Supplemental Listing Document

If you are in any doubt as to any aspect of this document, you should consult your stockbroker or other registered dealer in securities, bank manager, solicitor, accountant or other professional adviser.

Application has been made to the Singapore Exchange Securities Trading Limited (the "**SGX-ST**") for permission to deal in and for quotation of the Certificates (as defined below). The SGX-ST takes no responsibility for the contents of this document, makes no representation as to its accuracy or completeness and expressly disclaims any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this document. Admission to the Official List of the SGX-ST is not to be taken as an indication of the merits of SG Issuer, Société Générale, the Certificates, or the Company (as defined below).

A further 30,000,000 European Style Cash Settled Long Certificates relating to

the ordinary shares of Hong Kong Exchanges and Clearing Limited

with a Daily Leverage of 5x

issued by

SG Issuer

(Incorporated in Luxembourg with limited liability)

unconditionally and irrevocably guaranteed by

Société Générale

Issue Price: S$2.20 per Certificate

This document is published for the purpose of obtaining a listing of all the above certificates (the "**Certificates**") to be issued by SG Issuer (the "**Issuer**") unconditionally and irrevocably guaranteed by Société Générale (the "**Guarantor**"), and is supplemental to and should be read in conjunction with a base listing document dated 18 June 2021 including such further base listing documents as may be issued from time to time (the "**Base Listing Document**") for the purpose of giving information with regard to the Issuer, the Guarantor and the Certificates. Information relating to the Company (as defined below) is contained in this document.

The Certificates shall be consolidated and form a single series with an existing issue of 1,900,000 European Style Cash Settled Long Certificates relating to the ordinary shares of Hong Kong Exchanges and Clearing Limited (HKEx 5xLongSG240125 (DYYW)) issued by the Issuer and listed on the SGX-ST, in which dealings commenced on 29 January 2021 and details of which are contained in the Supplemental Listing Document dated 28 January 2021.

This document does not constitute or form part of any offer, or invitation, to subscribe for or to sell, or solicitation of any offer to subscribe for or to purchase, Certificates or other securities of the Issuer, nor is it calculated to invite, nor does it permit the making of, offers by the public to subscribe for or purchase for cash or other consideration the Certificates or other securities of the Issuer.

Restrictions have been imposed on offers and sales of the Certificates and on distributions of documents relating thereto in Singapore, Hong Kong, the European Economic Area, the United Kingdom and the United States (see "Placing and Sale" contained herein).

The Certificates are complex products. You should exercise caution in relation to them. Investors are warned that the price of the Certificates may fall in value as rapidly as it may rise and holders may sustain a total loss of their investment. The price of the Certificates also depends on the supply and demand for the Certificates in the market and the price at which the Certificates is trading at any time may differ from the underlying valuation of the Certificates because of market inefficiencies. It is not possible to predict the secondary market for the Certificates. Although the Issuer, the Guarantor and/or any of their affiliates may from time to time purchase the Certificates or sell additional Certificates on the market, the Issuer, the Guarantor and/or any of their affiliates are not obliged to do so. Investors should also note that there are leveraged risks because the Certificates integrate a leverage mechanism and the Certificates will amplify the movements in the increase, and in the decrease, of the value of the Underlying Stock (as defined below) and if the investment results in a loss, any such loss will be increased by the leverage factor of the Certificates. As such, investors could lose more than they would if they had invested directly in the Underlying Stock.

The Certificates are classified as capital markets products other than prescribed capital markets products[1] and Specified Investment Products (SIPs)[2], and may only be sold to retail investors with enhanced safeguards, including an assessment of such investors' investment knowledge or experience.

The Certificates constitute general unsecured obligations of the Issuer (in the case of any substitution of the Issuer in accordance with the Conditions of the Certificates, the Substituted Obligor as defined in the Conditions of the Certificates) and of no other person, and the guarantee dated 18 June 2021 (the "**Guarantee**") and entered into by the Guarantor constitutes direct unconditional unsecured senior preferred obligations of the Guarantor and of no other person, and if you purchase the Certificates, you are relying upon the creditworthiness of the Issuer and the Guarantor and have no rights under the Certificates against any other person.

Application has been made to the SGX-ST for permission to deal in and for quotation of the Certificates and the SGX-ST has agreed in principle to grant permission to deal in and for quotation of the Certificates. It is expected that dealings in the Certificates will commence on or about 27 April 2022.

As of the date hereof, the Guarantor's long term credit rating by S&P Global Ratings is A, and by Moody's Investors Service, Inc. is A1.

The Issuer is regulated by the Luxembourg Commission de Surveillance du Secteur Financier on a consolidated basis and the Guarantor is regulated by, *inter alia*, the Autorité des Marchés Financiers, the Autorité de Contrôle Prudentiel et de Résolution and the European Central Bank.

