 2022 financial reports, when we expect that this will be reasonably estimable.

(e) Critical accounting estimates and judgements

The preparation of financial information requires the use of estimates and judgements about future conditions. In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items highlighted as the critical accounting estimates and judgements in note 2 below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based. This could result in materially different estimates and judgments from those reached by management for the purpose of 2021 consolidated financial statements. Management's selection of the Group's accounting policies which contain critical estimates and judgements reflects the materiality of the items to which the policies are applied and the high degree of judgement and estimation uncertainty involved.

2. Significant accounting policies

(a) Interest income and expense

Interest income and expense for all financial instruments are recognised in 'Interest income' and 'Interest expense' respectively in the income statement. Effective interest method is used for those financial instruments that are not at fair value through profit or loss.

The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, where appropriate, a shorter period, to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument but excluding future credit losses. The calculation includes all amounts paid or received by the Group that are an integral part of the effective interest rate of a financial instrument, including transaction costs and all other premiums or discounts.

(b) Non-interest income

(i) Fee income

Fee income is earned from a diverse range of services provided by the Group to its customers and is accounted for as follows:

– income earned on the execution of a significant act is recognised as revenue when the act is completed (for example, fees arising from negotiating, or participating in the negotiation of, a transaction for a third party); and

– income earned from the provision of services is recognised as revenue when the services are provided (for example, asset management services).

(b) Non-interest income continued

(ii) Net income from financial instruments measured at fair value

(a) Net trading income

Net trading income comprises all gains and losses from changes in the fair value of financial assets and financial liabilities held for trading, together with the related dividend. Gains or losses arising from changes in fair value of derivatives are recognised in 'Net trading income' to the extent as described in the accounting policy set out in note 2(i). Gains and losses on foreign exchange trading and other transactions are also reported as net trading income except for those gains and losses on translation of foreign currencies recognised in other comprehensive income and accumulated separately in equity in the foreign exchange reserve in accordance with the accounting policy set out in note 2(v).

(b) Net income from financial instruments designated at fair value

Net income/(expense) from financial instruments designated at fair value comprises all gains and losses from changes in the fair value of financial assets and financial liabilities designated at fair value, including derivatives managed in conjunction with the financial assets and liabilities designated at fair value. Dividends arising on those financial instruments are also included.

(c) Net income from assets and liabilities of insurance businesses measured at fair value

Net income from assets and liabilities of insurance businesses measured at fair value comprises of income in respect of financial assets and liabilities measured at fair value and derivatives managed in conjunction with the above which can be separately identifiable from other trading derivatives.

(iii) Dividend income

Dividend income is recognised when the right to receive payment is established. This is the ex-dividend date for listed equity securities, and usually the date when shareholders have approved the dividend for unlisted equity securities.

(iv) Rental income from operating lease

Rental income, net of incentives, under an operating lease is recognised in 'Other operating income' in equal instalments over the reporting periods covered by the lease term.

(c) Cash and cash equivalents

For the purpose of the cash flow statement, cash and cash equivalents include highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of change in value. Such investments comprise cash and sight balances at central banks maturing within one month, treasury bills and certificates of deposit with less than three months' maturity from the date of acquisition and items in the course of collection from or in transmission to other banks.

(d) Valuation of financial instruments

All financial instruments are recognised initially at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of a financial instrument on initial recognition is generally its transaction price (that is the fair value of the consideration given or received). However, the fair value will be based on other observable current market transactions in the same instrument, without modification or repackaging, or on a valuation technique whose variables include only data from observable markets, such as interest rate yield curves, option volatilities and currency rates. When such evidence exists, the Group recognises a trading gain or loss on day 1, being the difference between the transaction price and the fair value. When significant unobservable parameters are used, the entire day 1 gain or loss is deferred and is recognised in the income statement over the life of the transaction until the transaction matures, is closed out, the valuation inputs become observable, or when the Group enters into an offsetting transaction.

The fair value of financial instruments is generally measured on an individual basis. However, in cases where the Group manages a group of financial assets and liabilities according to its net market or credit risk exposure, the Group measures the fair value of the group of financial instruments on a net basis but presents the underlying financial assets and liabilities separately in the financial statements, unless they satisfy the HKFRS offsetting criteria.

2. Significant accounting policies continued

(d) Valuation of financial instruments continued

Critical accounting estimates and judgements

The majority of valuation techniques employ only observable market data. However, certain financial instruments are classified on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them, the measurement of fair value is more judgemental:

– An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit or greater than 5% of the instrument's valuation is driven by unobservable inputs.

– 'Unobservable' in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur. It generally does not mean that there is no data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used)

The Group's details of valuation of financial instruments is depicted in note 51 'Fair value of financial instruments'.

(e) Financial instruments measured at amortised cost

Financial assets that are held to collect the contractual cash flows and that contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest, such as most loans and advances to banks and customers and some debt securities, are measured at amortised cost. In addition, most financial liabilities are measured at amortised cost. The carrying value of these financial assets at initial recognition includes the directly attributed transactions costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognised over the life of the loan through the recognition of interest income, unless the loan becomes impaired.

The Group may commit to underwrite loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. When the Group intends to hold the loan, the loan commitment is included in the impairment calculations set out below.

(f) Financial assets measured at fair value through other comprehensive income ('FVOCI')

Financial assets held for a business model that is achieved by both selling and collecting contractual cash flows and that contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at FVOCI. These comprise primarily debt securities. They are recognised on the trade date when the Group enters into contractual arrangements to purchase and are normally derecognised when they are either sold or redeemed. They are subsequently remeasured at fair value and changes therein (except for those relating to impairment, interest income and foreign currency exchange gains and losses) are recognised in other comprehensive income until the assets are sold. Upon disposal, the cumulative gains or losses in other comprehensive income are recognised in the income statement as 'Gains less losses from financial investments'. Financial assets measured at FVOCI are included in the impairment calculations set out below and impairment is recognised in profit or loss.

(g) Equity securities measured at fair value with fair value movement presented in OCI

The equity securities for which fair value movements are shown in OCI are for business facilitation and other similar investments where the Group holds the investments other than to generate a capital return. Gains or losses on derecognition of these equity securities are not transferred to profit or loss. Otherwise equity securities are measured at fair value through profit or loss (except for dividend income which is recognised in profit or loss).

(h) Financial instruments designated at fair value

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below and are so designated irrevocably at inception:

– the use of the designation removes or significantly reduces an accounting mismatch;

– when a group of financial assets and liabilities or a group of financial liabilities is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy; and

– where the financial liability contains one or more non-closely related embedded derivatives.

Designated financial assets are recognised when the Group enters into contracts with counterparties, which is generally on trade date, and are normally derecognized when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognised when the Group enters into contracts with counterparties, which is generally on settlement date, and are normally derecognised when extinguished. Subsequent changes in fair value are recognised in the income statement in 'Net income from financial instruments measured at fair value through profit or loss'.

2. Significant accounting policies continued

(h) Financial instruments designated at fair value continued

Under the above criterion, the main classes of financial instruments designated at fair value by the Group are:

– Debt instruments for funding purposes that are designated to reduce an accounting mismatch

The interest and/or foreign exchange exposure on certain fixed rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy.

– Financial assets and financial liabilities under unit-linked and non-linked investment contracts

A contract under which the Group does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries are determined based on the fair value of the assets held in the linked funds. If no fair value designation was made for the related assets, at least some of the assets would otherwise be measured at either fair value through other comprehensive income or amortised cost. The related financial assets and liabilities are managed and reported to management on a fair value basis. Designation of the financial assets and related liabilities at fair value allows changes in fair values to be recorded in the income statement and presented in the same line.

(i) Derivatives

Derivatives are financial instruments that derive their value from the price of underlying item such as equities, interest rates or other indices. Derivatives are recognised initially and are subsequently measured at fair value. Derivatives are classified as assets when their fair value is positive or as liabilities when their fair value is negative. This includes embedded derivatives in financial liabilities which are bifurcated from the host contract when they meet the definition of a derivative on a stand-alone basis.

Where the derivatives are managed with debt securities issued by the Group that are designated at fair value, the contractual interest is shown in 'Interest expense' together with the interest payable on the issued debt.

Hedge accounting

The Group designates certain derivatives as either (i) hedges of the change in fair value of recognised assets or liabilities or firm commitments ('fair value hedge'); or (ii) hedges of highly probable future cash flows attributable to a recognised asset or liability, or a forecast transaction ('cash flow hedge').

At the inception of a hedging relationship, the Group documents the relationship between the hedging instruments and the hedged items, its risk management objective and its strategy for undertaking the hedge. The Group requires a documented assessment, both at hedge inception and on an ongoing basis, of whether or not the hedging instruments, are highly effective in offsetting the changes attributable to the hedged risks in the fair values or cash flows of the hedged items.

(i) Fair value hedge

Changes in the fair value of derivatives that are designated and qualified as fair value hedging instruments are recorded in the income statement within 'Net income from financial instruments measured at fair value through profit or loss', along with changes in the fair value of the hedged assets or liabilities attributable to the hedged risk.

If the hedging relationship no longer meets the criteria for hedge accounting, the hedge accounting is discontinued. The cumulative adjustment to the carrying amount of a hedged item is amortised to the income statement based on a recalculated effective interest rate over the residual period to maturity, unless the hedged item has been derecognised.

(ii) Cash flow hedge

The effective portion of changes in the fair value of derivatives that are designated and qualified as cash flow hedges is recognised in other comprehensive income and accumulated separately in equity. Any gain or loss in fair value relating to an ineffective portion is recognised immediately in the income statement within 'Net income from financial instruments measured at fair value through profit or loss'.

The accumulated gains and losses recognised in other comprehensive income are recycled to the income statement in the periods in which the hedged item will affect profit or loss.

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss at that time remains in equity until the forecast transaction is ultimately recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was recognised in other comprehensive income is immediately reclassified to the income statement.

2. Significant accounting policies continued

(i) Derivatives continued

Hedge accounting continued

(iii) Hedge effectiveness testing

To qualify for hedge accounting, the Group requires that at the inception of the hedge and throughout its life, each hedge must be expected to be highly effective (prospective effectiveness), and demonstrate actual effectiveness (retrospective effectiveness) on an ongoing basis.

The documentation of each hedging relationship sets out how the effectiveness of the hedge is assessed and the method adopted by the Group to assess hedge effectiveness depends on its risk management strategy.

For fair value hedge relationships, the Group utilises the cumulative dollar offset method or regression as effectiveness testing methodology. For cash flow hedge relationships, the Group utilises the change in variable cash flow method, capacity test or the cumulative dollar offset method using the hypothetical derivative approach.

For prospective effectiveness, the hedging instrument is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk during the period for which the hedge is designated. For retrospective effectiveness, the change in fair value or cash flows must offset each other in the range of 80% to 125%. Hedge ineffectiveness is recognised in the income statement in 'Net income from financial instruments measured at fair value through profit or loss'.

(iv) Derivatives that do not qualify for hedge accounting

Non-qualifying hedges are economic hedges entered into as part of documented interest rate management strategies for which hedge accounting is not applied. Changes in fair value of non-qualifying hedges do not alter the cash flows expected as part of the documented management strategies for both the non-qualifying hedge instruments and the related assets and liabilities. All gains and losses from changes in the fair values of derivatives that do not qualify for hedge accounting are recognised immediately in the income statement.

(j) Impairment of amortised cost and FVOCI financial assets

Expected credit losses are recognised for loans and advances to banks and customers, non-trading reverse repurchase agreements, other financial assets held at amortised cost, debt instruments measured at fair value through other comprehensive income, and certain loan commitments and financial guarantee contracts. At initial recognition, allowance (or provision in the case of some loan commitments and financial guarantees) is required for ECL resulting from default events that are possible within the next 12 months (or less, where the remaining life is less than 12 months) ('12-month ECL'). In the event of a significant increase in credit risk, allowance (or provision) is required for ECL resulting from all possible default events over the expected life of the financial instrument ('lifetime ECL'). Financial assets where 12-month ECL is recognised are considered to be 'stage 1'; financial assets which are considered to have experienced a significant increase in credit risk are in 'stage 2'; and financial assets for which there is objective evidence of impairment are considered to be in default or otherwise credit-impaired are in 'stage 3'. Purchased or originated credit-impaired financial assets ('POCI') are treated differently as set out below.

Credit-impaired (stage 3)

The Group determines that a financial instrument is credit-impaired and in stage 3 by considering relevant objective evidence, primarily whether:

– contractual payments of either principal or interest are 90 days past due or above;

– there are other indications that the borrower is unlikely to pay such as that a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; or

– the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due.

Interest income is recognised by applying the effective interest rate to the amortised cost amount, i.e. gross carrying amount less allowances for ECL.

Write-off

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

Renegotiation

Loans are identified as renegotiated and classified as credit-impaired when the contractual payment terms are modified due to significant credit distress of the borrower. Renegotiated loans remain classified as credit-impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows and retain the designation of renegotiated until maturity or derecognition.

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement is made on substantially different terms or if the terms of an existing agreement are modified such that the renegotiated loan is a substantially different financial instrument. Any new loans that arise following derecognition events in these circumstances are considered to be POCI and will continue to be disclosed as renegotiated loans.

2. Significant accounting policies continued

(j) Impairment of amortised cost and FVOCI financial assets continued

Renegotiation continued

Other than originated credit-impaired loans, all other modified loans could be transferred out of stage 3 if they no longer exhibit any evidence of being credit-impaired. In the case of renegotiated loans under wholesale portfolios, there should be sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, over the minimum observation period, and there are no other indicators of impairment. These loans could be transferred to stage 1 or 2 based on the mechanism as described below by comparing the risk of default occurring at the reporting date (based on the modified contractual terms) and the risk of a default occurring at initial recognition (based on the original, unmodified contractual terms). Any amount written off as a result of the modification of contractual terms would not be reversed. While for retail portfolios, renegotiated loans remain in stage 3 for their renegotiated lifetime.

Loan modifications other than renegotiated loans

Loan modifications that are not identified as renegotiated are considered to be commercial restructuring. Where a commercial restructuring results in a modification (whether legalised through an amendment to the existing terms or the issuance of a new loan contract) such that the Group's rights to the cash flows under the original contract have expired, the old loan is derecognised and the new loan is recognised at fair value. The rights to cash flows are generally considered to have expired if the commercial restructuring is at market rates and no payment-related concession has been provided. Mandatory and general offer loan modifications that are not borrower-specific, for example market-wide customer relief programmes, have not been classified as renegotiated loans and generally have not resulted in derecognition, but their stage allocation is determined considering all available and supportable information under our ECL impairment policy. Changes made to these financial instruments that are economically equivalent and required by interest rate benchmark reform do not result in the derecognition or a change in the carrying amount of the financial instrument, but instead require the effective interest rate to be updated to reflect the change of the interest rate benchmark.

Significant increase in credit risk (stage 2)

An assessment of whether credit risk has increased significantly is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. The assessment explicitly or implicitly considers if the financial instrument has experienced a significant increase in credit risk, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability-weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL. The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends on the type of product, the characteristics of the financial instrument, the borrower and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due. In addition, wholesale loans that are individually assessed, typically corporate and commercial customers, and included on a watch or worry list are included in stage 2.

For wholesale portfolios, the quantitative comparison assesses default risk using a lifetime probability of default which encompasses a wide range of information including the obligor's customer risk rating ('CRR'), macroeconomic condition forecasts and credit transition probabilities. Significant increase in credit risk is measured by comparing the average probability of default ('PD') for the remaining term estimated at origination with the equivalent estimation at reporting date (or that the origination PD has doubled in the case of origination CRR greater than 3.3). The significance of changes in PD was informed by expert credit risk judgment, referenced to historical credit migrations and to relative changes in external market rates. The quantitative measure of significance varies depending on the credit quality at origination as follows:

Origination CRR	Significance trigger – PD to increase by
0.1-1.2	15bps
2.1-3.3	30bps
Greater than 3.3 and not impaired	2x

For loans originated prior to the implementation of HKFRS 9, the origination PD does not include adjustments to reflect expectations of future macroeconomic conditions since these are not available without the use of hindsight. In the absence of this data, origination PD must be approximated assuming through-the-cycle ('TTC') PDs and TTC migration probabilities, consistent with the instrument's underlying modelling approach and the CRR at origination. For these loans, the quantitative comparison is supplemented with additional CRR deterioration based thresholds as set out in the table below:

Origination CRR	Additional significance criteria – Number of CRR grade notches deterioration required to identify as significant credit deterioration (stage 2) (> or equal to)
0.1	5 notches
1.1-4.2	4 notches
4.3-5.1	3 notches
5.2-7.1	2 notches
7.2-8.2	1 notches
8.3	0 notches

2. Significant accounting policies continued

(j) Impairment of amortised cost and FVOCI financial assets continued

Significant increase in credit risk (stage 2) continued

For certain portfolios of debt securities where external market ratings are available and credit ratings are not used in credit risk management, the debt securities will be in stage 2 if their credit risk increases to the extent they are no longer considered investment grade. Investment grade is where the financial instrument has a low risk of incurring losses, the structure has a strong capacity to meet its contractual cash flow obligations in the near term and adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil their contractual cash flow obligations.

For retail portfolios, default risk is assessed using a reporting date PD derived from credit history which incorporate all available information about the customer. This PD is adjusted for the effect of macroeconomic forecasts and is considered to be a reasonable approximation of a lifetime PD measure. Retail exposures are divided into account level and homogeneous segment level measurement. Within each portfolio, the stage 2 accounts are defined as accounts with 12-month PD greater than the average 12-month PD of loans in that portfolio 12 months before they become 30 days past due.

Unimpaired and without significant increase in credit risk (stage 1)

ECL resulting from default events that are possible within the next 12 months ('12-month ECL') are recognised for financial instruments that remain in stage 1.

Purchased or originated credit-impaired ('POCI')

Financial assets that are purchased or originated at a deep discount that reflects the incurred credit losses are considered to be POCI. This population includes the recognition of a new financial instrument following a renegotiation where concessions have been granted for economic or contractual reasons relating to the borrower's financial difficulty that otherwise would not have been considered. The amount of change-in-lifetime ECL is recognised in profit or loss until the POCI is derecognised, even if the lifetime ECL are less than the amount of ECL included in the estimated cash flows on initial recognition.

Movement between stages

Financial assets can be transferred between the different stages (other than POCI) depending on their relative increase in credit risk since initial recognition. Financial instruments are transferred out of stage 2 if their credit risk is no longer considered to be significantly increased since initial recognition based on the assessments described above. Except for renegotiated loans, financial instruments are transferred out of stage 3 when they no longer exhibit any evidence of credit impairment as described above. For wholesale portfolios, renegotiated loans that are not POCI will continue to be in stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period and there are no other indicators of impairment. While for retail portfolios, renegotiated loans remain in stage 3 for their renegotiated lifetime. For loans that are assessed for impairment on a portfolio basis, the evidence typically comprises a history of payment performance against the original or revised terms, as appropriate to the circumstances. For loans that are assessed for impairment on an individual basis, all available evidence is assessed on a case-by-case basis.

Measurement of ECL

The assessment of credit risk, and the estimation of ECL, are unbiased and probability-weighted, and incorporate all available information which is relevant to the assessment including information about past events, current conditions and reasonable and supportable forecasts of future events and economic conditions at the reporting date. In addition, the estimation of ECL should take into account the time value of money.

In general, the Group calculates ECL using three main components, PD, a loss given default ('LGD') and the exposure at default ('EAD').

The 12-month ECL is calculated by multiplying the 12-month PD, LGD and EAD. Lifetime ECL is calculated using the lifetime PD instead. The 12-month and lifetime PDs represent the probability of default occurring over the next 12 months and the remaining maturity of the instrument respectively.

The EAD represents the expected balance at default, taking into account the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdowns of committed facilities. The LGD represents expected losses on the EAD given the event of default, taking into account, among other attributes, the mitigating effect of collateral value at the time it is expected to be realised and the time value of money.