26 April 2022

[1] As defined in the Securities and Futures (Capital Markets Products) Regulations 2018.
[2] As defined in the MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products.

Subject as set out below, the Issuer and the Guarantor accept full responsibility for the accuracy of the information contained in this document and the Base Listing Document in relation to themselves and the Certificates. To the best of the knowledge and belief of the Issuer and the Guarantor (each of which has taken all reasonable care to ensure that such is the case), the information contained in this document and the Base Listing Document for which they accept responsibility (subject as set out below in respect of the information contained herein with regard to the Company) is in accordance with the facts and does not omit anything likely to affect the import of such information. The information with regard to the Company as set out herein is extracted from publicly available information. The Issuer and the Guarantor accept responsibility only for the accurate reproduction of such information. No further or other responsibility or liability in respect of such information is accepted by the Issuer and the Guarantor.

No person has been authorised to give any information or to make any representation other than those contained in this document in connection with the offering of the Certificates, and, if given or made, such information or representations must not be relied upon as having been authorised by the Issuer or the Guarantor. Neither the delivery of this document nor any sale made hereunder shall under any circumstances create any implication that there has been no change in the affairs of the Issuer, the Guarantor or their respective subsidiaries and associates since the date hereof.

This document does not constitute an offer or invitation by or on behalf of the Issuer or the Guarantor to purchase or subscribe for any of the Certificates. The distribution of this document and the offering of the Certificates may, in certain jurisdictions, be restricted by law. The Issuer and the Guarantor require persons into whose possession this document comes to inform themselves of and observe all such restrictions. In particular, the Certificates and the Guarantee have not been and will not be registered under the United States Securities Act of 1933, as amended or any state securities law, and trading in the Certificates has not been approved by the United States Commodity Futures Trading Commission (the "**CFTC**") under the United States Commodity Exchange Act of 1936, as amended and the Issuer will not be registered as an investment company under the United States Investment Company Act of 1940, as amended, and the rules and regulations thereunder. None of the Securities and Exchange Commission, any state securities commission or regulatory authority or any other United States, French or other regulatory authority has approved or disapproved of the Certificates or the Guarantee or passed upon the accuracy or adequacy of this document. Accordingly, Certificates, or interests therein, may not at any time be offered, sold, resold, traded, pledged, exercised, redeemed, transferred or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, nor may any U.S. person at any time trade, own, hold or maintain a position in the Certificates or any interests therein. In addition, in the absence of relief from the CFTC, offers, sales, re-sales, trades, pledges, exercises, redemptions, transfers or deliveries of Certificates, or interests therein, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, may constitute a violation of United States law governing commodities trading and commodity pools. Consequently, any offer, sale, resale, trade, pledge, exercise, redemption, transfer or delivery made, directly or indirectly, within the United States or to, or for the account or benefit of, a U.S. person will not be recognised. A further description of certain restrictions on offering and sale of the Certificates and distribution of this document is given in the section headed "Placing and Sale" contained herein.

The SGX-ST has made no assessment of, nor taken any responsibility for, the financial soundness of the Issuer or the Guarantor or the merits of investing in the Certificates, nor have they verified the accuracy or the truthfulness of statements made or opinions expressed in this document.

The Issuer, the Guarantor and/or any of their affiliates may repurchase Certificates at any time on or after the date of issue and any Certificates so repurchased may be offered from time to time in one or more transactions in the over-the-counter market or otherwise at prevailing market prices or in negotiated transactions, at the discretion of the Issuer, the Guarantor and/or any of their affiliates. Investors should not therefore make any assumption as to the number of Certificates in issue at any time.

References in this document to the "**Conditions**" shall mean references to the Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities contained in the Base Listing Document. Terms not defined herein shall have the meanings ascribed thereto in the Conditions.

Table of Contents

RISK FACTORS

The following are risk factors relating to the Certificates:

(a) investment in Certificates involves substantial risks including market risk, liquidity risk, and the risk that the Issuer and/or the Guarantor will be unable to satisfy its/their obligations under the Certificates. Investors should ensure that they understand the nature of all these risks before making a decision to invest in the Certificates. You should consider carefully whether Certificates are suitable for you in light of your experience, objectives, financial position and other relevant circumstances. Certificates are not suitable for inexperienced investors;

(b) the Certificates constitute general unsecured obligations of the Issuer (in the case of any substitution of the Issuer in accordance with the Conditions of the Certificates, the Substituted Obligor as defined in the Conditions of the Certificates) and of no other person, and the Guarantee constitutes direct unconditional unsecured senior preferred obligations of the Guarantor and of no other person. In particular, it should be noted that the Issuer issues a large number of financial instruments, including Certificates, on a global basis and, at any given time, the financial instruments outstanding may be substantial. If you purchase the Certificates, you are relying upon the creditworthiness of the Issuer and the Guarantor and have no rights under the Certificates against any other person;

(c) since the Certificates relate to the price of the Underlying Stock, certain events relating to the Underlying Stock may cause adverse movements in the value and the price of the Underlying Stock, as a result of which, the Certificate Holders (as defined in the Conditions of the Certificates) may, in extreme circumstances, sustain a significant loss of their investment if the price of the Underlying Stock has fallen sharply;

(d) due to their nature, the Certificates can be volatile instruments and may be subject to considerable fluctuations in value. The price of the Certificates may fall in value as rapidly as it may rise due to, including but not limited to, variations in the frequency and magnitude of the changes in the price of the Underlying Stock, the time remaining to expiry, the currency exchange rates and the creditworthiness of the Issuer and the Guarantor;

(e) if, whilst any of the Certificates remain unexercised, trading in the Underlying Stock is suspended or halted on the relevant stock exchange, trading in the Certificates may be suspended for a similar period;

(f) as indicated in the Conditions of the Certificates and herein, a Certificate Holder must tender a specified number of Certificates at any one time in order to exercise. Thus, Certificate Holders with fewer than the specified minimum number of Certificates in a particular series will either have to sell their Certificates or purchase additional Certificates, incurring transactions costs in each case, in order to realise their investment;

(g) investors should note that in the event of there being a Market Disruption Event (as defined in the Conditions) determination or payment of the Cash Settlement Amount (as defined in the Conditions) may be delayed, all as more fully described in the Conditions;

(h) certain events relating to the Underlying Stock require or, as the case may be, permit the Issuer to make certain adjustments or amendments to the Conditions. Investors may refer to the Conditions 4 and 6 on pages 32 to 36 and the examples and illustrations of adjustments set out in the "Information relating to the European Style Cash Settled Long Certificates on Single Equities" section of this document for more information;

(i) the Certificates are only exercisable on the Expiry Date and may not be exercised by Certificate Holders prior to such Expiry Date. Accordingly, if on the Expiry Date the Cash

Settlement Amount is zero, a Certificate Holder will lose the value of his investment;

(j) the total return on an investment in any Certificate may be affected by the Hedging Fee Factor (as defined below), Management Fee (as defined below) and Gap Premium (as defined below);

(k) investors holding their position overnight should note that they would be required to bear the annualised cost which consists of the Management Fee and Gap Premium, which are calculated daily and applied to the value of the Certificates, as well as certain costs embedded within the Leverage Strategy (as described below) including the Funding Cost (as defined below) and Rebalancing Cost (as defined below);

(l) investors should note that there may be an exchange rate risk relating to the Certificates where the Cash Settlement Amount is converted from a foreign currency into Singapore dollars.

Exchange rates between currencies are determined by forces of supply and demand in the foreign exchange markets. These forces are, in turn, affected by factors such as international balances of payments and other economic and financial conditions, government intervention in currency markets and currency trading speculation. Fluctuations in foreign exchange rates, foreign political and economic developments, and the imposition of exchange controls or other foreign governmental laws or restrictions applicable to such investments may affect the foreign currency market price and the exchange rate-adjusted equivalent price of the Certificates. Fluctuations in the exchange rate of any one currency may be offset by fluctuations in the exchange rate of other relevant currencies;

(m) investors should note that there are leveraged risks because the Certificates integrate a leverage mechanism and the Certificates will amplify the movements in the increase, and in the decrease, of the value of the Underlying Stock and if the investment results in a loss, any such loss will be increased by the leverage factor of the Certificates. As such, investors could lose more than they would if they had invested directly in the Underlying Stock;

(n) when held for longer than a day, the performance of the Certificates could be more or less than the leverage factor that is embedded within the Certificates. The performance of the Certificates each day is locked in, and any subsequent returns are based on what was achieved the previous day. This process, referred to as compounding, may lead to a performance difference from 5 times the performance of the Underlying Stock over a period longer than one day. This difference may be amplified in a volatile market with a sideway trend, where market movements are not clear in direction, whereby investors may sustain substantial losses;

(o) the Air Bag Mechanism (as defined below) is triggered only when the Underlying Stock is calculated or traded, which may not be during the trading hours of the Relevant Stock Exchange for the Certificates (as defined below);

(p) investors should note that the Air Bag Mechanism reduces the impact on the Leverage Strategy if the Underlying Stock falls further, but will also maintain a reduced exposure to the Underlying Stock in the event the Underlying Stock starts to rise after the Air Bag Mechanism is triggered, thereby reducing its ability to recoup losses;