2. Significant accounting policies continued

(j) Impairment of amortised cost and FVOCI financial assets continued

Measurement of ECL continued

The Group leverages the Basel framework where possible, with recalibration to meet the differing HKFRS 9 requirements as follows:

Model	Regulatory capital	HKFRS 9
PD	– Through the cycle (represents long-run average PD throughout a full economic cycle) – The definition of default includes a backstop of 90+ days past due – Regulatory floors may apply according to regulatory requirements	– Point in time (based on current conditions, adjusted to take into account estimates of future conditions that will impact PD) – An obligor/an account being 90 days past due or above is considered as defaulted – No floors is required under HKFRS 9
EAD	– Cannot be lower than current balance	– Amortisation captured for term products
LGD	– Downturn LGD (consistent losses expected to be suffered during a severe but plausible economic downturn) – Regulatory floors may apply according to regulatory requirements – Discounted using cost of capital – All collection costs included	– Expected LGD (based on estimate of loss given default including the expected impact of future economic conditions such as changes in value of collateral) – No floors is required under HKFRS 9 – Discounted using the effective interest rate of the loan – Only costs associated with obtaining/selling collateral included
Other		– Discounted back from point of default to balance sheet date

While 12-month PDs are recalibrated from Basel models where possible, the lifetime PDs are determined by projecting the 12-month PD using a term structure. For the wholesale methodology, the lifetime PD also takes into account credit migration, i.e. a customer migrating through the CRR bands over its life.

The ECL for wholesale stage 3 is determined on an individual basis using a discounted cash flow ('DCF') methodology. The expected future cash flows are based on the credit risk officer's estimates as at the reporting date, reflecting reasonable and supportable assumptions and projections of future recoveries and expected future receipts of interest. Collateral is taken into account if it is likely that the recovery of the outstanding amount will include realisation of collateral based on its estimated fair value of collateral at the time of expected realisation, less costs for obtaining and selling the collateral. The cash flows are discounted at a reasonable approximation of the original effective interest rate. For significant cases, cash flows under four different scenarios are probability-weighted by reference to the three economic scenarios applied more generally by the Group and the judgement of the credit risk officer in relation to the likelihood of the workout strategy succeeding or receivership being required. For less significant cases, the effect of different economic scenarios and work-out strategies is approximated and applied as an adjustment to the most likely outcome.

Period over which ECL is measured

Expected credit loss is measured from the initial recognition of the financial asset. The maximum period considered when measuring ECL (be it 12-month or lifetime ECL) is the maximum contractual period over which the Group is exposed to credit risk. For wholesale overdrafts, credit risk management actions are taken no less frequently than on an annual basis and therefore this period is to the expected date of the next substantive credit review. The date of the substantive credit review also represents the initial recognition of the new facility. However, where the financial instrument includes both a drawn and undrawn commitment and the contractual ability to demand repayment and cancel the undrawn commitment does not serve to limit the Group's exposure to credit risk to the contractual notice period, the contractual period does not determine the maximum period considered. Instead, ECL is measured over the period the Group remains exposed to credit risk that is not mitigated by credit risk management actions. This applies to retail revolving loan, overdrafts and credit cards, where the period is the average time taken for stage 2 exposures to default or close as performing accounts, determined on a portfolio basis and ranging from between two and six years. In addition, for these facilities it is not possible to identify the ECL on the loan commitment component separately from the financial asset component. As a result, the total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL in excess of the carrying amount of the financial asset is recognised as a provision.

Forward-looking economic forecast

The Group applies multiple forward-looking global economic scenarios determined with reference to external forecast distributions representative of our view of forecast economic conditions. This approach is considered sufficient to calculate unbiased expected credit loss in most economic environments. In certain economic environments, additional analysis may be necessary and result in additional scenarios or adjustments, to reflect a range of possible economic outcomes for an unbiased expected credit loss estimate. The detailed methodology is disclosed in 'Measurement uncertainty and sensitivity analysis of ECL estimates'.

2. Significant accounting policies continued

(j) Impairment of amortised cost and FVOCI financial assets continued

Critical accounting estimates and judgements

In determining ECL, management is required to exercise judgement in defining what is considered to be a significant increase in credit risk and in making assumptions and estimates to incorporate relevant information about past events, current conditions and forecasts of economic conditions. Judgement has been applied in determining the lifetime and point of initial recognition of revolving facilities.

The PD, LGD and EAD models which support these determinations are reviewed regularly in light of differences between loss estimates and actual loss experience. The underlying models and their calibration, including how they react to forward-looking economic conditions, remain subject to review and refinement.

The exercise of judgement in making estimations requires the use of assumptions which are highly subjective and very sensitive to the risk factors, in particular to changes in economic and credit conditions across a large number of geographical areas. Many of the factors have a high degree of interdependency and there is no single factor to which loan impairment allowances as a whole are sensitive. Therefore, sensitivities are considered in relation to key portfolios which are particularly sensitive to a few factors and the results should be further extrapolated. Risk Management section (a) 'Credit Risk' under MD&A sets out the assumptions underlying the Central scenario and information about how scenarios are developed in relation to the Group's top and emerging risks and its judgements, informed by consensus forecasts of professional industry forecasters. The adjustment from the ECL determined by using the Central scenario alone, which is used to calculate an unbiased expected loss, provides an indication of the overall sensitivity of ECL to different economic assumptions.

(k) Sale and repurchase agreements

Where securities are sold subject to commitment to repurchase them at a pre-determined price ('repos'), they remain on the balance sheet and a liability is recorded in respect of the consideration received in 'Repurchase agreements-non-trading'. Conversely, securities purchased under analogous commitments to resell ('reverse repos') are not recognised on the balance sheet and the consideration paid is recorded in 'Reverse repurchase agreements-non-trading'. The difference between the sale and repurchase price is treated as interest income and recognised over the life of the agreement.

Securities lending and borrowing transactions are generally secured, with collateral taking the form of securities or cash advanced or received. The transfer of securities to counterparties under these agreements is not normally reflected on the balance sheet. Cash collateral advanced or received is recorded as an asset or a liability respectively.

(l) Subsidiaries and associates

The Group classifies investments in entities which it controls as subsidiaries. The Group classifies investments in entities over which it has significant influence, and that are neither subsidiaries nor joint arrangement, as associates.

The Group's investments in subsidiaries and associates are stated at cost less any impairment losses. Investment in associates is recognised using the equity method. Under this method, such investments are initially stated at cost, including attributable goodwill, and are adjusted thereafter for the post-acquisition change in the Group's share of net assets less any impairment losses. An impairment loss recognised in prior periods shall be reversed through the income statement if, and only if, there has been a change in the estimates used to determine the recoverable amount of the investment since the last impairment loss was recognised.

(m) Investment properties

Investment properties are land and/or buildings which are owned or held under a leasehold interest to earn rental income and/or for capital appreciation. Investment properties are stated at fair value with changes in fair value being recognised in the income statement. Fair values are determined by independent professional valuers, primarily on the basis of capitalisation of net incomes with due allowance for outgoings and reversionary income potential. Property interests which are held under operating leases to earn rentals, or for capital appreciation, or both, are classified and accounted for as investment property on a property-by-property basis.

The Group previously elected to apply HKAS 40 '*Investment Properties*' to account for all its leasehold properties that were held for investment purposes.

2. Significant accounting policies continued

(n) Premises, plant and equipment

(i) Land and buildings

The following land and buildings held for own use are stated in the balance sheet at their revalued amount, being their fair value at the date of the revaluation less any subsequent accumulated depreciation and impairment losses:

– leasehold land and buildings where the fair value of the land cannot be reliably separated from the value of the building at inception of the lease and the premises are not clearly held under an operating lease; and

– leasehold land and buildings where the value of the land can be reliably separated from the value of the building at inception of the lease and the term of the lease is not less than 50 years.

Revaluations are performed by professionally qualified valuers, on a market basis, with sufficient regularity to ensure that the net carrying amount does not differ materially from the fair value at the reporting date. Surpluses arising on revaluation are credited firstly to the income statement to the extent of any deficits arising on revaluation previously charged to the income statement in respect of the same land and buildings, and are thereafter taken to other comprehensive income and are accumulated separately in the 'Premises revaluation reserve'. Deficits arising on revaluation, are firstly set off against any previous revaluation surpluses included in the 'Premises revaluation reserve' in respect of the same land and buildings, and are thereafter recognised in the income statement.

Depreciation is calculated to write off the valuation of the land and buildings over their estimated useful lives as follows:

– freehold land is not depreciated;

– leasehold land is depreciated over the unexpired terms of the leases; and

– buildings and improvements thereto are depreciated at the greater of 2% per annum on the straight-line basis or over the unexpired terms of the leases or over the remaining estimated useful lives of the buildings.

On revaluation of the land and buildings, depreciation accumulated during the year will be eliminated. Depreciation charged on revaluation surplus of the land and buildings is transferred from 'Premises revaluation reserve' to 'Retained profits'.

On disposal of the land and buildings, the profit and loss is calculated as the difference between the net sales proceeds and the net carrying amount and recognised in the income statement. Surpluses relating to the land and buildings disposed of included in the 'Premises revaluation reserve' are transferred as movements in reserves to 'Retained profits'.

The land owned by Hong Kong Government permits its use under leasehold arrangements. Similar arrangements exist in mainland China. The Group accounts for its interests in own use of the leasehold land as owned assets.

(ii) Other plant and equipment

Furniture, plant and equipment, are stated at cost less depreciation calculated on the straight-line basis to write off the assets over their estimated useful lives, which are generally between 3 and 20 years. On disposal, the profit and loss is calculated as the difference between the net sales proceeds and the net carrying amount.

Plant and equipment are subject to review for impairment if there are events or changes in circumstances that indicate that the carrying amount may not be recoverable.

(o) Goodwill and intangible assets

(i) Goodwill

Goodwill arises on business combinations, including the acquisition of subsidiaries or associates when the cost of acquisition exceeds the fair value of the Group's share of the identifiable assets, liabilities and contingent liabilities acquired and is reported in the consolidated balance sheet. If the Group's interest in the fair value of the identifiable assets, liabilities and contingent liabilities of an acquired business is greater than the cost of acquisition, the excess is recognised immediately in the income statement. Goodwill on acquisitions of associates is included in 'Interest in associates' and is not tested separately for impairment.

Goodwill is allocated to cash-generating units ('CGUs') for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. Impairment testing is performed at least annually, and whenever there is an indication that the CGU may be impaired, by comparing the recoverable amount of a CGU with the carrying value of its net assets, including attributable goodwill. The recoverable amount of an asset is the higher of, its fair value less cost to sell, and its value in use. Value in use is the present value of the expected future cash flows from a CGU. If the recoverable amount of the CGU is less than the carrying value, an impairment loss is charged to the income statement. Any write-off in excess of the carrying value of goodwill is limited to the fair value of the individual assets and liabilities of the CGU. Goodwill is stated at cost less any accumulated impairment losses, if any.

At the date of disposal of a business, attributable goodwill is included in the Group's share of net assets in the calculation of the gain or loss on disposal.

2. Significant accounting policies continued

(o) Goodwill and intangible assets continued

(ii) Intangible assets

Intangible assets include PVIF, acquired software licences and capitalised development costs of computer software programmes.

- The PVIF is stated at a valuation determined at the reporting date by using the methodology as described in note 2(t).

- Computer software acquired is stated at cost less amortisation and impairment allowances. Amortisation of computer software is charged to the income statement over its estimated useful life. Costs incurred in the development phase of a project to produce application software for internal use are capitalised and amortised over the software's estimated useful life, usually five years.

Intangible assets that have an indefinite estimated useful life or are not yet ready for use are tested for impairment annually. Intangible assets that have a finite estimated useful life, except for the PVIF, are stated at cost less amortisation and accumulated impairment losses and are amortised over their estimated useful lives. Estimated useful life is the lower of legal duration and expected economic life. Intangible assets are subject to impairment review if there are events or changes in circumstances that indicate that the carrying amount may not be recoverable.

(p) Income tax

Income tax for the year comprises current tax and movements in deferred tax assets and liabilities. Income tax is recognised in the income statement except to the extent that it relates to items recognised in other comprehensive income or directly in equity, in which case it is recognised in other comprehensive income or directly in equity, respectively.

Current tax is the expected tax payable on the taxable profits for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years. Current tax assets and liabilities are settled on an individual taxable entity basis.

Deferred tax assets and liabilities arise from deductible and taxable temporary differences respectively, being the differences between the carrying amounts of assets and liabilities for financial reporting purpose and their tax bases. Deferred tax assets also arise from unused tax losses and unused tax credits. Deferred tax assets are recognised to the extent that it is probable that taxable profits will be available, against which deductible temporary differences can be utilised at each reporting date.

Deferred tax is calculated using the tax rates that are expected to apply in the periods in which the assets will be realised or the liabilities settled. Deferred tax assets and liabilities are not discounted. Deferred tax assets and liabilities are offset when they arise in the same tax reporting group and relate to income taxes levied by the same taxation authority, and when a legal right to offset exists in the entity.

(q) Employee benefits

(i) Salaries, annual bonuses, paid annual leave, leave passage and the cost to the Group of non-monetary benefits are accrued in the year in which the associated services are rendered by the employees. Provision is made in respect of paid leave entitlement accumulated during the year, which can be carried forward into future periods for compensated absence or payment in lieu if the employee leaves employment.

(ii) The Group provides retirement benefits for staff members and operates defined benefit and defined contribution schemes and participates in mandatory provident fund schemes in accordance with the relevant laws and regulations.

Payments to defined contribution plans and state-managed retirement benefit plans, where the Group's obligations under the plans are equivalent to a defined contribution plan, are charged as an expense as the employees render service.

The costs recognised for funding defined benefit plans are determined using the projected unit credit method, with annual actuarial valuations performed on each plan. The net charge to the income statement mainly comprises the service cost and the net interest on the net defined benefit liability and is presented in operating expenses. Service cost comprises current service cost, past service cost, and gain or loss on settlement.

Remeasurements of the net defined benefit asset or liability, which comprise actuarial gains and losses, return on plan assets excluding interest and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in OCI. The net defined benefit asset or liability represents the present value of defined benefit obligations reduced by the fair value of plan assets, after applying the asset ceiling test, where the net defined benefit surplus is limited to the present value of available refunds and reductions in future contributions to the plan.

(r) Provisions

Provisions are recognised when it is probable that an outflow of economic benefits will be required to settle a present legal or constructive obligation arising from past events and a reliable estimate can be made as to the amount of the obligation. Contingent liabilities, which include certain guarantees and letters of credit pledged as collateral security, are possible obligations that arise from past events whose existence will be confirmed only by the occurrence, or non-occurrence, of one or more uncertain future events not wholly within the control of the Group; or are present obligations that have arisen from past events but are not recognised because it is not probable that settlement will require the outflow of economic benefits, or because the amount of the obligations cannot be reliably measured. Contingent liabilities are not recognised in the financial statements but are disclosed unless the probability of settlement is remote.

2. Significant accounting policies continued

(s) Financial guarantees

Financial guarantees are contracts that require the Group to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the terms of the loans or debt instruments.

Financial guarantee liabilities are initially recognised at their fair value, and subsequently carried at the higher of:

- the amount determined in accordance with the expected credit loss model under HKFRS 9 '*Financial Instruments*' and

- the amount initially recognised less, where appropriate, the cumulative amount of income recognised in accordance with the principles of HKFRS 15 '*Revenue from Contracts with Customers*'.

Financial guarantees are included within other liabilities.

(t) Insurance contracts

Through its insurance subsidiary, the Group issues contracts to customers that contain insurance risk, financial risk or a combination thereof. A contract under which the Group accepts significant insurance risk from another party, by agreeing to compensate that party on the occurrence of a specified uncertain future event, is classified as an insurance contract. An insurance contract may also transfer financial risk, but is accounted for as an insurance contract if the insurance risk is significant.

A contract issued by the Group that transfers financial risk, without significant insurance risk, is classified as an investment contract, and is accounted for as a financial instrument. The financial assets held by the Group for the purpose of meeting liabilities under insurance and investment contracts are classified and accounted for based on their classifications as set out in notes 2(e) to 2(i)

Insurance contracts are accounted for as follows:

Net earned insurance premiums

Premiums for life insurance contracts are accounted for when receivable, except in unit-linked insurance contracts where premiums are accounted for when liabilities are recognised.

Reinsurance premiums, netted by the reinsurers' share of provision for unearned premiums, are accounted for in the same reporting period as the premiums for the direct insurance contracts to which they relate.

Claims and reinsurance recoveries

Gross insurance claims for life insurance contracts reflect the total cost of all claims arising during the reporting period, including policyholder cash dividend payment upon policy anniversary and payments of maturities, surrenders and death claims. Reinsurance recoveries are accounted for in the same period as the related claims.

Present value of in-force long-term insurance business ('PVIF')

A value is placed on insurance contracts that are classified as long-term insurance business or long-term investment contracts with discretionary participating features ('DPF') and in force at the reporting date. This asset represents the present value of the shareholders' interest in the profits expected to emerge from those insurance contracts written at the reporting date.

The PVIF is determined by discounting future earnings expected to emerge from business currently in force, using appropriate assumptions in assessing factors such as future mortality and morbidity, lapse rates, levels of expenses and a risk discount rate that reflects the risk premium attributable to the respective long-term insurance business. The valuation has also included explicit risk margins for non-economic risks in the projection assumptions, and explicit allowances for financial options and guarantees using stochastic methods. Risk discount rates are set on an active basis with reference to market risk free yields and incorporate the explicit margins and allowances for certain risks and uncertainties in place of implicit adjustments. Movements in the PVIF are included in other operating income on a pre-tax basis. The PVIF is reported under 'Intangible assets' in the balance sheet.

Liabilities under insurance contracts

Liabilities under non-linked life insurance contracts are calculated by each life insurance operation based on local actuarial principles. Some insurance contracts may contain discretionary participation features whereby the policyholder is entitled to additional payments whose amount and/or timing is at the discretion of the issuer. The discretionary element of these contracts is included in 'Liabilities under insurance contracts'.

Liabilities under unit-linked life insurance contracts are at least equivalent to the surrender or transfer value which is calculated by reference to the value of the relevant underlying funds or indices.

A liability adequacy test is carried out on insurance liabilities to ensure that the carrying amount of the liabilities is sufficient in the light of current estimates of future cash flows. When performing the liability adequacy test, all expected cash flows are discounted and compared with the carrying value of the liability. When a shortfall is identified it is charged immediately to the income statement.

2. Significant accounting policies continued

(t) Insurance contracts continued

Critical accounting estimates and judgements

Classification

HKFRS 4 requires the Group to determine whether a contract that transfers both insurance risk and financial risk is classified as an insurance contract, or as a financial instrument under HKFRS 9, or whether the insurance and non-insurance elements of the contract should be accounted for separately. This process involves judgement and estimation of the amounts of different types of risks that are transferred or assumed under a contract. The estimation of such risks often involves the use of assumptions about future events and is thus subject to a degree of uncertainty.

Present value of in-force long-term insurance business ('PVIF')

The value of PVIF, which is recorded as an intangible asset, depends upon assumptions regarding future events. These are described in more detail in note 33 (a). The assumptions are reassessed at each reporting date and changes in the estimates which affect the value of PVIF are reflected in the income statement.

Insurance liabilities

The estimation of insurance liabilities involves selecting statistical models and making assumptions about future events which need to be frequently calibrated against experience and forecasts. The sensitivity of insurance liabilities to potential changes in key assumptions is set out in the MD&A.

(u) Investment contracts

Customer liabilities under linked investment contracts are measured at fair value and reported under 'Financial liabilities designated at fair value'. The linked financial assets are measured at fair value and the movements in fair value are recognised in the income statement in 'Net income from financial instruments designated at fair value through profit or loss'. Deposits receivable and amounts withdrawn are accounted for as increases or decreases in the liability recorded in respect of investment contracts.