(q) there is no assurance that the Air Bag Mechanism will prevent investors from losing the entire value of their investment, in the event of (i) an overnight fall in the Underlying Stock, where there is a 20% or greater gap between the previous day closing price and the opening price of the Underlying Stock the following day, as the Air Bag Mechanism will only be triggered when market opens the following day or (ii) a sharp intraday fall in the price of the Underlying Stock of 20% or greater within the 15 minutes Observation Period compared to the reference price, being: (1) if air bag has not been previously triggered on the same day, the previous closing price of the Underlying Stock, or (2) if one or more air bag have been previously triggered on the same day, the latest New Observed Price. Investors may refer to pages 52 to 53 of this document for more information;

(r) In the case of extreme market conditions or where the Air Bag Mechanisms are triggered simultaneously, trading in the Certificates may be suspended for an extended period, which may be up to an additional 15 minutes, to facilitate the intra-day adjustment under the Air Bag Mechanism;

(s) certain events may, pursuant to the terms and conditions of the Certificates, trigger (i) the implementation of methods of adjustment or (ii) the early termination of the Certificates. The Issuer will give the investors reasonable notice of any early termination. If the Issuer terminates the Certificates early, then the Issuer will, if and to the extent permitted by applicable law, pay an amount to each Certificate Holder in respect of each Certificate held by such holder equal to the fair market value of the Certificate less the cost to the Issuer of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its sole and absolute discretion. The performance of this commitment shall depend on (i) general market conditions and (ii) the liquidity conditions of the underlying instrument(s) and, as the case may be, of any other hedging transactions. Investors should note that the amount repaid by the Issuer may be less than the amount initially invested. Investors may refer to the Condition 13 on pages 38 to 40 of this document for more information;

(t) there is no assurance that an active trading market for the Certificates will sustain throughout the life of the Certificates, or if it does sustain, it may be due to market making on the part of the Designated Market Maker. The Issuer acting through its Designated Market Maker may be the only market participant buying and selling the Certificates. Therefore, the secondary market for the Certificates may be limited and you may not be able to realise the value of the Certificates. Do note that the bid-ask spread increases with illiquidity;

(u) in the ordinary course of their business, including without limitation, in connection with the Issuer or its appointed designated market maker's market making activities, the Issuer, the Guarantor and any of their respective subsidiaries and affiliates may effect transactions for their own account or for the account of their customers and hold long or short positions in the Underlying Stock. In addition, in connection with the offering of any Certificates, the Issuer, the Guarantor and any of their respective subsidiaries and affiliates may enter into one or more hedging transactions with respect to the Underlying Stock. In connection with such hedging or market-making activities or with respect to proprietary or other trading activities by the Issuer, the Guarantor and any of their respective subsidiaries and affiliates, the Issuer, the Guarantor and any of their respective subsidiaries and affiliates may enter into transactions in the Underlying Stock which may affect the market price, liquidity or value of the Certificates and which may affect the interests of Certificate Holders;

(v) various potential and actual conflicts of interest may arise from the overall activities of the Issuer, the Guarantor and/or any of their subsidiaries and affiliates.

The Issuer, the Guarantor and any of their subsidiaries and affiliates are diversified financial institutions with relationships in countries around the world. These entities engage in a wide range of commercial and investment banking, brokerage, funds management, hedging transactions and investment and other activities for their own account or the account of others. In addition, the Issuer, the Guarantor and any of their subsidiaries and affiliates, in connection with their other business activities, may possess or acquire material information about the Underlying Stock. Such activities and information may involve or otherwise affect issuers of the Underlying Stock in a manner that may cause consequences adverse to the Certificate Holders or otherwise create conflicts of interests in connection with the issue of Certificates by the Issuer. Such actions and conflicts may include, without limitation, the exercise of voting power, the purchase and sale of securities, financial advisory relationships and exercise of creditor rights. The Issuer, the Guarantor and any of their subsidiaries and affiliates have no obligation to disclose such information about the Underlying Stock or such activities. The Issuer, the Guarantor and any of their subsidiaries and affiliates and their officers and directors may engage in any such activities without regard to the issue of Certificates by the Issuer or the effect that such activities may directly or indirectly have on any Certificate;

(w) legal considerations which may restrict the possibility of certain investments:

Some investors' investment activities are subject to specific laws and regulations or laws and regulations currently being considered by various authorities. All potential investors must consult their own legal advisers to check whether and to what extent (i) they can legally purchase the Certificates (ii) the Certificates can be used as collateral security for various forms of borrowing (iii) if other restrictions apply to the purchase of Certificates or their use as collateral security. Financial institutions must consult their legal advisers or regulators to determine the appropriate treatment of the Certificates under any applicable risk-based capital or similar rules;

(x) the credit rating of the Guarantor is an assessment of its ability to pay obligations, including those on the Certificates. Consequently, actual or anticipated declines in the credit rating of the Guarantor may affect the market value of the Certificates;

(y) the Certificates are linked to the Underlying Stock and subject to the risk that the price of the Underlying Stock may decline. The following is a list of some of the significant risks associated with the Underlying Stock:

– Historical performance of the Underlying Stock does not give an indication of future performance of the Underlying Stock. It is impossible to predict whether the price of the Underlying Stock will fall or rise over the term of the Certificates; and

– The price of the Underlying Stock may be affected by the economic, financial and political events in one or more jurisdictions, including the stock exchange(s) or quotation system(s) on which the Underlying Stock may be traded;

(z) the value of the Certificates depends on the Leverage Strategy performance built in the Certificate. The Calculation Agent will make the Leverage Strategy last closing level and a calculation tool available to the investors on a website;

(aa) two or more risk factors may simultaneously have an effect on the value of a Certificate such that the effect of any individual risk factor may not be predicted. No assurance can be given as to the effect any combination of risk factors may have on the value of a Certificate;

(bb) as the Certificates are represented by a global warrant certificate which will be deposited with The Central Depository (Pte) Limited ("**CDP**"):

(i) investors should note that no definitive certificate will be issued in relation to the Certificates;

(ii) there will be no register of Certificate Holders and each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Certificates by way of interest (to the extent of such number) in the global warrant certificate in respect of those Certificates represented thereby shall be treated as the holder of such number of Certificates;

(iii) investors will need to rely on any statements received from their brokers/custodians as evidence of their interest in the Certificates; and

(iv) notices to such Certificate Holders will be published on the web-site of the SGX-ST. Investors will need to check the web-site of the SGX-ST regularly and/or rely on their brokers/custodians to obtain such notices;

(cc) the reform of HIBOR may adversely affect the value of the Certificates

The Hong Kong Inter-bank Offered Rate ("**HIBOR**") benchmark is referenced in the Leverage Strategy.

It is not possible to predict with certainty whether, and to what extent, HIBOR will continue to be supported going forwards. This may cause HIBOR to perform differently than they have done in the past, and may have other consequences which cannot be predicted. Such factors may have (without limitation) the following effects: (i) discouraging market participants from continuing to administer or contribute to a benchmark; (ii) triggering changes in the rules or methodologies used in the benchmark and/or (iii) leading to the disappearance of the benchmark. Any of the above changes or any other consequential changes as a result of international or national reforms or other initiatives or investigations, could have a material adverse effect on the value of and return on the Certificates.

In addition, the occurrence of a modification or cessation of HIBOR may cause adjustment of the Certificates which may include selecting one or more successor benchmarks and making related adjustments to the Certificates, including if applicable to reflect increased costs.

The Calculation Agent may make adjustments as it may determine appropriate if any of the following circumstances occurs or may occur: (1) HIBOR is materially changed or cancelled or (2)(i) the relevant authorisation, registration, recognition, endorsement, equivalence decision or approval in respect of the benchmark or the administrator or sponsor of the benchmark is not obtained, (ii) an application for authorisation, registration, recognition, endorsement, equivalence decision, approval or inclusion in any official register is rejected or (iii) any authorisation, registration, recognition, endorsement, equivalence decision or approval is suspended or inclusion in any official register is withdrawn.

Investors should consult their own independent advisers and make their own assessment about the potential risks imposed by any of the international or national reforms in making any investment decision with respect to any Certificate;

(dd) the US Foreign Account Tax Compliance Act ("**FATCA**") withholding risk:

FATCA generally imposes a 30 per cent. withholding tax on certain U.S.-source payments to certain non-US persons that do provide certification of their compliance with IRS rules to disclose the identity of their US owners and account holders (if any) or establish a basis for exemption for such disclosure. The Issuer or an investor's broker or custodian may be subject to FATCA and, as a result, may be required to obtain certification from investors that they have complied with FATCA disclosure requirements or have established a basis for exemption from FATCA. If an investor does not provide the Issuer or the relevant broker or custodian with such certification, the Issuer and the Guarantor or other withholding agent could be required to withhold U.S. tax on U.S.-source income (if any) paid pursuant to the

Certificates. In certain cases, the Issuer or the relevant broker or custodian could be required to close an account of an investor who does not comply with the FATCA certification procedures.