Investment management fee receivables are recognised in the income statement over the period of the provision of the investment management services, in 'Net fee income'.

(v) Translation of foreign currencies

Foreign currency transactions during the year are translated at the foreign exchange rates ruling at the transaction dates. Monetary assets and liabilities denominated in foreign currencies are translated at the foreign exchange rates ruling at each reporting date. Any resulting exchange differences are recognised in the income statement. Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the foreign exchange rates ruling at the transaction dates. Non-monetary assets and liabilities denominated in foreign currencies that are stated at fair value are translated using the foreign exchange rates ruling at the dates the fair value was determined.

The results of branches, subsidiaries and associates not reporting in Hong Kong dollars are translated into Hong Kong dollars at the average rates of exchange for the reporting period. Exchange differences arising from the re-translation of opening foreign currency net investments and the related cost of hedging, if any, and exchange differences arising from re-translation of the result for the reporting period from the average rate to the exchange rate ruling at the period-end, are recognised in other comprehensive income and accumulated separately in equity in the foreign exchange reserve.

Exchange differences on a monetary item that is part of a net investment in a foreign operation are recognised in the income statement of separate subsidiary's financial statements. In the consolidated financial statements, the corresponding exchange differences are recognised in other comprehensive income and accumulated separately in equity in the foreign exchange reserve. On disposal of a foreign operation, exchange differences relating thereto previously recognised in reserves are recognised in the income statement.

2. Significant accounting policies continued

(w) Operating segments

The Group's operating segments are determined to be customer group segment because the chief operating decision maker uses customer group information in order to make decisions about allocating resources and assessing performance.

HKFRS 8 *'Operating Segments'* requires segmental disclosure to be based on the way that the Group's chief operating decision maker regards and manages the Group, with the amounts reported for each reportable segment being the measures reported to the Group's chief operating decision maker for the purpose of assessing segmental performance and making decision about operating matters.

(x) Related parties

For the purposes of these financial statements, parties are considered to be related to the Group if the Group has the ability, directly or indirectly, to control the party or exercise significant influence over the party in making financial and operating decisions, or vice versa, or where the Group and the party are members of the same group. Related parties may be individuals (being members of key management personnel, significant shareholders and/or their close family members) or other entities which are under the significant influence of related parties of the Group or post-employment benefit scheme. Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Group and its holding companies, directly or indirectly, including any directors (whether executive or otherwise) and Executive Committee members of the Group and its holding companies.

3 Interest income/interest expense

(a) Interest income

	2021	2020
Interest income arising from:		
– financial assets that are not at fair value through profit and loss	**28,030**	35,010
– trading assets	**461**	642
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**16**	45
	28,507	35,697
of which:		
– interest income from impaired financial assets	**42**	27

(b) Interest expense

	2021	2020
Interest expense arising from:		
– financial liabilities that are not at fair value through profit and loss	**3,311**	7,315
– trading liabilities	**331**	453
– financial liabilities designated at fair value	**1,043**	1,023
	4,685	8,791
of which:		
– interest expense from subordinated liabilities	**338**	515

4. Net fee income

	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Other	Total
2021					
– securities broking and related services	**1,866**	**162**	**12**	**–**	**2,040**
– retail investment funds	**1,539**	**28**	**–**	**–**	**1,567**
– insurance	**339**	**85**	**78**	**–**	**502**
– account services	**247**	**116**	**8**	**–**	**371**
– remittances	**53**	**181**	**34**	**–**	**268**
– cards	**2,656**	**23**	**–**	**–**	**2,679**
– credit facilities	**18**	**476**	**188**	**–**	**682**
– imports/exports	**–**	**364**	**52**	**–**	**416**
– other	**199**	**116**	**38**	**273**	**626**
Fee income	**6,917**	**1,551**	**410**	**273**	**9,151**
Fee expense	**(2,449)**	**(28)**	**(99)**	**2**	**(2,574)**
	4,468	**1,523**	**311**	**275**	**6,577**
2020 (restated)[1]					
– securities broking and related services	1,933	205	17	–	2,155
– retail investment funds	1,291	22	–	–	1,313
– insurance	446	75	70	–	591
– account services	251	133	7	–	391
– remittances	65	187	36	–	288
– cards	2,343	22	–	–	2,365
– credit facilities	22	433	143	–	598
– imports/exports	–	334	31	–	365
– other	131	110	39	242	522
Fee income	6,482	1,521	343	242	8,588
Fee expense	(2,120)	(25)	(90)	14	(2,221)
	4,362	1,496	253	256	6,367

1 To better reflect the change of business model on card acquiring business and retail branches operation, management has made the decision to realign these functions within respective business segments during the year. Comparative figures have been re-presented to conform with current year's presentation.

	2021	2020
of which:		
Net fee income on financial assets that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate)	**1,880**	1,743
– fee income	**4,179**	3,711
– fee expense	**(2,299)**	(1,968)
Net fee income on trust and other fiduciary activities where the Group holds or invests assets on behalf of its customers	**903**	982
– fee income	**1,022**	1,069
– fee expense	**(119)**	(87)

5. Net income from financial instruments measured at fair value through profit or loss

	2021	2020
Net trading income	1,557	2,318
– trading income	1,560	2,327
– other trading income/(expense) from ineffective fair value hedges	(3)	(9)
Net income/(expense) from financial instruments designated at fair value through profit or loss	182	185
Net income/(expense) from assets and liabilities of insurance businesses measured at fair value through profit or loss	2,610	823
– financial assets held to meet liabilities under insurance and investment contracts	2,611	842
– liabilities to customers under investment contracts	(1)	(19)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	(3)	(6)
	4,346	3,320

6. Gains less losses from financial investments

	2021	2020
Net gains/(losses) from disposal of debt securities measured at amortised cost	108	(13)
Net gains from disposal of debt securities measured at fair value through other comprehensive income	98	3
	206	(10)

7. Dividend income

	2021	2020
Dividend income:		
– listed investments	160	144
– unlisted investments	16	13
	176	157

8. Net insurance premium income

	Non-linked	Unit-linked	Total
2021			
Gross insurance premium income	15,296	3	15,299
Reinsurers' share of gross insurance premium income	(1,216)	–	(1,216)
Net insurance premium income	14,080	3	14,083
2020			
Gross insurance premium income	14,510	3	14,513
Reinsurers' share of gross insurance premium income	788	–	788
Net insurance premium income	15,298	3	15,301

9. Other operating income

	2021	2020
Rental income from investment properties	**269**	272
Movement in present value of in-force long-term insurance business (note 33(a))	**(188)**	2,082
Net losses from disposal of fixed assets	**(48)**	(19)
Net gains/(losses) from the derecognition of loans and advances to customers measured at amortised cost	**4**	(4)
Others	**285**	(50)
	322	2,281

10. Net insurance claims and benefits paid and movement in liabilities to policyholders

	Non-linked	Unit-linked	Total
2021			
Claims, benefits and surrenders paid	**11,901**	**4**	**11,905**
Movement in liabilities	**5,672**	**2**	**5,674**
Gross claims and benefits paid and movement in liabilities to policyholders	**17,573**	**6**	**17,579**
Reinsurers' share of claims, benefits and surrenders paid	**(868)**	**–**	**(868)**
Reinsurers' share of movement in liabilities	**(361)**	**–**	**(361)**
Reinsurers' share of claims and benefits paid and movement in liabilities to policyholders	**(1,229)**	**–**	**(1,229)**
Net insurance claims and benefits paid and movement in liabilities to policyholders	**16,344**	**6**	**16,350**
2020			
Claims, benefits and surrenders paid	11,770	10	11,780
Movement in liabilities	5,813	–	5,813
Gross claims and benefits paid and movement in liabilities to policyholders	17,583	10	17,593
Reinsurers' share of claims, benefits and surrenders paid	(1,900)	–	(1,900)
Reinsurers' share of movement in liabilities	2,561	–	2,561
Reinsurers' share of claims and benefits paid and movement in liabilities to policyholders	661	–	661
Net insurance claims and benefits paid and movement in liabilities to policyholders	18,244	10	18,254

11. Change in expected credit losses and other credit impairment charges

	2021	2020
Loans and advances to banks and customers	**2,844**	2,608
– new allowances net of allowance releases	**2,983**	2,757
– recoveries of amounts previously written off	**(167)**	(104)
– other movements	**28**	(45)
Loan commitments and guarantees	**(43)**	33
Other financial assets	**6**	97
	2,807	2,738

12. Operating expenses

	2021	2020
Employee compensation and benefits:		
– salaries and other costs*	5,811	5,613
– retirement benefit costs		
– defined benefit scheme (note 48(a))	169	180
– defined contribution scheme (note 48(b))	331	309
	6,311	6,102
General and administrative expenses:		
– rental expenses	22	27
– other premises and equipment	1,795	1,617
– marketing and advertising expenses	378	369
– other operating expenses	3,090	2,707
	5,285	4,720
Depreciation of premises, plant and equipment (note 32)	1,492	1,491
Depreciation of right-of-use assets	574	595
Amortisation of intangible assets (note 33)	472	297
	14,134	13,205
* of which:		
share-based payments (note 49(c))	36	38
Cost efficiency ratio	42.6%	36.6%

13. The emoluments of the five highest paid individuals

(a) The aggregate emoluments

	2021	2020
Salaries, allowances and benefits in kind	28	29
Retirement scheme contributions	1	2
Variable bonuses		
– Cash bonus	8	13
– Share-based payment	9	14
	46	58

(b) The numbers of the five highest paid individuals with emoluments within the following bands are:

	2021 Number of Individuals	2020 Number of Individuals
HK$		
5,500,001 – 6,000,000	–	1
6,500,001 – 7,000,000	–	1
7,000,001 – 7,500,000	1	1
7,500,001 – 8,000,000	2	–
8,000,001 – 8,500,000	1	–
13,000,001 – 13,500,000	–	1
14,500,001 – 15,000,000	1	–
24,500,001 – 25,000,000	–	1
	5	5

The emoluments of the five highest paid individuals set out above include the emoluments of two (2020: two) Executive Directors which are included in note 14. There is no Non-executive Director included in the table above (2020: Nil).

14. Directors' remunerations

The emoluments of the Directors of the Bank disclosed pursuant to section 383 of the Hong Kong Companies Ordinance (Cap.622) and the Companies (Disclosure of Information about Benefits of Directors) Regulation were set out below:

	Emoluments								
				Variable bonus [5]					
				Cash		Shares			
	Fees '000	Salaries, allowances and benefits in kind [6] '000	Contribution to retirement benefit schemes [4] '000	Deferred '000	Non-deferred '000	Deferred '000	Non-deferred '000	Total 2021 '000	Total 2020 '000
Executive Directors									
Diana F Cesar, Chief Executive[1] (Appointed on 1 Sep 2021)	–	3,227	228	985	657	1,114	657	6,868	–
Louisa Cheang, Chief Executive[1] (Resigned on 1 Sep 2021)	–	7,918	457	–	–	–	–	8,375	24,943
Margaret W H Kwan[1]	–	4,197	18	713	1,070	807	1,070	7,875	6,560
Non-Executive Directors									
Raymond K F Ch'ien[3] (Resigned on 27 May 2021)	451	–	–	–	–	–	–	451	1,030
John C C Chan[3]	1,070	–	–	–	–	–	–	1,070	830
Nixon Chan (Resigned on 22 May 2020)	–	–	–	–	–	–	–	–	275
L Y Chiang[3]	1,091	–	–	–	–	–	–	1,091	960
Kenneth S Y Ng	960	–	–	–	–	–	–	960	890
Irene Y L Lee[3]	1,818	–	–	–	–	–	–	1,818	1,296
Eric K C Li[3] (Resigned on 27 May 2021)	537	–	–	–	–	–	–	537	1,290
Vincent H S Lo	660	–	–	–	–	–	–	660	660
Peter T S Wong[2] (Resigned on 1 Sep 2021)	553	–	–	–	–	–	–	553	730
Michael W K Wu[3]	1,091	–	–	–	–	–	–	1,091	960
Kathleen C H Gan[2]	660	–	–	–	–	–	–	660	660
Clement K M Kwok[3] (Appointed on 27 May 2021)	773	–	–	–	–	–	–	773	–
David Y C Liao[2] (Appointed on 1 Sep 2021)	287	–	–	–	–	–	–	287	–
Past Directors	–	–	1,677	–	–	–	–	1,677	1,674
	9,951	15,342	2,380	1,698	1,727	1,921	1,727	34,746	42,758
2020	9,581	15,174	2,377	4,208	3,285	4,848	3,285		

Notes:

(1) In line with the HSBC Group's remuneration policy, no Director's fees were paid to those Directors who were full time employees of the Bank or its subsidiaries.

(2) Fees receivable as a Director of Hang Seng Bank Limited were surrendered to The Hongkong and Shanghai Banking Corporation Limited in accordance with the HSBC Group's internal policy.

(3) Independent Non-Executive Director.

(4) The Bank made contributions during 2021 into the retirement benefit schemes of which the Bank's Directors/past Directors are among their members. The aggregate amount of pensions received by the past Directors of the Bank under the relevant pension schemes amounted to HK$1.677m in 2021.

(5) The amount of variable bonus (deferred and non-deferred) comprises the cash and the estimated purchase cost of the award of HSBC Holdings plc Restricted Share.

(6) Benefits in kind mainly include estimated money value of other non-cash benefits: accommodation, car, insurance premium.

(7) Remunerations/emoluments for Executive Directors are for services in connection with management of the affairs of the Hang Seng Bank and its subsidiary undertakings.

15. Auditors' remuneration

	2021	2020
Statutory audit services	27	26
Non-statutory audit services and others	10	11
	37	37

16. Net surplus/(deficit) on property revaluation

	2021	2020
Surplus/(deficit) on investment property revaluation	82	(636)

17. Tax expense

(a) Taxation in the Consolidated Income Statement represents:

	2021	2020
Current tax – provision for Hong Kong profits tax		
Tax for the year	2,391	2,344
Adjustment in respect of prior years	75	(57)
	2,466	2,287
Current tax – taxation outside Hong Kong		
Tax for the year	77	93
Adjustment in respect of prior years	–	(1)
	77	92
Deferred tax (note 41(b))		
Origination and reversal of temporary differences	(104)	365
Total tax expense	2,439	2,744

The current tax provision is based on the estimated assessable profit for 2021, and is determined for the Bank and its subsidiaries operating in the Hong Kong SAR by using the Hong Kong profits tax rate of 16.5 per cent (2020: 16.5 per cent). For subsidiaries and branches operating in other jurisdictions, the appropriate tax rates prevailing in the relevant countries are used. Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised.

(b) Reconciliation between taxation charge and accounting profit at applicable tax rates:

	2021	2020
Profit before tax	16,385	19,414
Notional tax on profit before tax, calculated at Hong Kong profits tax rate of 16.5% (2020: 16.5%)	2,704	3,203
Tax effect of:		
– different tax rates in other countries/areas	87	68
– non-taxable income and non-deductible expenses	(362)	(289)
– share of (profits)/losses of associates	(12)	12
– others	22	(250)
Actual charge for taxation	2,439	2,744

18. Earnings per share – basic and diluted

The calculation of basic and diluted earnings per share is based on earnings of HK$13,257m in 2021 (2020: HK$15,987m), adjusted for the AT1 capital instrument related deductions and on the weighted average number of ordinary shares in issue of 1,911,842,736 shares (unchanged from 2020).

19. Dividends/Distributions

(a) Dividends attributable to the year:

	2021		2020	
	per share HK$	**HK$m**	per share HK$	HK$m
First interim	**1.10**	**2,103**	1.10	2,103
Second interim	**1.10**	**2,103**	0.80	1,529
Third interim	**1.10**	**2,103**	0.80	1,529
Fourth interim	**1.80**	**3,441**	2.80	5,353
	5.10	**9,750**	5.50	10,514

The fourth interim dividend is proposed after the balance sheet date, and has not been recognised as a liability at the balance sheet date.

(b) Dividends attributable to the previous year, approved and paid during the year:

	2021	2020
Fourth interim dividend in respect of the previous year, approved and paid during the year, of HK$1.80 per share (2020: HK$2.8 per share)	**5,353**	7,647

(c) Distributions to holders of AT1 capital instruments classified as equity

	2021	2020
US$900 million Fixed to floating rate perpetual capital instrument (coupon rate at 6.03 per cent and then three-month US dollar LIBOR plus 4.02 per cent from the first call date)	**423**	421
US$600 million Fixed to floating rate perpetual capital instrument (coupon rate at 6.0 per cent and then three-month US dollar LIBOR plus 4.06 per cent from the first call date)	**280**	279
	703	700

20. Segmental analysis

Hong Kong Financial Reporting Standard 8 ('HKFRS 8') requires segmental disclosure to be based on the way that the Group's chief operating decision maker regards and manages the Group, with the amounts reported for each reportable segment being the measures reported to the Group's chief operating decision maker for the purpose of assessing segmental performance and making decisions about operating matters. To align with the internal reporting information, the Group has presented the following four reportable segments.

- **Wealth and Personal Banking** offers a broad range of products and services to meet the personal banking, consumer lending and wealth management needs of individual customers. Personal banking products typically include current and savings accounts, time deposits, mortgages and personal loans, credit cards, insurance, investment and other wealth management services;

- **Commercial Banking** offers a comprehensive suite of products and services to corporate, commercial and small and medium-sized enterprises ('SME') customers – including corporate lending, trade and receivable finance, payments and cash management, treasury and foreign exchange, general insurance, key-person insurance, investment services and corporate wealth management;

- **Global Banking and Markets** provides tailored financial solutions to major corporate and institutional clients. Undertaking a long-term relationships management approach, its services include general banking, corporate lending, interest rates, foreign exchange, money markets, structured products and derivatives, etc. Global Banking and Markets also manages the funding and liquidity positions of the Bank and other market risk positions arising from banking activities;

- **Other** mainly represents the Bank's holdings of premises apart from outlets dedicated for Wealth and Personal Banking, investment properties, equity shares and subordinated debt funding as well as central support and functional costs with associated recoveries.

(a) Segmental result

For the purpose of segmental analysis, the allocation of revenue reflects the benefits of capital and other funding resources allocated to the business segments by way of internal capital allocation and fund transfer-pricing mechanisms. Cost of central support services and functions are allocated to business segments based on cost drivers which reflect or correlate with the use of services. Bank-owned premises apart from outlets dedicated for Wealth and Personal Banking are reported under the 'Other' segment. When these premises are utilised by business segments, notional rent will be charged to the relevant business segments with reference to market rates.

20. Segmental analysis continued

(a) Segmental result continued

	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Other[1]	Total
2021					
Net interest income/(expense)	13,013	7,037	4,161	(389)	23,822
Net fee income	4,468	1,523	311	275	6,577
Net income/(loss) from financial instruments measured at fair value through profit or loss	3,095	370	858	23	4,346
Gains less losses from financial investments	104	4	98	–	206
Dividend income	–	–	–	176	176
Net insurance premium income	13,059	1,024	–	–	14,083
Other operating income/(loss)	126	(31)	(2)	229	322
Total operating income/(loss)	33,865	9,927	5,426	314	49,532
Net insurance claims and benefits paid and movement in liabilities to policyholders	(15,359)	(991)	–	–	(16,350)
Net operating income/(loss) before change in expected credit losses and other credit impairment charges	18,506	8,936	5,426	314	33,182
Change in expected credit losses and other credit impairment charges	(314)	(1,326)	(1,167)	–	(2,807)
Net operating income/(loss)	18,192	7,610	4,259	314	30,375
Operating expenses*	(8,582)	(3,463)	(1,294)	(795)	(14,134)
Impairment loss on intangible assets	–	–	–	(10)	(10)
Operating profit/(loss)	9,610	4,147	2,965	(491)	16,231
Net surplus on property revaluation	–	–	–	82	82
Share of profits/(losses) of associates	72	–	–	–	72
Profit/(loss) before tax	9,682	4,147	2,965	(409)	16,385
Share of profit/(loss) before tax	59.1%	25.3%	18.1%	(2.5)%	100.0%
** Depreciation/amortisation included in operating expenses*	(820)	(10)	(3)	(1,705)	(2,538)
At 31 December 2021					
Total assets	593,093	416,717	821,465	(11,090)	1,820,185
of which: Gross loans and advances to customers	375,095	402,067	227,163	–	1,004,325
Total liabilities	1,036,077	352,129	256,574	(9,011)	1,635,769
of which: Customer deposits[2]	874,709	334,003	143,964	(13,876)	1,338,800
Interest in associates	2,341	–	–	–	2,341
Non-current assets acquired during the year	129	14	2	2,001	2,146

1 Deposits balances under 'Other' segment mainly related to consolidated elimination of Negotiable Certificates of Deposit ('NCDs') issued by Hang Seng Bank (China) Limited to Hang Seng Bank Limited.

2 Customer deposits balances include current, savings and other deposit accounts, certificates of deposit and other debt securities in issue.

20. Segmental analysis continued

(a) Segmental result continued

	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Other[1]	Total
2020 (restated)[2]					
Net interest income/(expense)	14,694	8,273	4,408	(469)	26,906
Net fee income	4,362	1,496	253	256	6,367
Net income/(loss) from financial instruments measured at fair value through profit or loss	1,724	317	1,417	(138)	3,320
Gains less losses from financial investments	(15)	1	4	–	(10)
Dividend income	–	–	–	157	157
Net insurance premium income	14,219	1,082	–	–	15,301
Other operating income/(loss)	2,076	(37)	6	236	2,281
Total operating income/(loss)	37,060	11,132	6,088	42	54,322
Net insurance claims and benefits paid and movement in liabilities to policyholders	(17,288)	(966)	–	–	(18,254)
Net operating income/(loss) before change in expected credit losses and other credit impairment charges	19,772	10,166	6,088	42	36,068
Change in expected credit losses and other credit impairment charges	(973)	(1,771)	6	–	(2,738)
Net operating income/(loss)	18,799	8,395	6,094	42	33,330
Operating expenses*	(8,201)	(3,340)	(1,124)	(540)	(13,205)
Operating profit/(loss)	10,598	5,055	4,970	(498)	20,125
Net deficit on property revaluation	–	–	–	(636)	(636)
Share of profits/(losses) of associates	(76)	–	–	1	(75)
Profit/(loss) before tax	10,522	5,055	4,970	(1,133)	19,414
Share of profit/(loss) before tax	54.2%	26.0%	25.6%	(5.8)%	100.0%
** Depreciation/amortisation included in operating expenses*	(851)	(8)	(3)	(1,521)	(2,383)
At 31 December 2020					
Total assets	556,503	404,157	785,858	13,269	1,759,787
of which: Gross loans and advances to customers	353,257	392,261	204,436	–	949,954
Total liabilities	1,037,041	323,783	217,188	(1,420)	1,576,592
of which: Customer deposits[3]	883,369	309,339	117,797	(6,422)	1,304,083
Interest in associates	2,358	–	–	–	2,358
Non-current assets acquired during the year	162	52	3	1,893	2,110

1 Deposits balances under 'Other' segment mainly related to consolidated elimination of NCDs issued by Hang Seng Bank (China) Limited to Hang Seng Bank Limited.

2 To better reflect the change of business model on card acquiring business and retail branches operation, management has made the decision to realign these functions within respective business segments during the year. Comparative figures have been re-stated to conform with current year's presentation.

3 Customer deposits balances include current, savings and other deposit accounts, certificates of deposit and other debt securities in issue.

20. Segmental analysis continued

(b) Information by geographical region

The geographical regions in this analysis are classified by the location of the principal operations of the subsidiary companies or, in the case of the Bank itself, by the location of the branches responsible for reporting the results or advancing the funds. Consolidation adjustments made in preparing the Group's financial statements upon consolidation are included in the 'Inter-region elimination'.

	Hong Kong	Mainland China	Others	Inter-region elimination	Total
Year ended 31 December 2021					
Total operating income/(loss)	**46,284**	**3,001**	**278**	**(31)**	**49,532**
Profit before tax	**15,047**	**1,161**	**177**	**–**	**16,385**
At 31 December 2021					
Total assets	**1,697,609**	**179,392**	**22,820**	**(79,636)**	**1,820,185**
Total liabilities	**1,521,858**	**162,429**	**21,348**	**(69,866)**	**1,635,769**
Equity	**175,751**	**16,963**	**1,472**	**(9,770)**	**184,416**
Share capital	**9,658**	**10,990**	**–**	**(10,990)**	**9,658**
Interest in associates	**2,341**	**–**	**–**	**–**	**2,341**
Non-current assets*	**64,535**	**1,652**	**49**	**–**	**66,236**
Contingent liabilities and commitments	**495,857**	**75,212**	**5,516**	**(32,715)**	**543,870**
Year ended 31 December 2020					
Total operating income/(loss)	51,357	2,732	276	(43)	54,322
Profit before tax	18,364	884	166	–	19,414
At 31 December 2020 (restated)					
Total assets	1,648,014	149,586	23,420	(61,233)	1,759,787
Total liabilities	1,471,529	134,424	22,102	(51,463)	1,576,592
Equity	176,485	15,162	1,318	(9,770)	183,195
Share capital	9,658	10,632	–	(10,632)	9,658
Interest in associates	2,358	–	–	–	2,358
Non-current assets*	63,465	1,544	64	–	65,073
Contingent liabilities and commitments	485,859	57,825	5,921	(30,265)	519,340

* Non-current assets consist of investment properties, premises, plant and equipment, intangible assets and right-of-use assets.

21. Maturity analysis of assets and liabilities

The following table provides an analysis of consolidated total assets and liabilities by residual contractual maturity at the balance sheet date. These balances are included in the maturity analysis as follows:

- Trading assets and liabilities (including trading derivatives but excluding reverse repos, repos and debt securities in issue) are included in the 'Not more than 1 month' time bucket, because trading balances are typically held for short periods of time.

- Financial assets and liabilities with no contractual maturity (such as equity securities) are included in the 'Over 5 years' time bucket. Undated or perpetual instruments are classified based on the contractual notice period which the counterparty of the instrument is entitled to give. Where there is no contractual notice period, undated or perpetual contracts are included in the 'Over 5 years' time bucket.

- Non-financial assets and liabilities with no contractual maturity are included in the 'Over 5 years' time bucket.

- Liabilities under insurance contracts are irrespective of contractual maturity included in the 'Over 5 years' time bucket in the maturity table provided below. An analysis of the expected maturity of liabilities under insurance contracts based on undiscounted cash flows is provided under the 'insurance manufacturing operation risk' in the risk section of the management discussion and analysis. Liabilities under investment contracts are classified in accordance with their remaining contractual maturity. Undated investment contracts are included in the 'Over 5 years' time bucket, however, such contracts are subject to surrender and transfer options by the policyholders.

21. Maturity analysis of assets and liabilities continued

Maturity analysis of assets and liabilities

	Not more than 1 month	Over 1 month but not more than 3 months	Over 3 months but not more than 6 months	Over 6 months but not more than 9 months	Over 9 months but not more than 1 year	Over 1 year but not more than 2 years	Over 2 years but not more than 5 years	Over 5 years	Total
2021									
Assets									
Cash and balances at central banks	16,896	–	–	–	–	–	–	–	16,896
Trading assets	47,433	–	–	–	–	–	–	–	47,433
Derivative financial instruments	12,048	104	217	184	80	316	275	–	13,224
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	77	–	–	–	–	–	591	30,658	31,326
Reverse repurchase agreements – non-trading	11,049	4,633	3,139	–	–	–	–	–	18,821
Placings with and advances to banks	43,279	18,299	4,577	1,520	2,277	2,541	–	–	72,493
Loans and advances to customers	80,268	65,580	80,432	61,706	56,970	134,349	245,160	272,932	997,397
Financial investments	69,561	123,195	56,896	22,275	9,394	51,568	75,186	92,311	500,386
Accrued income and other financial assets	26,601	5,328	4,006	1,503	198	534	200	696	39,066
Financial assets	307,212	217,139	149,267	87,188	68,919	189,308	321,412	396,597	1,737,042
Non-financial assets	–	–	–	–	–	–	–	83,143	83,143
Total assets	307,212	217,139	149,267	87,188	68,919	189,308	321,412	479,740	1,820,185
Liabilities									
Deposits from banks	5,333	–	–	–	–	–	–	–	5,333
Current, savings and other deposit accounts	1,116,818	83,294	19,196	3,592	4,987	566	1,763	–	1,230,216
Repurchase agreements – non-trading	13,391	729	627	1,041	–	804	–	–	16,592
Trading liabilities	44,291	–	–	–	–	–	–	–	44,291
Derivative financial instruments	11,831	12	47	132	31	84	115	–	12,252
Financial liabilities designated at fair value	8,138	9,897	4,432	2,075	2,465	15	–	377	27,399
Certificates of deposit and other debt securities in issue	19,685	22,929	28,009	4,448	6,496	–	–	–	81,567
Subordinated liabilities[1]	–	–	–	–	–	–	11,225	13,259	24,484
Accruals and other financial liabilities	16,972	6,774	3,735	985	363	435	761	265	30,290
Financial liabilities	1,236,459	123,635	56,046	12,273	14,342	1,904	13,864	13,901	1,472,424
Non-financial liabilities	–	–	–	–	–	–	–	163,345	163,345
Total liabilities	1,236,459	123,635	56,046	12,273	14,342	1,904	13,864	177,246	1,635,769

[1] The maturity for subordinated liabilities is based on the earliest date on which the Group is required to pay, i.e. the callable date.

21. Maturity analysis of assets and liabilities continued

Maturity analysis of assets and liabilities continued

	Not more than 1 month	Over 1 month but not more than 3 months	Over 3 months but not more than 6 months	Over 6 months but not more than 9 months	Over 9 months but not more than 1 year	Over 1 year but not more than 2 years	Over 2 years but not more than 5 years	Over 5 years	Total
2020									
Assets									
Cash and balances at central banks	11,226	–	–	–	–	–	–	–	11,226
Trading assets	37,117	–	–	–	–	–	–	–	37,117
Derivative financial instruments	17,074	23	8	6	16	33	21	–	17,181
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	79	154	–	–	–	–	525	19,937	20,695
Reverse repurchase agreements – non-trading	4,573	8,010	–	777	–	–	–	–	13,360
Placings with and advances to banks	36,533	1,531	–	–	–	3,775	2,518	–	44,357
Loans and advances to customers	79,394	49,449	71,585	63,911	51,412	127,037	241,326	260,660	944,774
Financial investments	79,378	173,070	62,584	9,417	15,707	38,853	88,275	87,436	554,720
Accrued income and other financial assets	21,061	4,731	3,237	468	178	242	135	743	30,795
Financial assets	286,435	236,968	137,414	74,579	67,313	169,940	332,800	368,776	1,674,225
Non-financial assets	–	–	–	–	–	–	–	85,562	85,562
Total assets	286,435	236,968	137,414	74,579	67,313	169,940	332,800	454,338	1,759,787
Liabilities									
Deposits from banks	11,272	–	1,671	–	–	–	–	–	12,943
Current, savings and other deposit accounts	1,086,162	97,481	17,417	5,077	2,513	562	260	–	1,209,472
Repurchase agreements – non-trading	4,177	–	1,020	450	–	623	–	–	6,270
Trading liabilities	30,937	–	–	–	–	–	–	–	30,937
Derivative financial instruments	18,828	134	305	42	99	463	988	2	20,861
Financial liabilities designated at fair value	12,934	9,741	5,783	2,281	1,027	348	–	416	32,530
Certificates of deposit and other debt securities in issue	3,253	20,369	30,624	141	7,413	700	–	–	62,500
Subordinated liabilities[1]	–	–	–	–	–	–	6,240	13,241	19,481
Accruals and other financial liabilities	18,258	6,239	2,973	442	328	555	909	262	29,966
Financial liabilities	1,185,821	133,964	59,793	8,433	11,380	3,251	8,397	13,921	1,424,960
Non-financial liabilities	–	–	–	–	–	–	–	151,632	151,632
Total liabilities	1,185,821	133,964	59,793	8,433	11,380	3,251	8,397	165,553	1,576,592

[1] The maturity for subordinated liabilities is based on the earliest date on which the Group is required to pay, i.e. the callable date.

22. Cash and balances at central banks

	2021	2020
Cash in hand	**7,230**	6,937
Balances at central banks	**9,666**	4,289
	16,896	11,226

23. Trading assets

	2021	2020
Treasury bills	**26,004**	16,533
Other debt securities	**21,388**	20,539
Debt securities	**47,392**	37,072
Investment funds/equity shares	**41**	45
	47,433	37,117

24. Derivative financial instruments

Use of derivatives

The Group transacts derivatives for three primary purposes: to create risk management solutions for clients, to manage the portfolio risk arising from client business, and to manage and hedge the Group's own risks. Derivatives (except for derivatives which are designated as effective hedging instruments) are held for trading. Within the held for trading classification are two types of derivative instruments: those used in sales and trading activities, and those used for risk management purposes but which for various reasons do not meet the qualifying criteria for hedge accounting. The second category includes derivatives managed in conjunction with financial instruments designated at fair value. These activities are described more fully below.

The Group's derivative activities give rise to significant open positions in portfolios of derivatives. These positions are managed constantly to ensure that they remain within acceptable risk levels. When entering into derivative transactions, the Group employs the same credit risk management framework to assess and approve potential credit exposures that it uses for traditional lending.

The following table shows the notional contract amounts and fair value of assets and liabilities by each class of derivatives.

	Notional contract amount			Fair value – Assets			Fair value – Liabilities		
	Trading	Hedging	Total	Trading	Hedging	Total	Trading	Hedging	Total
Foreign exchange	**1,108,621**	**21,949**	**1,130,570**	**8,099**	**1,068**	**9,167**	**7,822**	**148**	**7,970**
Interest rate	**609,565**	**38,128**	**647,693**	**3,345**	**229**	**3,574**	**3,293**	**316**	**3,609**
Equity and other	**23,480**	**–**	**23,480**	**483**	**–**	**483**	**673**	**–**	**673**
At 31 December 2021	**1,741,666**	**60,077**	**1,801,743**	**11,927**	**1,297**	**13,224**	**11,788**	**464**	**12,252**
Foreign exchange	1,010,478	29,851	1,040,329	11,833	14	11,847	13,791	704	14,495
Interest rate	532,761	62,932	595,693	4,653	164	4,817	4,663	1,351	6,014
Equity and other	33,863	–	33,863	517	–	517	352	–	352
At 31 December 2020	1,577,102	92,783	1,669,885	17,003	178	17,181	18,806	2,055	20,861

Trading derivatives

Most of the Group's trading derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities in derivatives include market-making and risk management. Market-making entails quoting bid and offer prices to other market participants for the purpose of generating revenues based on spread and volume. Risk management activity is undertaken to manage the risk arising from client transactions, with the principal purpose of retaining client margin. Other derivatives classified as held for trading include non-qualifying hedging derivatives.

Derivatives valued using models with unobservable inputs

Any initial gain or loss on financial instruments where the valuation is dependent on unobservable parameters is deferred over the life of the contract or until the instrument is redeemed, transferred or sold or the fair value becomes observable. All derivatives that are part of qualifying hedging relationships have valuations based on observable market parameters.

24. Derivative financial instruments continued

Hedge accounting derivatives

The Group applies hedge accounting to manage the following risks: interest rate, foreign exchange and net investment in foreign operations. The Group uses derivatives (principally interest rate and currency swaps) for hedging purposes in the management of its own asset and liability portfolios and structural positions. This enables the Group to optimise the overall costs to the Group of accessing debt capital markets, and to mitigate the market risk which would otherwise arise from structural imbalances in the maturity and other profiles of its assets and liabilities. The accounting treatment of hedging transactions varies according to the nature of the instrument hedged and the type of hedging transaction. Derivatives may qualify as hedges for accounting purposes if they are fair value hedges, cash flow hedges, or hedges of net investments in foreign operations.

(a) Fair value hedges

The Group enters into fixed-for-floating-interest-rate swaps to manage the exposure to changes in fair value due to movements in market interest rates on certain fixed rate financial instruments which are not measured at fair value through profit or loss, including debt securities held and issued.

Sources of hedge ineffectiveness may arise from basis risk including but not limited to the discount rates used for calculating the fair value of derivatives, hedges using instruments with a non-zero fair value and notional and timing differences between the hedged items and hedging instruments.

For some debt securities held, the Group manages interest rate risk in a dynamic risk management strategy. The assets in scope of this strategy are high quality fixed-rate debt securities, which may be sold to meet liquidity and funding requirements.

(b) Cash flow hedges

The Group's cash flow hedging instruments consist principally of interest rate swaps and cross currency swaps that are used to manage the variability in future interest cash flows of non-trading financial assets and liabilities, arising due to changes in market interest rates and foreign currency basis.

The Group applies macro cash flow hedging for interest rate risk exposures on portfolios of replenishing current and forecasted issuances of non-trading assets and liabilities that bear interest at variable rates, including rolling such instruments. The amounts and timing of future cash flows, representing both principal and interest flows, are projected for each portfolio of financial assets and liabilities on the basis of their contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate cash flows representing both principal balances and interest cash flows across all portfolios are used to determine the effectiveness and ineffectiveness. Macro cash flow hedges are considered to be dynamic hedges.

The Group also hedges the variability in future cash-flows on foreign-denominated financial assets and liabilities arising due to changes in foreign exchange market rates with cross currency swaps; these are considered non-dynamic hedges.

(c) Interest Rate Benchmark Reform

At 31 December 2021, HK$24,447m (2020: HK$46,175m) of the notional amounts of interest rate derivatives designated in hedge accounting relationships do not represent the extent of the risk exposure managed by the Group but they are expected to be directly affected by market-wide IBOR reform and in scope of Phase 1 amendments. The Group has also designated hedge accounting relationships which involve cross currency swaps, although the amount is not significant.

Risks and governance regarding the impact of the market-wide benchmarks reform is set out in the Management Discussion and Analysis of the 2021 Annual Report.

25. Financial assets designated and otherwise mandatorily measured at fair value through profit or loss

	2021	2020
Debt securities	18	2
Equity shares	7,422	4,253
Investment funds	22,863	15,158
Other	1,023	1,282
	31,326	20,695

26. Placings with and advances to banks

	2021	2020
Balances with banks	10,078	6,039
Placings with and advances to banks maturing within one month	33,202	30,494
Placings with and advances to banks maturing after one month but less than one year	26,673	1,531
Placings with and advances to banks maturing after one year	2,541	6,293
Less: Allowances for expected credit losses	(1)	–
	72,493	44,357
of which:		
Placings with and advances to central banks	7,554	13,216

There were no overdue advances, impaired advances and rescheduled advances to banks at 31 December 2021 (2020: Nil).