FATCA IS PARTICULARLY COMPLEX. EACH INVESTOR SHOULD CONSULT ITS OWN TAX ADVISER TO OBTAIN A MORE DETAILED EXPLANATION OF FATCA AND TO DETERMINE HOW THIS LEGISLATION MIGHT AFFECT EACH INVESTOR IN ITS PARTICULAR CIRCUMSTANCES;

(ee) U.S. withholding tax

The Issuer has determined that this Certificate is not linked to U.S. Underlying Equities within the meaning of applicable regulations under Section 871(m) of the United States Internal Revenue Code, as discussed in the accompanying Base Listing Document under "TAXATION—TAXATION IN THE UNITED STATES OF AMERICA—Section 871(m) of the U.S. Internal Revenue Code of 1986." Accordingly, the Issuer expects that Section 871(m) will not apply to the Certificates. Such determination is not binding on the IRS, and the IRS may disagree with this determination. Section 871(m) is complex and its application may depend on a Certificate Holder's particular circumstances. Certificate Holders should consult with their own tax advisers regarding the potential application of Section 871(m) to the Certificates; and

(ff) risk factors relating to the BRRD

French and Luxembourg law and European legislation regarding the resolution of financial institutions may require the write-down or conversion to equity of the Certificates or other resolution measures if the Issuer or the Guarantor is deemed to meet the conditions for resolution.

Directive 2014/59/EU of the European Parliament and of the Council of the European Union dated 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (the "**BRRD**") entered into force on 2 July 2014. The BRRD has been implemented into Luxembourg law by, among others, the Luxembourg act dated 18 December 2015 on the failure of credit institutions and certain investment firms, as amended (the "**BRR Act 2015**"). Under the BRR Act 2015, the competent authority is the Luxembourg financial sector supervisory authority (*Commission de surveillance du secteur financier*, the CSSF) and the resolution authority is the CSSF acting as resolution council (*conseil de résolution*).

Moreover, Regulation (EU) No. 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism ("**SRM**") and a Single Resolution Fund (the "**SRM Regulation**") has established a centralised power of resolution entrusted to a Single Resolution Board (the "**SRB**") in cooperation with the national resolution authorities.

Since November 2014, the European Central Bank ("**ECB**") has taken over the prudential supervision of significant credit institutions in the member states of the Eurozone under the Single Supervisory Mechanism ("**SSM**"). In addition, the SRM has been put in place to ensure that the resolution of credit institutions and certain investment firms across the Eurozone is harmonised. As mentioned above, the SRM is managed by the SRB. Under Article 5(1) of the SRM Regulation, the SRM has been granted those responsibilities and powers granted to the EU Member States' resolution authorities under the BRRD for those credit institutions and certain investment firms subject to direct supervision by the ECB. The ability of the SRB to exercise these powers came into force at the beginning of 2016.

Societe Generale has been designated as a significant supervised entity for the purposes of Article 49(1) of Regulation (EU) No 468/2014 of the ECB of 16 April 2014 establishing the framework for cooperation within the SSM between the ECB and national competent authorities and with national designated authorities (the "**SSM Regulation**") and is consequently subject to the direct supervision of the ECB in the context of the SSM. This means that Societe Generale and SG Issuer (being covered by the consolidated prudential supervision of Societe Generale) are also subject to the SRM which came into force in 2015. The SRM Regulation mirrors the BRRD and, to a large part, refers to the BRRD so that the SRB is able to apply the same powers that would otherwise be available to the relevant national resolution authority.

The stated aim of the BRRD and the SRM Regulation is to provide for the establishment of an EU-wide framework for the recovery and resolution of credit institutions and certain investment firms. The regime provided for by the BRRD is, among other things, stated to be needed to provide the resolution authority designated by each EU Member State (the "**Resolution Authority**") with a credible set of tools to intervene sufficiently early and quickly in an unsound or failing institution so as to ensure the continuity of the institution's critical financial and economic functions while minimising the impact of an institution's failure on the economy and financial system (including taxpayers' exposure to losses).

Under the SRM Regulation, a centralised power of resolution is established and entrusted to the SRB acting in cooperation with the national resolution authorities. In accordance with the provisions of the SRM Regulation, when applicable, the SRB, has replaced the national resolution authorities designated under the BRRD with respect to all aspects relating to the decision-making process and the national resolution authorities designated under the BRRD continue to carry out activities relating to the implementation of resolution schemes adopted by the SRB. The provisions relating to the cooperation between the SRB and the national resolution authorities for the preparation of the institutions' resolution plans have applied since 1 January 2015 and the SRM has been fully operational since 1 January 2016.

The SRB is the Resolution Authority for the Issuer and the Guarantor.

The powers provided to the Resolution Authority in the BRRD and the SRM Regulation include write-down/conversion powers to ensure that capital instruments (including subordinated debt instruments) and eligible liabilities (including senior debt instruments if junior instruments prove insufficient to absorb all losses) absorb losses of the issuing institution that is subject to resolution in accordance with a set order of priority (the "**Bail-in Power**"). The conditions for resolution under the SRM Regulation are deemed to be met when: (i) the Resolution Authority determines that the institution is failing or is likely to fail, (ii) there is no reasonable prospect that any measure other than a resolution measure would prevent the failure within a reasonable timeframe, and (iii) a resolution measure is necessary for the achievement of the resolution objectives (in particular, ensuring the continuity of critical functions, avoiding a significant adverse effect on the financial system, protecting public funds by minimizing reliance on extraordinary public financial support, and protecting client funds and assets) and winding up of the institution under normal insolvency proceedings would not meet those resolution objectives to the same extent.