27. Loans and advances to customers

(a) Loans and advances to customers

	2021	2020
Gross loans and advances to customers	1,004,325	949,954
Less: Allowances for expected credit losses	(6,928)	(5,180)
	997,397	944,774
	%	%
Expected credit losses as a percentage of gross loans and advances to customers	0.69	0.55

	2021	2020
Gross impaired loans and advances	10,429	5,724
	%	%
Gross impaired loans and advances as a percentage of gross loans and advances to customers	1.04	0.60

27. Loans and advances to customers continued

(b) Net investments in finance leases and hire purchase contracts

Loans and advances to customers include net investments in equipment leased to customers under finance leases and hire purchase contracts having the characteristics of finance leases. The contracts usually run for an initial period of 5 to 25 years, with an option for acquiring by the lessee the leased asset at nominal value at the end of the lease period. The total minimum lease payments receivable and their present value at the year-end are as follows:

	Present value of minimum lease payments receivable	Interest income relating to future periods	Total minimum lease payments receivable
2021			
Amounts receivable:			
– within one year	**376**	**141**	**517**
– one to two years	**392**	**124**	**516**
– two to three years	**389**	**125**	**514**
– three to four years	**372**	**119**	**491**
– four to five years	**374**	**119**	**493**
– after five years	**5,839**	**890**	**6,729**
	7,742	**1,518**	**9,260**
Allowances for expected credit losses	**(103)**		
Net investments in finance leases and hire purchase contracts	**7,639**		
2020			
Amounts receivable:			
– within one year	357	139	496
– one to two years	382	121	503
– two to three years	380	122	502
– three to four years	377	123	500
– four to five years	359	117	476
– after five years	5,863	912	6,775
	7,718	1,534	9,252
Allowances for expected credit losses	(94)		
Net investments in finance leases and hire purchase contracts	7,624		

28. Financial investments

	2021	2020
Financial investments measured at fair value through other comprehensive income:		
– treasury bills	**225,910**	268,031
– debt securities	**127,982**	144,814
– equity shares	**5,267**	7,051
	359,159	419,896
Debt instruments measured at amortised cost:		
– treasury bills	**2,300**	3,667
– debt securities	**139,080**	131,330
Less: Allowances for expected credit losses	**(153)**	(173)
	141,227	134,824
	500,386	554,720

28. Financial investments continued

Equity instruments measured at fair value through other comprehensive income

	2021	2020
Type of equity instruments		
– business facilitation	5,267	7,051

There was no overdue debt securities at 31 December 2021 (2020: Nil). The Group did not hold any asset-backed securities, mortgage-backed securities and collateralised debt obligations in 2021 and 2020.

There was no financial investments determined to be impaired at 31 December 2021 (2020: Nil).

29. Assets pledged, assets transferred and collateral received

Assets pledged

Financial assets pledged to secure liabilities

	2021	2020
Trading assets and financial investments	61,451	45,405
Amount of liabilities secured	62,718	47,893

The table above shows assets where a charge has been granted to secure liabilities on a legal and contractual basis. These transactions are conducted under terms that are usual and customary to collateralised transactions including sale and repurchase agreements and securities lending, derivative margining, and include assets pledged to cover short positions and to facilitate settlement processes with clearing houses.

Assets transferred

Transferred financial assets not qualifying for full derecognition and associated financial liabilities

	2021		2020	
	Carrying amount of		Carrying amount of	
	Transferred assets	Associated liabilities	Transferred assets	Associated liabilities
Repurchase agreement	13,078	12,374	6,693	6,270
Securities lending agreements	438	–	1,338	–
	13,516	12,374	8,031	6,270

The financial assets shown above include amounts transferred to third parties that do not qualify for derecognition, notably debt securities held by counterparties as collateral under repurchase agreements and debt securities lent under securities lending agreements. As the substance of these transactions is secured borrowings, the collateral assets continue to be recognised in full and the related liabilities, reflecting the Group's obligation to repurchase the transferred assets for a fixed price at a future date, are also recognised on the balance sheet. As a result of these transactions, the Group is unable to use, sell or pledge the transferred assets for the duration of the transactions. The Group remains exposed to interest rate risk, credit risk and market risk on these pledged instruments. The counterparty's recourse is not limited to the transferred assets.

Collateral received

Assets accepted as collateral related primarily to standard securities lending, reverse repurchase agreements and derivative margining. These transactions are conducted under terms that are usual and customary to standard securities lending, reverse repurchase agreements and derivative margining.

Fair value of collateral accepted as security for assets

	2021	2020
Fair value of collateral permitted to sell or repledge in the absence of default	18,865	13,440
Fair value of collateral actually sold or repledged	4,226	101

30. Subsidiaries

The following list contains only the particulars of subsidiaries which principally affected the results, assets or liabilities of the Group as at 31 December 2021. The class of shares held is ordinary.

Name of company	Place of incorporation & operation	Principal activities	Issued equity capital	Percentage of shareholding
Hang Seng Bank (China) Limited[1]	People's Republic of China	Banking	RMB8,317,500,000	100%
Hang Seng Insurance Company Limited	Hong Kong SAR	Retirement benefits and life assurance	HK$6,426,184,570	100%
Hang Seng Investment Management Limited	Hong Kong SAR	Fund management	HK$10,000,000	100%
Hang Seng Securities Limited	Hong Kong SAR	Stockbroking	HK$26,000,000	100%
Yan Nin Development Company Limited	Hong Kong SAR	Investment holding	HK$100,000	100%
Hang Seng Indexes Company Limited	Hong Kong SAR	Index compilation and licensing	HK$10,000	100%
High Time Investments Limited	Hong Kong SAR	Investment holding	HK$2,250,010,000	100%
Hang Seng Qianhai Fund Management Company Limited[2]	People's Republic of China	Fund raising, fund sales and asset management	RMB500,000,000	70%

1 Represents a wholly foreign owned limited liability company registered under the PRC laws.
2 Represents a foreign-majority-owned contractual joint venture registered under the PRC laws.

All the above companies are unlisted. All principal subsidiaries are held directly by the Bank except for Hang Seng Indexes Company Limited. The principal places of operation are the same as the places of incorporation.

Some of the principal subsidiaries are regulated banking and insurance entities and as such, are required to maintain certain minimum levels of capital and liquid assets to support their operations. The effect of these regulatory requirements is to limit the extent to which the subsidiaries may transfer funds to the Bank in the form of repayment of certain shareholder loans or cash dividends.

31. Interest in associates

	2021	2020
Share of net assets	**2,341**	2,358

The associates are:

Name of company	Place of incorporation and operation	Principal activities	Issued equity capital	Group's interest in equity capital
Unlisted				
Barrowgate Limited	Hong Kong SAR	Property investment	HK$10,000	24.64%
GZHS Research Co., Ltd.	People's Republic of China	Conduct market/securities analysis and publish research reports	RMB44,680,000	33.00%

The interests in Barrowgate Limited and GZHS Research Co., Ltd. ('GZHS') are owned by the subsidiaries of the Bank.

The above two associates are accounted for using the equity method in the Consolidated Financial Statements as at 31 December 2021 and 2020.

31. Interest in associates continued

	Assets	Liabilities	Equity	Revenue	Expenses	Revenue Less Expenses
2021						
100 per cent	**10,501**	**999**	**9,502**	**455**	**164**	**291**
The Group's effective interest	**2,587**	**246**	**2,341**	**112**	**40**	**72**
2020						
100 per cent	10,564	996	9,568	(254)	51	(305)
The Group's effective interest	2,604	246	2,358	(62)	13	(75)

At 31 December 2021, the investment in associates were tested for impairment by estimating the recoverable amount of the investment based on 'Value in use'. No impairment loss was recognised since the recoverable amount exceeded the carrying amount (2020: Nil).

32. Property, plant and equipment

	2021	2020
Premises	**27,281**	26,898
Plant and equipment[1]	**2,090**	1,944
Other right of use assets	**1,834**	2,083
Premises, plant and equipment	**31,205**	30,925
Investment properties	**9,545**	9,415
	40,750	40,340

[1] Includes leasehold land and building assets for which the rights of use are considered sufficient to constitute control and for which there are insignificant lease liabilities. They are therefore presented as owned assets.

(a) Movement in owned property, plant and equipment

	Premises	Investment properties	Plant and equipment	Total
2021				
Cost or valuation:				
At 1 January	**26,898**	**9,415**	**3,982**	**40,295**
Additions	**46**	**2**	**681**	**729**
Disposals and write-offs	**–**	**–**	**(212)**	**(212)**
Elimination of accumulated depreciation on revalued premises	**(1,001)**	**–**	**–**	**(1,001)**
Surplus on revaluation:				
– credited to premises revaluation reserve	**1,310**	**–**	**–**	**1,310**
– credited to income statement	**–**	**125**	**–**	**125**
Transfer	**(3)**	**3**	**–**	**–**
Exchange adjustments and other	**31**	**–**	**14**	**45**
At 31 December	**27,281**	**9,545**	**4,465**	**41,291**
Accumulated depreciation:				
At 1 January	**–**	**–**	**(2,038)**	**(2,038)**
Charge for the year (note 12)	**(1,001)**	**–**	**(491)**	**(1,492)**
Attributable to assets sold or written off	**–**	**–**	**164**	**164**
Elimination of accumulated depreciation on revalued premises	**1,001**	**–**	**–**	**1,001**
Exchange adjustments and other	**–**	**–**	**(10)**	**(10)**
At 31 December	**–**	**–**	**(2,375)**	**(2,375)**
Net book value at 31 December	**27,281**	**9,545**	**2,090**	**38,916**
Representing:				
– measure at cost	**–**	**–**	**2,090**	**2,090**
– measure at valuation	**27,281**	**9,545**	**–**	**36,826**
	27,281	**9,545**	**2,090**	**38,916**

32. Property, plant and equipment continued

(a) Movement in owned property, plant and equipment continued

	Premises	Investment properties	Plant and equipment	Total
2020				
Cost or valuation:				
At 1 January	29,498	10,121	5,919	45,538
Additions	84	21	1,017	1,122
Disposals and write-offs	–	–	(2,974)	(2,974)
Elimination of accumulated depreciation on revalued premises	(1,033)	–	–	(1,033)
Deficit on revaluation:				
– debited to premises revaluation reserve	(1,542)	–	–	(1,542)
– debited to income statement	–	(892)	–	(892)
Transfer	(165)	165	–	–
Exchange adjustments and other	56	–	20	76
At 31 December	26,898	9,415	3,982	40,295
Accumulated depreciation:				
At 1 January	–	–	(4,514)	(4,514)
Charge for the year (note 12)	(1,033)	–	(458)	(1,491)
Attributable to assets sold or written off	–	–	2,957	2,957
Elimination of accumulated depreciation on revalued premises	1,033	–	–	1,033
Exchange adjustments and other	–	–	(23)	(23)
At 31 December	–	–	(2,038)	(2,038)
Net book value at 31 December	26,898	9,415	1,944	38,257
Representing:				
– measure at cost	–	–	1,944	1,944
– measure at valuation	26,898	9,415	–	36,313
	26,898	9,415	1,944	38,257

(b) Terms of lease

	Premises		Investment properties	
	2021	2020	**2021**	2020
Leaseholds				
Held in Hong Kong:				
– long leases (over 50 years unexpired)	**2,524**	2,501	**1,666**	1,635
– medium leases (10 to 50 years unexpired)	**23,742**	23,418	**7,504**	7,409
– short leases (below 10 years unexpired)	**–**	–	**375**	371
Held outside Hong Kong:				
– long leases (over 50 years unexpired)	**–**	–	**–**	–
– medium leases (10 to 50 years unexpired)	**1,015**	979	**–**	–
– short leases (below 10 years unexpired)	**–**	–	**–**	–
	27,281	26,898	**9,545**	9,415

(c) The carrying amount of all premises which have been stated in the balance sheet would have been as follows had they been stated at cost less accumulated depreciation:

	2021	2020
Cost less accumulated depreciation at 31 December	**6,699**	6,873

32. Property, plant and equipment continued

(d) The Group leases out investment properties under operating leases. The leases typically run for an initial period of 2 to 3 years, and may contain an option to renew the lease after that date at which time all terms are renegotiated. None of the leases includes contingent rentals.

	2021	2020
Direct operating expenses arising from investment properties	**41**	34
Direct operating expenses arising from investment properties that generated rental income	**38**	32

The Group's total future minimum lease payments receivable under non-cancellable operating leases are as follows:

	2021	2020
Within one year	**227**	202
One to two years	**106**	100
Two to three years	**50**	27
Three to four years	**–**	3
Four to five years	**–**	–
	383	332

(e) Fair value measurement of properties

The Group's premises and investment properties were revalued by Cushman & Wakefield Limited ('C&W'), an independent professional valuer, at 10 November 2021, and were updated by C&W for any material changes in the valuation as at 31 December 2021. It was confirmed that there was no material change in value since 10 November 2021. The valuations were carried out by qualified persons who are members of the Hong Kong Institute of Surveyors. The basis of valuations of premises and investment properties were market value which is consistent with the definition of fair value under HKFRS 13 '*Fair Value Measurement*' and take into account the highest and best use of the property from the perspective of market participants.

(i) Fair value hierarchy

The level into which a fair value measurement is classified for properties is determined with reference to the observability and significance of the inputs used in the valuation technique as follows:

Level 1: Fair value measured using unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2: Fair value measured using observable inputs and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available.

Level 3: Fair value measured using significant unobservable inputs.

The resultant values of both investment properties and properties held for own use for the Group were Level 3 in the fair value hierarchy as defined in HKFRS 13 '*Fair Value Measurement*'. During the year ended 31 December 2021, there were no transfers into or out of Level 3 (2020: Nil).

The fair value of tenanted investment properties is determined using Income Approach (also known as Investment Approach) on the basis of capitalisation of net incomes with due allowance for outgoings and reversionary income potential.

The fair values of the majorities of properties owned and occupied by the Group or vacant investment properties in Hong Kong and the PRC are determined using Market Approach (also known as Direct Comparison Approach) assuming sale with immediate vacant possession and by making reference to comparable sales evidence.

For properties with development potentials, their values are on redevelopment basis and reported upon the assessment on the basis that each of these properties will be developed to its full potential and completed to a good standard. The fair values are determined using Market Approach (also known as Direct Comparison Approach) by making reference to comparable sales transactions as available in the relevant market and have also taken into account the development costs that will be expended to complete the development.

32. Property, plant and equipment continued

(e) Fair value measurement of properties continued

(i) Fair value hierarchy continued

Reconciliation of fair value measurements in Level 3 of the fair value hierarchy

Reconciliation of the movement between opening and closing balances of Level 3 properties measured at fair value using a valuation technique with significant unobservable inputs is under note 32 (a). The following table details the gains or losses recognised in profit or loss in relation to the Level 3 premises and investment properties:

	Premises	Investment properties
2021		
Unrealised gains or losses recognised in profit or loss relating to those assets held at the end of the reporting period		
– other operating income	**–**	**43**
– net surplus/(deficit) on property revaluation	**–**	**82**
– depreciation of premises, plant and equipment	**(1,001)**	**–**
2020		
Unrealised gains or losses recognised in profit or loss relating to those assets held at the end of the reporting period		
– other operating income	–	(256)
– net surplus/(deficit) on property revaluation	–	(636)
– depreciation of premises, plant and equipment	(1,033)	–

(ii) Information about significant unobservable inputs in Level 3 valuations

	Valuation technique(s)	Unobservable input(s)	Range 2021	Range 2020
Investment properties	Income approach (also known as Investment approach)	Market yields (reversionary yield)	**2.20% to 4.90%**	2.35% to 4.95%
		Market rental	**HK$14.9 to HK$320 per square foot**	HK$14.6 to HK$390 per square foot
	Market approach (also known as Direct Comparison approach)	Premium (discount) on characteristic of the properties	**-20% to +20%**	–20% to +20%
Premises	Market approach (also known as Direct Comparison approach)	Premium (discount) on characteristic of the properties	**-20% to +20%**	–20% to +20%

The fair value measurement for tenanted investment properties is positively correlated to the market rental but inversely correlated to the market yields. The valuations for premises held for own use or vacant investment properties take into account the characteristic of the properties which included the location, size, shape, view, floor level, year of completion and other factors collectively. Higher premium for properties with better characteristics will result in a higher fair value measurement.

33. Intangible assets

	2021	2020
Present value of in-force long-term insurance business	**22,363**	22,551
Internally developed software	**2,704**	1,737
Acquired software	**90**	116
Goodwill	**329**	329
	25,486	24,733

33. Intangible assets continued

(a) Movement of present value of in-force long-term insurance business ('PVIF')

	2021	2020
At 1 January	22,551	20,469
Movement in present value of in-force long-term insurance business (note 9)	(188)	2,082
– Addition from current year new business	2,332	1,761
– Expected return	(1,625)	(1,569)
– Experience variances	288	192
– Changes in operating assumptions	42	280
– Investment return variances	(606)	812
– Changes in investment assumptions	(604)	606
– Other adjustments	(15)	–
At 31 December	22,363	22,551

The key assumptions used in the computation of PVIF are as follows:

	2021	2020
Risk discount rate	5.4%	5.1%
Expenses inflation	3.0%	3.0%
Average lapse rate:		
– 1st year	2.6%	2.4%
– 2nd year onwards	3.6%	3.8%

The sensitivity of PVIF valuation to changes in individual assumptions at the balance sheet dates is shown in the Management Discussion and Analysis.

(b) Goodwill

	2021	2020
At 1 January and at 31 December	329	329

Goodwill arising from acquisition of the remaining 50 per cent of Hang Seng Life Limited from HSBC Insurance (Asia-Pacific) Holdings Limited amounted to HK$329m is allocated to cash-generating units of Life Insurance – Hang Seng Insurance Company Limited ('HSIC') for the purpose of impairment testing.

During 2021, there was no impairment of goodwill (2020: Nil). Impairment testing in respect of goodwill is performed annually by comparing the recoverable amount of cash generating unit based on appraisal value with the carrying amount of its net assets, including attributable goodwill.

The appraisal value comprises HSIC's net assets (other than value of business acquired and goodwill), the PVIF and the expected value of future business as at 31 December 2021. The PVIF is determined by discounting future earnings expected from the current business, taking into account factors such as future mortality, lapse rates, levels of expenses and risk discount rate. The above details are shown in note 33(a) and the Management Discussion and Analysis.

33. Intangible assets continued

(c) Movement of internally developed application software and acquired software

	2021	2020
Cost:		
At 1 January	3,277	2,363
Additions	1,417	988
Amounts written off	(4)	(89)
Exchange and others	21	15
At 31 December	4,711	3,277
Accumulated amortisation:		
At 1 January	(1,424)	(1,207)
Charge for the year (note 12)	(472)	(297)
Impairment	(10)	–
Amounts written off	4	87
Exchange and others	(15)	(7)
At 31 December	(1,917)	(1,424)
Net book value at 31 December	2,794	1,853

34. Other assets

	2021	2020
Items in the course of collection from other banks	3,744	5,062
Bullion	8,470	12,337
Prepayments and accrued income	4,732	3,917
Acceptances and endorsements	11,121	9,027
Less: Allowances for expected credit losses	(12)	(14)
Reinsurers' share of liabilities under insurance contracts (note 40)	5,848	5,471
Settlement accounts	13,711	4,329
Cash collateral	2,343	5,286
Other accounts	3,675	3,511
	53,632	48,926

Other accounts included 'Assets held for sale' of HK$35m (2020: HK$28m). There was no 'Retirement benefit assets' in 2021 (2020: HK$7m).

35. Current, savings and other deposit accounts

	2021	2020
Current, savings and other deposit accounts:		
– as stated in Consolidated Balance Sheet	1,230,216	1,209,472
– structured deposits reported as financial liabilities designated at fair value (note 37)	24,012	26,840
	1,254,228	1,236,312
By type:		
– demand and current accounts	150,127	137,050
– savings accounts	871,281	825,547
– time and other deposits	232,820	273,715
	1,254,228	1,236,312

36. Trading liabilities

	2021	2020
Short positions in securities	**44,291**	30,937

37. Financial liabilities designated at fair value

	2021	2020
Certificates of deposit in issue (note 38)	**–**	1,516
Structured deposits (note 35)	**24,012**	26,840
Other structured debt securities in issue (note 38)	**3,005**	3,755
Liabilities to customers under investment contracts	**382**	419
	27,399	32,530

At 31 December 2021, the accumulated loss in fair value attributable to changes in own credit risk for financial liabilities designated at fair value was HK$2m (2020: accumulated loss HK$6m).

38. Certificates of deposit and other debt securities in issue

	2021	2020
Certificates of deposit and other debt securities in issue:		
– as stated in Consolidated Balance Sheet	**81,567**	62,500
– certificates of deposit in issue designated at fair value (note 37)	**–**	1,516
– other structured debt securities in issue reported as financial liabilities designated at fair value (note 37)	**3,005**	3,755
	84,572	67,771
By type:		
– certificates of deposit in issue	**81,567**	64,016
– other debt securities in issue	**3,005**	3,755
	84,572	67,771

39. Other liabilities

	2021	2020
Items in the course of transmission to other banks	**6,102**	6,316
Accruals	**3,762**	3,490
Acceptances and endorsements	**11,121**	9,027
Retirement benefit liabilities (note 48(a))	**339**	630
Settlement accounts	**1,874**	5,124
Cash collateral	**2,232**	1,060
Lease liabilities	**1,880**	2,102
Other	**3,869**	3,585
	31,179	31,334

40. Liabilities under insurance contracts

	Gross	Reinsurers' share[1]	Net
2021			
Non-linked			
At 1 January	142,611	(5,471)	137,140
Claims and benefits paid	(11,901)	868	(11,033)
Increase in liabilities to policyholders	17,573	(1,229)	16,344
Foreign exchange and other movements	6,197	(16)	6,181
At 31 December	154,480	(5,848)	148,632
Unit-linked			
At 1 January	69	–	69
Claims and benefits paid	(4)	–	(4)
Increase in liabilities to policyholders	6	–	6
At 31 December	71	–	71
	154,551	(5,848)	148,703
2020			
Non-linked			
At 1 January	132,051	(8,503)	123,548
Claims and benefits paid	(11,770)	1,900	(9,870)
Increase in liabilities to policyholders	17,583	661	18,244
Foreign exchange and other movements	4,747	471	5,218
At 31 December	142,611	(5,471)	137,140
Unit-linked			
At 1 January	69	–	69
Claims and benefits paid	(10)	–	(10)
Increase in liabilities to policyholders	10	–	10
At 31 December	69	–	69
	142,680	(5,471)	137,209

1 Amounts recoverable from reinsurance of liabilities under insurance contracts are included in the Consolidated Balance Sheet in 'Other assets'.

41. Current tax and deferred tax

(a) Current tax and deferred tax are represented in the balance sheet:

	2021	2020
Included in 'Other assets':		
Current taxation recoverable	9	–
Deferred tax assets	90	183
	99	183
Current tax liabilities:		
Provision for Hong Kong profits tax	580	214
Provision for taxation outside Hong Kong	23	68
	603	282
Deferred tax liabilities	7,302	7,302
	7,905	7,584

41. Current tax and deferred tax continued

(b) Deferred tax assets and liabilities recognised

The major components of deferred tax (assets)/liabilities recognised in the balance sheet and the movements during the year are as follows:

	Depreciation allowances in excess of related depreciation	Revaluation of properties	Expected credit losses	Fair value adjustments for financial assets at FVOCI	Cash flow hedge	Other	Total
At 1 January 2021	**546**	**3,643**	**(693)**	**45**	**51**	**3,527**	**7,119**
Exchange adjustment and others	**(1)**	**3**	**1**	**(1)**	**1**	**(1)**	**2**
Charged/(credited) to income statement (note 17(a))	**166**	**(123)**	**(160)**	**–**	**–**	**13**	**(104)**
Charged/(credited) to reserves	**–**	**220**	**–**	**(41)**	**(43)**	**59**	**195**
At 31 December 2021	**711**	**3,743**	**(852)**	**3**	**9**	**3,598**	**7,212**
At 1 January 2020	345	4,060	(534)	45	3	3,054	6,973
Exchange adjustment and others	–	5	(11)	(4)	–	(7)	(17)
Charged/(credited) to income statement (note 17(a))	201	(170)	(148)	–	–	482	365
Charged/(credited) to reserves	–	(252)	–	4	48	(2)	(202)
At 31 December 2020	546	3,643	(693)	45	51	3,527	7,119

(c) Deferred tax assets not recognised

The amounts of unused tax losses for which no deferred tax asset is recognised in the balance sheet are HK$474m (2020: HK$480m). Of these amounts, HK$187m (2020: HK$213m) have no expiry date and the remaining will expire within 5 years.

There was no other temporary difference for which no deferred tax asset is recognised in the balance sheet as at 31 December 2021 (2020: Nil).

(d) Deferred tax liabilities not recognised

There were no deferred tax liabilities not recognised as at 31 December 2021 (2020: Nil).

42. Subordinated liabilities

Nominal value	Description	2021	2020
HK$5,460 million	Floating rate subordinated loan due May 2028, callable from 2027[1]	**5,460**	5,460
HK$4,680 million	Floating rate subordinated loan due June 2029, callable from 2028[2]	**4,680**	4,680
HK$6,240 million	Floating rate subordinated loan due June 2026, callable from 2025[3]	**6,240**	6,240
US$400 million	Floating rate subordinated loan due June 2030, callable from 2029[4]	**3,119**	3,101
HK$5,000 million	Floating rate subordinated loan due Nov 2027, callable from 2026[5]	**4,985**	–
		24,484	19,481
Representing:			
– measured at amortised cost		**24,484**	19,481

1 Interest rate at three-month HK dollar HIBOR plus 1.425 per cent per annum, payable quarterly, to the maturity date.
2 Interest rate at three-month HK dollar HIBOR plus 1.564 per cent per annum, payable quarterly, to the maturity date.
3 Interest rate at three-month HK dollar HIBOR plus 1.342 per cent per annum, payable quarterly, to the maturity date.
4 Interest rate at three-month US dollar LIBOR plus 1.789 per cent per annum, payable quarterly, to the maturity date.
5 Interest rate at three-month HK dollar HIBOR plus 1.000 per cent per annum, payable quarterly, to the maturity date.

During the year, the Bank has issued non-capital loss-absorbing capacity debt instrument totalling HK$5bn which rank higher than additional tier 1 capital instruments in the event of a winding-up.

The Bank has not had any defaults of principal, interest or other breaches with respect to its debt instruments during 2021 (2020: nil).

43. Share capital

	2021		2020	
	No. of shares	HK$	No. of shares	HK$
Ordinary shares, issued and fully paid				
At 1 January and 31 December	1,911,842,736	9,658	1,911,842,736	9,658

44. Other equity instruments

Nominal value	Description	2021	2020
US$900 million	Fixed to floating rate perpetual capital instrument callable from September 2024[1]	7,044	7,044
US$600 million	Fixed to floating rate perpetual capital instrument callable from June 2024[2]	4,700	4,700
		11,744	11,744

1 Coupon rate is 6.03% and then three-month US dollar LIBOR plus 4.02 per cent from the first call date.
2 Coupon rate is 6.00% and then three-month US dollar LIBOR plus 4.06 per cent from the first call date.

The additional tier 1 capital instruments, which are qualified as loss-absorbing capacity, are perpetual and subordinated. The coupon payments of these capital instruments may be cancelled at the sole discretion of the Bank. The capital instruments will be written down at the point of non-viability on the occurrence of a trigger event as defined in the Banking (Capital) Rules. They rank higher than ordinary shares in the event of a winding-up.

45. Contingent liabilities, contractual commitments and guarantees

(a) Off-balance sheet contingent liabilities and commitments

	2021	2020
Contingent liabilities and financial guarantee contracts		
Financial guarantees[1]	2,431	3,024
Performance and other guarantees[2]	26,439	16,774
Other contingent liabilities	80	49
	28,950	19,847
Commitments[3]		
Documentary credits and short-term trade-related transactions	3,233	3,248
Forward asset purchases and forward forward deposits placed	10,633	7,432
Undrawn formal standby facilities, credit lines and other commitments to lend	501,054	488,813
	514,920	499,493

1 Financial guarantees are contracts that require the issuer to make specified payments to reimburse the holder for a loss incurred because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument. The amounts in the above table are nominal principal amounts.
2 Performance and other guarantees include re-insurance letters of credit related to particular transactions, trade-related letters of credit issued without provision for the issuing entity to retain title to the underlying shipment, performance bonds, bid bonds, standby letters of credit and other transaction-related guarantees.
3 Includes HK$365,054m of commitments at 31 December 2021 (2020: HK$356,776m) to which the impairment requirements in HKFRS 9 are applied where the Group has become party to an irrevocable commitment.

The above table discloses the nominal principal amounts of commitments (excluding capital commitments), guarantees and other contingent liabilities, which represents the amounts at risk should contracts be fully drawn upon and clients default. As a significant portion of guarantees and commitments is expected to expire without being drawn upon, the total of the nominal principal amounts is not representative of future liquidity requirements.

It also reflects the Group's maximum exposure under a large number of individual guarantee undertakings. The risks and exposures from guarantees are captured and managed in accordance with the Group's overall credit risk management policies and procedures. Guarantees are subject to an annual credit review process.

(b) Contingencies

There is no material litigation expected to result in a significant adverse effect on the financial position of the Group, either collectively or individually. Management believes that adequate provisions have been made in respect of such litigation.

46. Other commitments

Capital commitments

At 31 December 2021, capital commitments, mainly related to the commitment for renovation of branches and offices, were HK$868m (2020: HK$916m).

47. Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset and the net amount is reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis, or realise the asset and settle the liability simultaneously ('the offset criteria').

The 'Amounts not set off in the balance sheet' include transactions where:

- the counterparty has an offsetting exposure with the Group and a master netting or similar arrangement is in place with a right of set off only in the event of default, insolvency or bankruptcy, or the offset criteria are otherwise not satisfied; and

- in the case of derivatives and reverse repurchase/repurchase, stock borrowing/lending and similar arrangements, cash and non-cash collaterals has been received and pledged.

	Amounts subject to enforceable netting arrangements								
	Effects of offsetting in the balance sheet			Amounts not set off in the balance sheet					
	Gross amounts	Amounts offset	Net Amounts reported in the balance sheet	Financial instruments	Non-cash collateral	Cash collateral	Net amount	Amounts not subject to enforceable netting arrangements[1]	Balance sheet total
Financial assets[2]									
Derivatives	**11,098**	**–**	**11,098**	**(6,822)**	**(314)**	**(2,138)**	**1,824**	**2,126**	**13,224**
Reverse repos, stock borrowing and similar agreements classified as:	**17,495**	**–**	**17,495**	**–**	**(17,436)**	**(59)**	**–**	**1,326**	**18,821**
– trading assets	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
– non-trading assets	**17,495**	**–**	**17,495**	**–**	**(17,436)**	**(59)**	**–**	**1,326**	**18,821**
Other assets	**1,647**	**(1,054)**	**593**	**–**	**–**	**–**	**593**	**–**	**593**
At 31 December 2021	**30,240**	**(1,054)**	**29,186**	**(6,822)**	**(17,750)**	**(2,197)**	**2,417**	**3,452**	**32,638[2]**
Derivatives	14,445	–	14,445	(10,779)	(483)	(989)	2,194	2,736	17,181
Reverse repos, stock borrowing and similar agreements classified as:	13,360	–	13,360	–	(13,360)	–	–	–	13,360
– trading assets	–	–	–	–	–	–	–	–	–
– non-trading assets	13,360	–	13,360	–	(13,360)	–	–	–	13,360
Other assets	4,025	(3,351)	674	–	–	–	674	–	674
At 31 December 2020	31,830	(3,351)	28,479	(10,779)	(13,843)	(989)	2,868	2,736	31,215[2]
Financial liabilities[3]									
Derivatives	**10,256**	**–**	**10,256**	**(6,822)**	**(396)**	**(2,077)**	**961**	**1,996**	**12,252**
Repos, stock lending and similar agreements classified as:	**8,631**	**–**	**8,631**	**–**	**(8,631)**	**–**	**–**	**7,961**	**16,592**
– trading liabilities	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
– non-trading liabilities	**8,631**	**–**	**8,631**	**–**	**(8,631)**	**–**	**–**	**7,961**	**16,592**
Other liabilities	**1,309**	**(1,054)**	**255**	**–**	**–**	**–**	**255**	**–**	**255**
At 31 December 2021	**20,196**	**(1,054)**	**19,142**	**(6,822)**	**(9,027)**	**(2,077)**	**1,216**	**9,957**	**29,099[3]**
Derivatives	18,048	–	18,048	(10,779)	(658)	(5,149)	1,462	2,813	20,861
Repos, stock lending and similar agreements classified as:	2,193	–	2,193	–	(2,193)	–	–	4,077	6,270
– trading liabilities	–	–	–	–	–	–	–	–	–
– non-trading liabilities	2,193	–	2,193	–	(2,193)	–	–	4,077	6,270
Other liabilities	3,563	(3,351)	212	–	–	–	212	–	212
At 31 December 2020	23,804	(3,351)	20,453	(10,779)	(2,851)	(5,149)	1,674	6,890	27,343[3]

1 These exposures continue to be secured by financial collateral, but the Bank may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.
2 Amounts presented in the balance sheet included balances due from HSBC entities of HK$4,018m (2020: HK$9,733m).
3 Amounts presented in the balance sheet included balances due to HSBC entities of HK$5,770m (2020: HK$8,334m).

48. Employee retirement benefits

(a) Defined benefit schemes

The Group operates one defined benefit scheme, the Hang Seng Bank Limited Defined Benefit Scheme ('HSBDBS'), which covers about 16 per cent of the Group's employees. HSBDBS was closed to new entrants with effect from 1 April 1999. Since the defined benefit section of the HSBDBS is a final salary lump sum scheme, its exposure to longevity risk and interest rate risk is limited. The Hang Seng Bank Limited Pension Scheme, which was closed to new entrants with effect from 31 December 1986, was dissolved and its members and assets were transferred to the HSBDBS in late 2021.

HSBDBS is registered under Occupational Retirement Schemes Ordinance (Cap. 426 of the law of Hong Kong) ('the Ordinance'). The trustee assumes the overall responsibility for the HSBDBS but a management committee has also been established to broaden the governance. Its assets are held separately from the assets of the Group. The trustees are required by the Trust Deed to act in the best interest of the scheme participants.

HSBDBS is predominantly a funded scheme with assets which are held in trust funds separate from the Group. The actuarial funding valuation of the HSBDBS is reviewed at least on a triennial basis in accordance with local regulations. The actuarial assumptions used to conduct the actuarial funding valuation of the HSBDBS vary according to the economic conditions.

The investment strategy of the HSBDBS is to invest in a diversified portfolio of assets, both equities and bonds, with low investment and liquidity risk. The assets of the Scheme will be diversified across the different asset classes to reflect the liabilities and performance objectives of the Scheme. The Strategic Asset Allocation percentages for the asset types are as follows: Bonds (0 – 62%) and equity/alternative credit funds (28 – 48%).

(i) Cumulative actuarial gains/(losses) recognised in other comprehensive income in respect of defined benefit schemes

	2021	2020
At 1 January	(1,209)	(1,199)
Actuarial gains/(losses) recognised in other comprehensive income	352	(10)
At 31 December	(857)	(1,209)

(ii) Movements in the scheme assets and present value of the defined benefit obligations

Net asset/(liability) under defined benefit schemes

	Fair value of scheme assets	Present value of defined benefit obligations	Net defined benefit (liability)/ asset
At 1 January 2021	4,679	(5,302)	(623)
Current service cost (note 12)	–	(158)	(158)
Interest income/(cost) on the defined benefit scheme asset/(liability) (note 12)	20	(23)	(3)
Remeasurement effects recognised in other comprehensive income	228	124	352
– Actuarial gains from changes in demographic assumptions	–	66	66
– Actuarial gains from changes in financial assumptions	–	–	–
– Actuarial gains from experience	228	58	286
Contributions by the Group	101	–	101
Benefits paid	(659)	659	–
Others	–	–	–
Administrative costs and taxes paid by scheme (note 12)	(8)	–	(8)
At 31 December 2021	4,361	(4,700)	(339)
Retirement benefit liabilities recognised in Consolidated Balance Sheet (included in 'Other liabilities') (note 39)	4,361	(4,700)	(339)
Present value of defined benefit obligation relating to:			
– Actives		(4,576)	
– Pensioners		(124)	

The Group expects to make HK$98m of contributions to defined benefit schemes during 2022 (2020: expected contributions for 2021 was HK$109m).

48. Employee retirement benefits continued

(a) Defined benefit schemes continued

(ii) Movements in the scheme assets and present value of the defined benefit obligations continued

Net asset/(liability) under defined benefit schemes continued

	Fair value of scheme assets	Present value of defined benefit obligations	Net defined benefit (liability)/ asset
At 1 January 2020	4,567	(5,211)	(644)
Current service cost (note 12)	–	(163)	(163)
Interest income/(cost) on the defined benefit scheme asset/(liability) (note 12)	77	(87)	(10)
Remeasurement effects recognised in other comprehensive income	319	(329)	(10)
– Actuarial losses from changes in demographic assumptions	–	(3)	(3)
– Actuarial losses from changes in financial assumptions	–	(236)	(236)
– Actuarial gains/(losses) from experience	319	(90)	229
Contributions by the Group	211	–	211
Benefits paid	(488)	488	–
Others	–	–	–
Administrative costs and taxes paid by scheme (note 12)	(7)	–	(7)
At 31 December 2020	4,679	(5,302)	(623)
Retirement benefit liabilities recognised in Consolidated Balance Sheet (included in 'Other liabilities') (note 39)	4,520	(5,150)	(630)
Retirement benefit assets recognised in Consolidated Balance Sheet (included in 'Other accounts' of 'Other assets')	159	(152)	7
Present value of defined benefit obligation relating to:			
– Actives		(5,153)	
– Pensioners		(149)	

(iii) Benefits expected to be paid

Benefits expected to be paid from the HSBDBS to retirees over each of the next five years, and in aggregate for the five years thereafter, are as follows:

	2022	2023	2024	2025	2026	2027-2031
HSBDBS	401	501	439	428	398	2,120

The duration of the HSBDBS is 6.0 years (2020: 6.1 years) under the disclosure assumptions adopted.

(iv) Fair value of scheme assets by asset classes

	Value	Quoted market price in active market	Of which placed with the Group and HSBC Group
2021			
Fair value of scheme assets			
– Index ETFs/Funds	**1,575**	**1,575**	**–**
– Bonds	**2,652**	**2,652**	**–**
– Other*	**134**	**134**	**40**
	4,361	**4,361**	**40**
2020			
Fair value of scheme assets			
– Index ETFs/Funds	2,014	2,014	–
– Bonds	2,595	2,595	–
– Other*	70	70	32
	4,679	4,679	32

* Other mainly consists of cash and deposits.

48. Employee retirement benefits continued

(a) Defined benefit schemes continued

(v) Key actuarial financial assumptions

The scheme is funded defined benefit schemes and is administered by trustees with assets held separately from those of the Group. The latest annual actuarial valuations at 31 December 2021 were performed by Mandy Chan, Fellow of the Society of Actuaries of the United States, of Mercer (Hong Kong) Limited, using the Attained Age Method.

The Ordinance requires that registered retirement benefit schemes shall at all time be fully funded to meet its aggregate vested liability (i.e. on a wind-up basis) in accordance with the recommendations contained in an actuarial certificate supplied under the Ordinance. Any shortfall must be made up within the specified time under the Ordinance. Any deficits to meet the aggregate past service liability (i.e. on an on-going basis) can however be eliminated over a period of time in accordance with the funding recommendations of an actuary.

On an on-going basis, the value of the scheme assets of HSBDBS represented 103 per cent (2020: 102 per cent) of the benefits accrued to scheme members, after allowing for expected future increases in salaries, and the resulting surplus amounted to HK$130m (surplus in 2020: HK$88m). On a wind-up basis, the actuarial value of the HSBDBS assets represented 112 per cent (2020: 109 per cent) of the members' vested benefits, based on salaries at that date, and the resulting surplus amounted to HK$474m (surplus in 2020: HK$360m).