The Resolution Authority could also, independently of a resolution measure or in combination with a resolution measure, fully or partially write-down or convert capital instruments (including subordinated debt instruments) into equity when it determines that the institution or its group will no longer be viable unless such write-down or conversion power is exercised or when the institution requires extraordinary public financial support (except when extraordinary public financial support is provided in Article 10 of the SRM Regulation). The terms and conditions of the Certificates contain provisions giving effect to the Bail-in Power in the context of resolution and write-down or conversion of capital instruments at the point of non-viability.

The Bail-in Power could result in the full (i.e., to zero) or partial write-down or conversion of the Certificates into ordinary shares or other instruments of ownership, or the variation of the terms of the Certificates (for example, the maturity and/or interest payable may be altered and/or a temporary suspension of payments may be ordered). Extraordinary public financial support should only be used as a last resort after having assessed and applied, to the maximum extent practicable, the resolution measures. No support will be available until a minimum amount of contribution to loss absorption and recapitalization of 8% of total liabilities including own funds has been made by shareholders, holders of capital instruments and other eligible liabilities through write-down, conversion or otherwise.

In addition to the Bail-in Power, the BRRD provides the Resolution Authority with broader powers to implement other resolution measures with respect to institutions that meet the conditions for resolution, which may include (without limitation) the sale of the institution's business, the creation of a bridge institution, the separation of assets, the replacement or substitution of the institution as obligor in respect of debt instruments, modifications to the terms of debt instruments (including altering the maturity and/or the amount of interest payable and/or imposing a temporary suspension on payments), removing management, appointing an interim administrator, and discontinuing the listing and admission to trading of financial instruments.

Before taking a resolution measure, including implementing the Bail-in Power, or exercising the power to write down or convert relevant capital instruments, the Resolution Authority must ensure that a fair, prudent and realistic valuation of the assets and liabilities of the institution is carried out by a person independent from any public authority.

The application of any measure under the BRRD and the SRM Regulation or any suggestion of such application with respect to the Issuer, the Guarantor or the Group could materially adversely affect the rights of Certificate Holders, the price or value of an investment in the Certificates and/or the ability of the Issuer or the Guarantor to satisfy its obligations under any Certificates, and as a result investors may lose their entire investment.

Moreover, if the Issuer's or the Guarantor's financial condition deteriorates, the existence of the Bail-in Power, the exercise of write-down/conversion powers or any other resolution tools by the Resolution Authority independently of a resolution measure or in combination with a resolution measure when it determines that the Issuer, the Guarantor or the Group will no longer be viable could cause the market price or value of the Certificates to decline more rapidly than would be the case in the absence of such powers.

Since 1 January 2016, EU credit institutions (such as Societe Generale) and certain investment firms have to meet, at all times, a minimum requirement for own funds and eligible liabilities ("**MREL**") pursuant to Article 12 of the SRM Regulation. The MREL, which is expressed as a percentage of the total liabilities and own funds of the institution, aims at preventing institutions from structuring their liabilities in a manner that impedes the effectiveness of the Bail-in Power in order to facilitate resolution.

The current regime will evolve as a result of the changes adopted by the EU legislators. On 7 June 2019, as part of the contemplated amendments to the so-called "EU Banking Package", the following legislative texts have been published in the Official Journal of the EU 14 May

2019:

- Directive (EU) 2019/879 of the European Parliament and of the Council of 20 May 2019 amending the BRRD as regards the loss-absorbing and recapitalisation capacity of credit institutions and investment firms (the "**BRRD II**"); and

- Regulation (EU) 2019/877 of the European Parliament and of the Council of 20 May 2019 amending the SRM Regulation as regards the loss-absorbing and recapitalisation capacity ("**TLAC**") of credit institutions and investment firms (the "**SRM II Regulation**" and, together with the BRRD II, the "**EU Banking Package Reforms**").

The EU Banking Package Reforms will introduce, among other things, the TLAC standard as implemented by the Financial Stability Board's TLAC Term Sheet ("**FSB TLAC Term Sheet**"), by adapting, among others, the existing regime relating to the specific MREL with aim of reducing risks in the banking sector and further reinforcing institutions' ability to withstand potential shocks will strengthen the banking union and reduce risks in the financial system.

The TLAC will be implemented in accordance with the FSB TLAC Term Sheet, which impose a level of "Minimum TLAC" that will be determined individually for each global systemically important bank ("**G-SIB**"), such as Societe Generale, in an amount at least equal to (i) 16%, plus applicable buffers, of risk weight assets through January 1, 2022 and 18%, plus applicable buffers, thereafter and (ii) 6% of the Basel III leverage ratio denominator through January 1, 2022 and 6.75% thereafter (each of which could be extended by additional firm-specific requirements).