The determinations for actuarial funding valuation purposes are based on different methods and assumptions from those used for financial reporting purposes, and as a result should neither be compared nor related to other determinations included in these financial statements.

The present value of the scheme's obligation was a final lump sum salary and payment of HK$4,700m (2020: HK$5,150m). The principal actuarial assumptions used to calculate the Group's obligations for the HSBDBS for each year, and used as the basis for measuring the expenses in relation to the scheme, were as follows:

Principal actuarial assumptions for the scheme

	HSBDBS %
2021	
Discount rate	**1.25**
Expected rate of salary increases	**4.00**
of which:	
– 2022	**4.00**
– thereafter	**4.00**
2020	
Discount rate	0.45
Expected rate of salary increases	2.00
of which:	
– 2021	2.00
– thereafter	4.00

The Group determines the discount rates to be applied to its obligations in consultation with the schemes' actuaries, on the basis of current average yields of high quality (AA rated or equivalent) debt instruments, with maturities consistent with those of the defined benefit obligations. Where there is not a deep market in corporate bonds, government bond yields have been used, and this is the case for HSBDBS. The yield curve has been extrapolated where the term of the liabilities is longer than the duration of available bonds and the discount rate used then takes into account the term of the liabilities and the shape of the yield curve.

48. Employee retirement benefits continued

(a) Defined benefit schemes continued

(vi) Actuarial assumption sensitivities

The discount rate and rate of salary increase are sensitive to changes in market conditions arising during the reporting year. The following table shows the effect of changes in these on the HSBDBS:

The effect of changes in key assumptions:

	HSBDBS	
	2021	2020
Discount rate		
– change in retirement benefit obligation at year end from a 25bps increase	**(69)**	(78)
– change in retirement benefit obligation at year end from a 25bps decrease	**71**	81
Rate of salary increase		
– change in retirement benefit obligation at year end from a 25bps increase	**74**	88
– change in retirement benefit obligation at year end from a 25bps decrease	**(73)**	(86)

(b) Defined contribution schemes

The principal defined contribution scheme for Group employees joining on or after 1 April 1999 is the HSBC Group Hong Kong Local Staff Defined Contribution Scheme. The Bank and relevant Group entities also participate in mandatory provident fund schemes ('MPF schemes') registered under the Hong Kong Mandatory Provident Fund Ordinance, which are also defined contribution schemes.

Contributions made in accordance with the relevant scheme rules to these defined contribution schemes (including MPF schemes) are charged to the income statement as below:

	2021	2020
Amounts charged to the income statement (note 12)	**331**	309

Under the schemes, the Group's contributions are reduced by contributions forfeited by those employees who leave the schemes prior to the contributions vesting fully. The forfeited contributions utilised during the year or available at the year-end to reduce future contributions is HK$0.03m (2020: HK$0.03m).

49. Share-based payments

The Group participated in various share compensation plans as listed in the following tables that are operated by the HSBC Group for acquiring of HSBC Holdings plc shares. These are to be settled by the delivery of shares of HSBC Holdings plc.

Share awards and option plans

Award	Policy
Deferred Share Awards	– Vesting of awards generally subject to continued employment with the Group – Vesting often staggered over a period ranging from three to seven years – Vested shares may be subject to a retention requirement post-vesting – Awards are generally subject to the rules of Share Plan and any performance conditions – Awards granted from 2010 onwards are subject to a malus provision prior to vesting – Awards granted to material risk takers from 2015 onwards are subject to clawback post-vesting
International Employee Share Purchase Plan ('Sharematch')	– The plan was introduced in 2013 – Shares are purchased in the market each quarter up to a maximum of GBP750, or the equivalent in local currency – Matching shares are added at a ratio of one free share for every three purchased – Matching awards vest subject to continued employment and retention of the purchased shares for a maximum period of two years and nine months.

49. Share-based payments continued

(a) HSBC share awards

	2021 Number ('000)	2020 Number ('000)
Outstanding at 1 January	**1,378**	984
Additions during the year	**962**	1,059
Less: Released/Lapsed in the year	**(834)**	(665)
Outstanding at 31 December	**1,506**	1,378

The closing price of the HSBC Holdings plc share at 31 December 2021 was £4.49 (2020: £3.79).

The weighted average remaining vesting period as at 31 December 2021 was 0.96 years (2020: 1.17 years (restated)).

(b) Calculation of fair value

The fair values of share options at the date of grant of the options are calculated using a Black-Scholes model. The fair value of a share award is based on the share price at the date of the grant.

(c) Reconciliation of total incentive awards to income statement charge

	2021	2020
Equity-settled share-based payments	**34**	38
Cash-settled share-based payments	**2**	–
Income statement charge for restricted share awards (note 12)	**36**	38

The above charge was computed from the fair values of the share-based payment transaction when contracted, that arose under employee share awards made in accordance with HSBC's reward structures.

50. Material related-party transactions

(a) Immediate holding company and its subsidiaries and fellow subsidiaries

The Group entered into transactions with its immediate holding company and its subsidiaries as well as its fellow subsidiaries in the ordinary course of business, mainly including lending activities, the acceptance and placement of interbank deposits, correspondent banking transactions, off-balance sheet transactions and the provision of other banking and financial services. The activities were on substantially the same terms, including interest rates and security, as for comparable transactions with third party counterparties.

The Group used the IT service of, and shared an automated teller machine network with, its immediate holding company. The Group also shares the costs of certain IT projects with and used certain processing services of fellow subsidiaries.

The Group maintained a staff retirement benefit scheme for which a fellow subsidiary company acts as trustee and custodian and the Group's immediate holding company acts as administrator.

A fellow subsidiary company was appointed as fund manager to manage the Group's life insurance investment portfolios. There was an arrangement whereby a fellow subsidiary provided certain management services to the Group's insurance subsidiary. These transactions and services were on substantially the same terms as for comparable transactions with third-party counterparties.

The Bank acted as agent for promoting Mandatory Provident Fund products administered by its immediate holding company and distributed retail investment funds for a fellow subsidiary company.

During 2021, the Bank has paid coupons on AT1 capital instruments of HK$703m to its immediate holding company (2020: HK$700m).

The aggregate amount of income and expenses arising from these transactions during the year, the balances of amounts due to and from the relevant related parties, and the total contract amount of off-balance sheet transactions at the year-end are as follows:

	Immediate holding company and its subsidiaries		Fellow subsidiaries	
	2021	2020	**2021**	2020
Interest income	**87**	221	**61**	65
Interest expense	**(522)**	(584)	**–**	–
Other operating income/(expenses)	**120**	134	**(37)**	(31)
Operating expenses*	**(1,105)**	(810)	**(2,921)**	(2,237)
Amounts due from:				
Reverse repurchase agreements – non-trading	**1,094**	5,530	**–**	–
Placings with and advances to banks	**20,196**	19,903	**7,334**	6,151
Derivative financial instruments	**2,770**	4,100	**154**	103
Other assets	**10,343**	2,480	**874**	161
	34,403	32,013	**8,362**	6,415
Amounts due to:				
Current, savings and other deposit accounts	**2,018**	2,502	**–**	–
Deposits from banks	**304**	8,030	**94**	–
Repurchase agreements – non-trading	**2,471**	2,193	**–**	–
Derivative financial instruments	**2,920**	5,925	**379**	216
Certificates of deposit and other debt securities in issue	**25,500**	50,000	**–**	–
Subordinated liabilities	**24,484**	19,481	**–**	–
Other liabilities	**587**	177	**422**	307
	58,284	88,308	**895**	523
Derivative contracts:				
Contract amount	**450,551**	467,118	**28,095**	20,381
Guarantees	**392**	3	**–**	–
Commitments	**3,763**	800	**–**	–

* Representing the operating expenses paid to immediate holding company and its subsidiaries, of which HK$1,046m was capitalised as intangible assets in the Group's consolidated balance sheet (2020: HK$721m).

50. Material related-party transactions continued

(b) Key management personnel remuneration

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Group and Bank. It includes members of the Board of Directors and Executive Committee of the Bank. During the year, the members of the Bank's Executive Committee has increased from 15 to 16. The amount of remuneration paid to key management personnel was pro-rata from the date of being appointed as Directors of the Bank or members of Executive Committee, if any. The aggregate amount of remuneration of the key management personnel during the year are as follows:

	2021	2020
Salaries, allowances and benefits in kind	68	70
Retirement scheme contributions	5	5
Variable bonuses		
– Cash bonus	20	23
– Share-based payment	14	16
	107	114

(c) Material transactions with key management personnel

During the year, the Group provided credit facilities to and accepted deposits from key management personnel of the Bank and its holding companies, their close family members and companies controlled or significantly influenced by them. The credit facilities extended and deposit taken were provided in the ordinary course of business and on substantially the same terms as for comparable transactions with persons of a similar standing or, where applicable, with other employees.

Material transactions conducted with key management personnel of the Bank and its holding companies and parties related to them are as follows:

	2021	2020
For the year		
Interest income	445	740
Interest expense	35	85
Fees and commission income	9	15
Maximum aggregate amount of loans and advances	60,112	45,274
At the year-end		
Loans and advances	47,031	41,894
Deposits	9,197	11,640
Guarantees issued	526	558
Undrawn commitments	4,589	4,789

Change in expected credit losses recognised for the year and impairment allowances against balances outstanding at the end of the year as required under HKFRS 9, in respect of Key Management Personnel were insignificant in both years.

The Group adheres to Part 8 of Banking (Exposure Limits) Rules made under Section 81A of Banking Ordinance regarding exposures to connected parties.

50. Material related-party transactions continued

(d) Loans to Directors

Particulars of loans to directors disclosed pursuant to section 17 of the Companies (Disclosure of Information about Benefits of Directors) Regulations for the year ended 31 December 2021 are shown as below.

	2021		2020	
	Highest balance during the year	**Balance at 31 December**	Highest balance during the year	Balance at 31 December
– Loans and advances	**17,392**	**13,751**	17,511	14,387
– Guarantees issued	**305**	**205**	431	237

The above relevant transactions in 2021 and 2020 were all transacted by the Bank.

(e) Directors' material interests in transactions, arrangements or contracts

No transaction, arrangement or contract (that is significant in relation to the Bank's business), to which the Bank or any of its holding companies or any of its subsidiaries or fellow subsidiaries was a party and in which a Director of the Bank had, directly or indirectly, a material interest, subsisted as at the end of the year or at any time during the year.

(f) Associates

The Group provides certain banking and financial services to associates, including loans, overdrafts, interest and non-interest bearing deposits and current accounts. Transactions and balances during the year with associates were as follows:

	2021		2020	
	Highest balance during the year	**Balance at 31 December**	Highest balance during the year	Balance at 31 December
Amounts due from associates#	**7,465**	**7,465**	6,973	247
Amounts due to associates#	**4,238**	**106**	2,361	1,061

For the year	**2021**	2020
Total operating income	**16**	68

Including associates in HSBC Group

The disclosure of the year-end balance and the highest amounts outstanding during the year is considered to be the most meaningful information to represent the amount of transactions and outstanding balances during the year.

The transactions resulting in outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third party counterparties.

(g) Ultimate holding company

The Group participates in various share option and share plans operated by HSBC Holdings plc whereby share options or shares of HSBC Holdings plc are granted to employees of the Group. As disclosed in note 49, the Group recognises an expense in respect of these share options and share awards. The cost borne by the ultimate holding company in respect of these share options and share awards is treated as a capital contribution and is recorded under 'Other reserves'. The balance of this reserve as at 31 December 2021 amounted to HK$679m comprising HK$668m relating to share option schemes and HK$11m relating to share award schemes (2020: HK$688m comprising HK$668m relating to share option schemes and HK$20m relating to share award schemes).

51. Fair value of financial instruments

(a) Fair value of financial instruments carried at fair value

Control framework

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

Where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is utilised. For inactive markets, the Group sources alternative market information, with greater weight given to information that is considered to be more relevant and reliable. Examples of the factors considered are price observability, instrument comparability, consistency of data sources, underlying data accuracy and timing of prices.

For fair values determined using valuation models, the control framework includes development or validation by independent support functions of the model logic, inputs, model outputs and adjustments. Valuation models are subject to a process of due diligence before becoming operational and are calibrated against external market data on an ongoing basis.

Changes in fair value are generally subject to a profit and loss analysis process and are disaggregated into high-level categories including portfolio changes, market movements and other fair value adjustments.

The majority of financial instruments measured at fair value are in Global Banking and Markets ('GBM'). GBM's fair value governance structure comprises its Finance function and Valuation Committee. Finance is responsible for establishing procedures governing valuation and ensuring fair values are in compliance with accounting standards. The fair values are reviewed by the Valuation Committees, which consist of independent support functions.

Financial liabilities measured at fair value

In certain circumstances, the Group records its own debt in issue at fair value, based on quoted prices in an active market for the specific instrument. When quoted market prices are unavailable, the own debt in issue is valued using valuation techniques, the inputs for which are either based on quoted prices in an inactive market for the instrument or are estimated by comparison with quoted prices in an active market for similar instruments. In both cases, the fair value includes the effect of applying the credit spread which is appropriate to the Group's liabilities. The change in fair value of issued debt securities attributable to the Group's own credit spread is computed as follows: for each security at each reporting date, an externally verifiable price is obtained or a price is derived using credit spreads for similar securities for the same issuer. Then, using discounted cash flow, each security is valued using the appropriate IBOR-based or risk free rate-based discount curve. The difference in the valuations is attributable to the Group's own credit spread. This methodology is applied consistently across all securities.

Structured notes issued and certain other hybrid instruments are included within 'Financial liabilities designated at fair value' and are measured at fair value. The credit spread applied to these instruments is derived from the spreads at which the Group issues structured notes.

Gains and losses arising from changes in the credit spread of liabilities issued by the Group reverse over the contractual life of the debt, provided that the debt is not repaid at a premium or a discount.

Fair value hierarchy

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

- Level 1 – valuation technique using quoted market price: financial instruments with quoted prices for identical instruments in active markets that the Group can access at the measurement date.

- Level 2 – valuation technique using observable inputs: financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets and financial instruments valued using models where all significant inputs are observable.

- Level 3 – valuation technique with significant unobservable inputs: financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

51. Fair value of financial instruments continued

(a) Fair value of financial instruments carried at fair value continued

The accounting policies, control framework and hierarchy used to determine fair values in 2021 are consistent with those applied for the Annual Report 2020. The following table provides an analysis of financial instruments carried at fair value and bases of valuation:

	Fair value hierarchy					
	Quoted market price Level 1	Using observable inputs Level 2	With significant unobservable inputs Level 3	Third party total	Amounts with HSBC entities*	Total
Recurring fair value measurements						
2021						
Assets						
Trading assets	**43,574**	**3,859**	**–**	**47,433**	**–**	**47,433**
Derivative financial instruments	**244**	**10,039**	**17**	**10,300**	**2,924**	**13,224**
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**10,481**	**5,774**	**15,071**	**31,326**	**–**	**31,326**
Financial investments	**287,573**	**70,217**	**1,369**	**359,159**	**–**	**359,159**
Liabilities						
Trading liabilities	**44,291**	**–**	**–**	**44,291**	**–**	**44,291**
Derivative financial instruments	**17**	**8,936**	**–**	**8,953**	**3,299**	**12,252**
Financial liabilities designated at fair value	**–**	**21,376**	**6,023**	**27,399**	**–**	**27,399**
2020						
Assets						
Trading assets	33,371	3,746	–	37,117	–	37,117
Derivative financial instruments	295	12,680	3	12,978	4,203	17,181
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	9,903	1,859	8,933	20,695	–	20,695
Financial investments	359,139	57,850	2,907	419,896	–	419,896
Liabilities						
Trading liabilities	30,937	–	–	30,937	–	30,937
Derivative financial instruments	8	14,712	–	14,720	6,141	20,861
Financial liabilities designated at fair value	–	26,828	5,702	32,530	–	32,530

* Included derivative contracts transacted with HSBC entities which are mainly classified within Level 2 of the valuation hierarchy.

Transfers between Level 1 and Level 2 fair values

	Assets				Liabilities		
	Financial investments	Trading assets	Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Financial liabilities designated at fair value	Derivatives
2021							
Transfer from Level 1 to Level 2	**17,130**	**1,207**	**–**	**–**	**–**	**–**	**–**
Transfer from Level 2 to Level 1	**6,011**	**481**	**–**	**–**	**–**	**–**	**–**
2020							
Transfer from Level 1 to Level 2	8,214	251	–	–	–	–	–
Transfer from Level 2 to Level 1	12,011	664	–	–	–	–	–

51. Fair value of financial instruments continued

(a) Fair value of financial instruments carried at fair value continued

Transfers between Level 1 and Level 2 fair values continued

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Fair value adjustments

Fair value adjustments are adopted when the Group determines there are additional factors considered by market participants that are not incorporated within the valuation model. Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement, such as when models are enhanced and therefore fair value adjustments may no longer be required.

Bid-offer

HKFRS 13 requires use of the price within the bid-offer spread that is most representative of fair value. Valuation models will typically generate mid-market values. The bid-offer adjustment reflects the extent to which bid-offer costs would be incurred if substantially all residual net portfolio market risks were closed using available hedging instruments or by disposing of, or unwinding the position.

Uncertainty

Certain model inputs may be less readily determinable from market data, and/or the choice of model itself may be more subjective. In these circumstances, an adjustment may be necessary to reflect the likelihood that market participants would adopt more conservative values for uncertain parameters and/or model assumptions, than those used in the Group's valuation model.

Credit valuation adjustment ('CVA') and debit valuation adjustment ('DVA')

The CVA is an adjustment to the valuation of over-the-counter ('OTC') derivative contracts to reflect the possibility that the counterparty may default and the Group may not receive the full market value of the transactions.

The DVA is an adjustment to the valuation of OTC derivative contracts to reflect the possibility that the Group may default, and that the Group may not pay the full market value of the transactions.

The Group calculates a separate CVA and DVA for each legal entity, and for each counterparty to which the entity has exposure. With the exception of central clearing parties, all third-party counterparties are included in the CVA and DVA calculations, and these adjustments are not netted across Group entities.

The Group calculates the CVA by applying the probability of default ('PD') of the counterparty, conditional on the non-default of the Group, to the Group's expected positive exposure to the counterparty and multiplying the result by the loss expected in the event of default. Conversely, the Group calculates the DVA by applying the PD of the Group, conditional on the non-default of the counterparty, to the expected positive exposure of the counterparty to the Group and multiplying the result by the loss expected in the event of default. Both calculations are performed over the life of the potential exposure.

For most products the Group uses a simulation methodology, which incorporates a range of potential exposures over the life of the portfolio, to calculate the expected positive exposure to a counterparty. The simulation methodology includes credit mitigants, such as counterparty netting agreements and collateral agreements with the counterparty.

The methodologies do not, in general, account for 'wrong-way risk' which arises when the underlying value of the derivative prior to any CVA is positively correlated to the PD of the counterparty. When there is significant wrong-way risk, a trade-specific approach is applied to reflect this risk in the valuation.

Funding fair value adjustment ('FFVA')

The FFVA is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralised component of the OTC derivative portfolio. The expected future funding exposure is calculated by a simulation methodology, where available and is adjusted for events that may terminate the exposure, such as the default of the Group or the counterparty.

Model limitation

Models used for portfolio valuation purposes may be based upon a simplifying set of assumptions that do not capture all material market characteristics. In these circumstances, model limitation adjustments are adopted.

Inception profit (Day 1 P&L reserves)

Inception profit adjustments are adopted when the fair value estimated by a valuation model is based on one or more significant unobservable inputs.

51. Fair value of financial instruments continued

(a) Fair value of financial instruments carried at fair value continued

Financial instruments measured at fair value using a valuation technique with significant unobservable inputs – Level 3

	Assets				Liabilities		
	Financial investments	Trading assets	Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Financial liabilities designated at fair value	Derivatives
2021							
Investment funds and equity shares	**1,369**	**–**	**15,071**	**–**	**–**	**–**	**–**
Structured notes	**–**	**–**	**–**	**–**	**–**	**6,023**	**–**
Derivatives	**–**	**–**	**–**	**17**	**–**	**–**	**–**
	1,369	**–**	**15,071**	**17**	**–**	**6,023**	**–**
2020							
Investment funds and equity shares	2,907	–	8,933	–	–	–	–
Structured notes	–	–	–	–	–	5,702	–
Derivatives	–	–	–	3	–	–	–
	2,907	–	8,933	3	–	5,702	–

51. Fair value of financial instruments continued

(a) Fair value of financial instruments carried at fair value continued

Movement in Level 3 financial instruments

	Assets				Liabilities		
	Financial investments	Trading assets	Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Financial liabilities designated at fair value	Derivatives
At 1 January 2021	2,907	–	8,933	3	–	5,702	–
Total gains or losses recognised in profit or loss							
– net income from financial instruments measured at fair value through profit or loss	–	–	2,923	(1)	–	(2)	3
Total gains or losses recognised in other comprehensive income							
– fair value gains	(1,538)	–	–	–	–	(2)	–
– exchange differences	–	–	–	–	–	93	–
Purchases	–	–	4,922	–	–	–	–
Issues/deposit taking	–	–	–	–	–	12,155	–
Sales	–	–	–	–	–	–	–
Settlements	–	–	(1,707)	–	–	(12,198)	–
Transfers out	–	–	–	–	–	(152)	(3)
Transfers in	–	–	–	15	–	427	–
At 31 December 2021	1,369	–	15,071	17	–	6,023	–
Unrealised gains or losses recognised in profit or loss relating to those assets and liabilities held at the end of the reporting period							
– net income from financial instruments measured at fair value through profit or loss	–	–	2,923	(1)	–	(12)	(1)

51. Fair value of financial instruments continued

(a) Fair value of financial instruments carried at fair value continued

Movement in Level 3 financial instruments continued

	Assets				Liabilities		
	Financial Investments	Trading Assets	Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading Liabilities	Financial liabilities designated at fair value	Derivatives
At 1 January 2020	2,179	–	5,509	3	–	7,741	–
Total gains or losses recognised in profit or loss							
– net income from financial instruments measured at fair value through profit or loss	–	–	612	9	–	(17)	5
Total gains or losses recognised in other comprehensive income							
– fair value gains	728	–	–	–	–	2	–
– exchange differences	–	–	–	–	–	132	–
Purchases	–	–	3,244	–	–	–	–
Issues/deposit taking	–	–	–	–	–	12,589	–
Sales	–	–	–	–	–	–	–
Settlements	–	–	(432)	–	–	(15,496)	–
Transfers out	–	–	–	(9)	–	(576)	(5)
Transfers in	–	–	–	–	–	1,327	–
At 31 December 2020	2,907	–	8,933	3	–	5,702	–
Unrealised gains or losses recognised in profit or loss relating to those assets and liabilities held at the end of the reporting period							
– net income from financial instruments measured at fair value through profit or loss	–	–	530	3	–	(50)	–

In 2021, the transfer out/in of Level 3 derivative assets and liabilities were predominantly resulted from change in observability in equity volatility. The transfer out/in of Level 3 financial liabilities designated at fair value reflected the change in observability of FX and equity volatility.

Effect of changes in significant unobservable assumptions to reasonably possible alternatives

The key unobservable inputs to Level 3 financial instruments include volatility and correlation for structured notes and deposits valued using option models, bid quotes for corporate bonds valued using approaches that take into account of market comparables, and multiple items for investment funds and equity shares and strategic investments. In the absence of an active market, the fair value of investment funds and equity shares and strategic investments is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects and other factors, as well as by reference to market valuations for similar entities quoted in an active market, or the price at which similar companies have changed ownership. The change in fair values due to changes in reasonably possible alternative assumptions for these unobservable inputs is not significant.

Favourable and unfavourable changes are determined on the basis of sensitivity analysis. The sensitivity analysis aims to measure a range of fair values consistent with the application of a 95% confidence interval. Methodologies take account of the nature of the valuation technique employed, the availability and reliability of observable proxies and historical data. When the available data is not amenable to statistical analysis, the quantification of uncertainty is judgemental, but remains guided by the 95% confidence interval. The sensitivity of Level 3 fair values to reasonably possible alternative assumptions is not significant.

51. Fair value of financial instruments continued

(a) Fair value of financial instruments carried at fair value continued

Sensitivity of Level 3 fair values to reasonably possible alternative assumptions by instrument type

	Reflected in profit or loss		Reflected in other comprehensive income	
	Favourable changes	Unfavourable changes	Favourable changes	Unfavourable changes
2021				
Investment funds and equity shares	**754**	**(754)**	**68**	**(68)**
Derivatives	**–**	**–**	**–**	**–**
	754	**(754)**	**68**	**(68)**
2020				
Investment funds and equity shares	447	(447)	145	(145)
Derivatives	–	–	–	–
	447	(447)	145	(145)

When the fair value of a financial instrument is affected by more than one unobservable assumptions, the above table reflects the most favourable or the most unfavourable change from varying the assumptions individually.

Quantitative information about significant unobservable inputs in Level 3 valuations

	Fair value at 31 December 2021	Valuation technique(s)	Unobservable input(s)	Range
Assets				
Investment funds and equity shares	**16,440**	Net asset value	N/A	**N/A**
		Market-comparable approach	Earnings Multiple	**42 – 47**
			P/B ratios	**0.29 – 1.91**
			Liquidity Discount	**10% – 60%**
Derivatives	**17**	Option model	Equity Volatility	**22.89% – 56.99%**
Liabilities				
Structured notes	**6,023**	Option model	Equity Volatility	**7.08% – 32.46%**
			FX Volatility	**2.72% – 19.69%**

	Fair value at 31 December 2020	Valuation technique(s)	Unobservable input(s)	Range
Assets				
Investment funds and equity shares	11,840	Net asset value	N/A	N/A
		Market-comparable approach	Earnings Multiple	31 – 53
			P/B ratios	0.35 – 2.20
			Liquidity Discount	10% – 60%
Derivatives	3	Option model	Equity Volatility	29.07% – 57.94%
Liabilities				
Structured notes	5,702	Option model	Equity Volatility	6.89% – 30.67%
			FX Volatility	6.05% – 22.68%

51. Fair value of financial instruments continued

(b) Fair value of financial instruments not carried at fair value

The following table provides an analysis of the fair value of financial instruments not measured at fair value on the Consolidated Balance Sheet. For all other instruments, the fair value is equal to the carrying value.

	Carrying amount	Quoted market price Level 1	Using observable inputs Level 2	With significant unobservable inputs Level 3	Fair value
2021					
Financial Assets					
Reverse repurchase agreements – non-trading	**18,821**	**–**	**18,820**	**–**	**18,820**
Placings with and advances to banks	**72,493**	**–**	**72,505**	**–**	**72,505**
Loans and advances to customers	**997,397**	**–**	**–**	**994,164**	**994,164**
Financial investments – at amortised cost	**141,227**	**20,168**	**127,852**	**–**	**148,020**
Financial Liabilities					
Deposits from banks	**5,333**	**–**	**5,333**	**–**	**5,333**
Current, savings and other deposit accounts	**1,230,216**	**–**	**1,230,279**	**–**	**1,230,279**
Repurchase agreements – non-trading	**16,592**	**–**	**16,591**	**–**	**16,591**
Certificates of deposit and other debt securities in issue	**81,567**	**–**	**81,588**	**–**	**81,588**
Subordinated liabilities	**24,484**	**–**	**25,148**	**–**	**25,148**
2020					
Financial Assets					
Reverse repurchase agreements – non-trading	13,360	–	13,354	–	13,354
Placings with and advances to banks	44,357	–	44,325	–	44,325
Loans and advances to customers	944,774	–	–	936,466	936,466
Financial investments – at amortised cost	134,824	21,986	124,289	–	146,275
Financial Liabilities					
Deposits from banks	12,943	–	12,943	–	12,943
Current, savings and other deposit accounts	1,209,472	–	1,209,501	–	1,209,501
Repurchase agreements – non-trading	6,270	–	6,270	–	6,270
Certificates of deposit and other debt securities in issue	62,500	–	62,539	–	62,539
Subordinated liabilities	19,481	–	20,092	–	20,092

Other financial instruments not carried at fair value are typically short-term in nature or reprice to current market rates frequently. Accordingly, their carrying amounts are reasonable approximations of their fair values.

The calculation of fair values of financial instruments that are not carried at fair value is described below.

The calculation of fair value incorporates the Group's estimate of the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It does not reflect the economic benefits and costs that the Group expects to flow from the instruments' cash flows over their expected future lives.

(i) Repurchase and reverse repurchase agreements – non-trading

Fair values approximate carrying amounts as their balances are generally short dated.

51. Fair value of financial instruments continued

(b) Fair value of financial instruments not carried at fair value continued

(ii) Loans and advances to banks and customers

To determine the fair value of loans and advances to banks and customers, loans are segregated, as far as possible, into portfolios of similar characteristics. Fair values are based on observable market transactions, when available. When they are unavailable, fair values are estimated using valuation models incorporating a range of input assumptions. These assumptions may include: value estimates from third-party brokers reflecting over-the-counter trading activity; forward-looking discounted cash flow models, taking account of expected customer prepayment rates, using assumptions that the Group believes are consistent with those that would be used by market participants in valuing such loans; new business rates estimates for similar loans; and trading inputs from other market participants including observed primary and secondary trades. The fair value of loans reflects expected credit losses at the balance sheet date and estimates of market participants' expectations of credit losses over the life of the loans, and the fair value effect of repricing between origination and the balance sheet date. For credit impaired loans, fair value is estimated by discounting the future cash flows over the time period they are expected to be recovered.

(iii) Deposits from banks and customer accounts

Fair values are estimated using discounted cash flows, applying current rates offered for deposits of similar remaining maturities. The fair value of a deposit repayable on demand is assumed to be the amount payable on demand at the balance sheet date.

(iv) Debt securities in issue

Fair values are determined using quoted market prices at the balance sheet date where available, or by reference to quoted market prices for similar instruments.

The fair values in this note are stated at a specific date and may be significantly different from the amounts which will actually be paid on the maturity or settlement dates of the instruments. In many cases, it would not be possible to realise immediately the estimated fair values given the size of the portfolios measured. Accordingly, these fair values do not represent the value of these financial instruments to the Group as a going concern.

52. Unconsolidated structured entities

The Group enters into transactions with unconsolidated structured entities in the normal course of business through the holding of collective investment funds established by HSBC Group and third parties. The majority of these funds held related to the insurance business. At 31 December 2021, the Group's interests in unconsolidated structured entities were recognised in financial assets mandatorily measured at fair value through profit or loss of HK$22,863m and trading assets of HK$41m (2020: financial assets mandatorily measured at fair value through profit or loss of HK$15,158m and trading assets of HK$45m). These collective investment funds include investment in unit trusts, private equity funds and infrastructure funds which provide the Group with a variety of investment opportunities through managed investment strategies.

Owing to the passive nature of these investments, the maximum exposure to loss from these interests is limited to the associated equity price risk and the capital commitments. The maximum exposure to loss, which represents the maximum loss that the Group could be required to report as a result of its involvement with these collective investment funds regardless of the probability of the loss being incurred, is equivalent to the carrying amount of these investments and the outstanding capital commitments of HK$7,671m (2020: HK$7,427m) to invest in several alternative investment funds for funding future alternative invesments in global companies under respective investment mandates.

53. Comparative figures

Certain comparative figures in the Consolidated Financial Statements have been reclassified to conform with current year's presentation.

54. Immediate and ultimate holding companies

The immediate and ultimate holding companies of the Bank are The Hongkong and Shanghai Banking Corporation Limited (incorporated in Hong Kong) and HSBC Holdings plc (incorporated in England) respectively.

55. Bank balance sheet and statement of changes in equity

Bank balance sheet at 31 December

	2021	2020
ASSETS		
Cash and balances at central banks	**13,339**	9,745
Trading assets	**46,324**	35,590
Derivative financial instruments	**10,891**	14,358
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**77**	77
Reverse repurchase agreements – non-trading	**18,821**	13,360
Placings with and advances to banks	**51,299**	28,635
Loans and advances to customers	**908,267**	866,379
Amounts due from subsidiaries	**46,177**	37,826
Financial investments	**330,121**	389,060
Investments in subsidiaries	**20,166**	20,166
Investment properties	**4,058**	4,014
Premises, plant and equipment	**25,111**	24,942
Intangible assets	**2,616**	1,718
Other assets	**33,178**	31,654
Total assets	**1,510,445**	1,477,524
LIABILITIES AND EQUITY		
Liabilities		
Deposits from banks	**1,160**	9,028
Current, savings and other deposit accounts	**1,163,170**	1,153,163
Repurchase agreements – non-trading	**6,160**	101
Trading liabilities	**44,291**	30,937
Derivative financial instruments	**10,083**	18,002
Financial liabilities designated at fair value	**4,335**	7,232
Certificates of deposit and other debt securities in issue	**69,255**	55,597
Amounts due to subsidiaries	**20,882**	12,099
Other liabilities	**19,378**	21,814
Current tax liabilities	**155**	134
Deferred tax liabilities	**2,788**	2,783
Subordinated liabilities	**24,484**	19,481
Total liabilities	**1,366,141**	1,330,371
Equity		
Share capital	**9,658**	9,658
Retained profits	**105,140**	106,200
Other equity instruments	**11,744**	11,744
Other reserves	**17,762**	19,551
Shareholders' equity	**144,304**	147,153
Total equity and liabilities	**1,510,445**	1,477,524

Diana Cesar *Executive Director and Chief Executive*
Clement K M Kwok *Director*

Andrew W L Leung *Chief Financial Officer*

55. Bank balance sheet and statement of changes in equity continued

Bank statement of changes in equity for the year ended 31 December

	Share capital	Other equity instruments	Retained profits[1]	Other reserves: Premises revaluation reserve	Other reserves: Financial assets at FVOCI reserve	Other reserves: Cash flow hedge reserve	Other reserves: Foreign exchange reserve	Other reserves: Others[2]	Total equity
At 1 January 2021	9,658	11,744	106,200	14,277	4,311	260	17	686	147,153
Profit for the year	–	–	10,488	–	–	–	–	–	10,488
Other comprehensive income (net of tax)	–	–	290	898	(1,940)	(214)	–	–	(966)
Debt instruments at fair value through other comprehensive income	–	–	–	–	(378)	–	–	–	(378)
Equity instruments designated at fair value through other comprehensive income	–	–	–	–	(1,560)	–	–	–	(1,560)
Cash flow hedges	–	–	–	–	–	(214)	–	–	(214)
Change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	–	–	–	–	–	–	–	–	–
Property revaluation	–	–	–	898	–	–	–	–	898
Actuarial gains on defined benefit plans	–	–	294	–	–	–	–	–	294
Exchange differences and others	–	–	(4)	–	(2)	–	–	–	(6)
Total comprehensive income for the year	–	–	10,778	898	(1,940)	(214)	–	–	9,522
Dividends paid[3]	–	–	(11,662)	–	–	–	–	–	(11,662)
Coupons paid on AT1 capital instruments	–	–	(703)	–	–	–	–	–	(703)
Movement in respect of share-based payment arrangements	–	–	3	–	–	–	–	(9)	(6)
Transfers	–	–	524	(524)	–	–	–	–	–
At 31 December 2021	9,658	11,744	105,140	14,651	2,371	46	17	677	144,304

1 Retained profits are the cumulative net earnings of the Bank that have not been paid out as dividends, but retained to be reinvested in the business. To satisfy the provisions of the Hong Kong Banking Ordinance and local regulatory requirements for prudential supervision purposes, the Bank has earmarked a 'regulatory reserve' from retained profits. Movements in the reserve are made directly through retained earnings. As at 31 December 2021, the effect of this requirement is to restrict the amount of reserves which can be distributed by the Bank to shareholders by HK$363m (2020: HK$1,332m).

2 Other reserves comprise share-based payment reserve and own credit risk reserve. The share-based payment reserve is used to record the amount relating to share awards and options granted to employees of the Group by the ultimate holding company. The own credit risk reserve is for the change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk.

3 Dividends paid in 2021 represented the payment of fourth interim dividend of 2020 and the first three interim dividends of 2021 amounted to HK$5,353m and HK$6,309m respectively.

55. Bank balance sheet and statement of changes in equity continued

Bank statement of changes in equity for the year ended 31 December continued

	Share capital	Other equity instruments	Retained profits[1]	Other reserves: Premises revaluation reserve	Other reserves: Financial assets at FVOCI reserve	Other reserves: Cash flow hedge reserve	Other reserves: Foreign exchange reserve	Other reserves: Others[2]	Total equity
At 1 January 2020	9,658	11,744	103,517	15,954	3,002	16	16	669	144,576
Profit for the year	–	–	15,632	–	–	–	–	–	15,632
Other comprehensive income (net of tax)	–	–	(8)	(1,127)	1,309	244	1	2	421
Debt instruments at fair value through other comprehensive income	–	–	–	–	208	–	–	–	208
Equity instruments designated at fair value through other comprehensive income	–	–	–	–	1,101	–	–	–	1,101
Cash flow hedges	–	–	–	–	–	244	–	–	244
Change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	–	–	–	–	–	–	–	2	2
Property revaluation	–	–	–	(1,127)	–	–	–	–	(1,127)
Actuarial losses on defined benefit plans	–	–	(8)	–	–	–	–	–	(8)
Exchange differences and others	–	–	–	–	–	–	1	–	1
Total comprehensive income for the year	–	–	15,624	(1,127)	1,309	244	1	2	16,053
Dividends paid	–	–	(12,808)	–	–	–	–	–	(12,808)
Coupons paid on AT1 capital instruments	–	–	(700)	–	–	–	–	–	(700)
Movement in respect of share-based payment arrangements	–	–	17	–	–	–	–	15	32
Transfers	–	–	550	(550)	–	–	–	–	–
At 31 December 2020	9,658	11,744	106,200	14,277	4,311	260	17	686	147,153

1 Retained profits are the cumulative net earnings of the Bank that have not been paid out as dividends, but retained to be reinvested in the business. To satisfy the provisions of the Hong Kong Banking Ordinance and local regulatory requirements for prudential supervision purposes, the Bank has earmarked a 'regulatory reserve' from retained profits. Movements in the reserve are made directly through retained earnings. As at 31 December 2021, the effect of this requirement is to restrict the amount of reserves which can be distributed by the Bank to shareholders by HK$363m (2020: HK$1,332m).

2 Other reserves comprise share-based payment reserve and own credit risk reserve. The share-based payment reserve is used to record the amount relating to share awards and options granted to employees of the Group by the ultimate holding company. The own credit risk reserve is for the change in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk.

55. Bank balance sheet and statement of changes in equity continued

Bank statement of changes in equity for the year ended 31 December continued

The Bank and its banking subsidiaries operate under regulatory jurisdictions which require the maintenance of minimum capital adequacy ratios and which could therefore potentially restrict the amount of realised profits which can be distributed to shareholders.

At 31 December 2021, the aggregate amount of reserves available for distribution to equity shareholders of the Bank as calculated under the provision of Part 6 of the Hong Kong Companies Ordinance (Cap. 622) amounted to HK$99,320m (2020: HK$99,841m). After considering regulatory capital requirement and business development needs, an amount of HK$3,441m (2020: HK$5,353m) has been declared as the proposed fourth interim dividend in respect of the financial year ended 31 December 2021. The difference between the aggregate distributable reserves of HK$99,320m and the Bank's retained profits of HK$105,140m as reported above mainly represents the exclusion of unrealised revaluation gain on investment properties and the regulatory reserve of the Bank.

56. Approval of financial statements

The financial statements were approved and authorised for issue by the Board of Directors on 22 February 2022.