According to Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms (the "**CRR**"), as amended by Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending the CRR as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements (the "**CRR II**"), EU G-SIBs, such as Societe Generale, will have to comply with TLAC requirements, on top of the MREL requirements, as from the entry into force of the CRR II. As such, G-SIBs, such as Societe Generale will have to comply at the same time with TLAC and MREL requirements.

Consequently, criteria for MREL-eligible liabilities will be closely aligned with those laid down in the CRR, as amended by the CRR II for the TLAC-eligible liabilities, but subject to the complementary adjustments and requirements introduced in the BRRD II. In particular, certain debt instruments with an embedded derivative component, such as certain structured notes, will be eligible, subject to certain conditions, to meet the MREL requirements to the extent that they have a fixed or increasing principal amount repayable at maturity that is known in advance while only an additional return is linked to that derivative component and depends on the performance of a reference asset.

The level of capital and eligible liabilities required under MREL will be set by the SRB for Societe Generale on an individual and/or consolidated basis based on certain criteria including systemic importance any may also be set for SG Issuer. Eligible liabilities may be senior or subordinated, provided, among other requirements, that they have a remaining maturity of at least one year and, if governed by non-EU law, they must be able to be written down or converted under that law (including through contractual provisions).

The scope of liabilities used to meet the MREL includes, in principle, all liabilities resulting from claims arising from ordinary unsecured creditors (non-subordinated liabilities) unless they do not meet specific eligibility criteria set out in the BRRD, as amended by the BRRD II. To enhance the resolvability of institutions and entities through an effective use of the bail-in tool, the SRB should be able to require that the MREL be met with own funds and other subordinated liabilities, in particular where there are clear indications that bailed-in creditors are likely to bear losses in resolution that would exceed the losses that they would incur under normal insolvency proceedings. Moreover the SRB should assess the need to require institutions and entities to meet the MREL with own funds and other subordinated liabilities where the amount of liabilities excluded from the application of the bail- in tool reaches a certain threshold within a class of liabilities that includes MREL-eligible liabilities. Any subordination of debt instruments requested by the SRB for the MREL shall be without prejudice to the possibility to partly meet the TLAC requirements with non-subordinated debt instruments in accordance with the CRR, as amended by the CRR II, as permitted by the TLAC standard. Specific requirements apply to resolution groups with assets above EUR 100 billion (top-tier banks).

If the SRB finds that there could exist any obstacles to resolvability by the Issuer or the Guarantor and/or the Group, a higher MREL requirement could be imposed. Any failure by the Issuer or the Guarantor, as applicable, and/or the Group to comply with its MREL may have a material adverse effect on the Issuer's business, financial conditions and results of operations.

TERMS AND CONDITIONS OF THE CERTIFICATES

The following are the terms and conditions of the Certificates and should be read in conjunction with, and are qualified by reference to, the other information set out in this document and the Base Listing Document.

The Conditions are set out in the section headed "Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities" in the Base Listing Document. For the purposes of the Conditions, the following terms shall have the following meanings:

Certificates:	A further 30,000,000 European Style Cash Settled Long Certificates relating to the ordinary shares of Hong Kong Exchanges and Clearing Limited (the "**Underlying Stock**") The Certificates shall be consolidated and form a single series with an existing issue of 1,900,000 European Style Cash Settled Long Certificates relating to the ordinary shares of Hong Kong Exchanges and Clearing Limited issued by the Issuer and listed on the SGX-ST, in which dealings commenced on 29 January 2021.
ISIN:	LU2184317126
Company:	Hong Kong Exchanges and Clearing Limited (RIC: 0388.HK)
Underlying Price[3] and Source:	HK$493.40 (Reuters)
Calculation Agent:	Société Générale
Strike Level:	Zero
Daily Leverage:	5x (within the Leverage Strategy as described below)
Notional Amount per Certificate:	SGD 2.20
Management Fee (p.a.)[4]:	0.40%
Gap Premium (p.a.)[5]:	4.60%, is a hedging cost against extreme market movements overnight.
Funding Cost[6]:	The annualised costs of funding, referencing a publicly published interbank offered rate plus spread.
Rebalancing Cost[6]:	The transaction costs (if applicable), computed as a function of leverage and daily performance of the Underlying Stock.

[3] These figures are calculated as at, and based on information available to the Issuer on 28 January 2021. The Issuer is not obliged, and undertakes no responsibility to any person, to update or inform any person of any changes to the figures after 28 January 2021.
[4] Please note that the Management Fee is calculated on a 360-day basis and may be increased up to a maximum of 3% p.a. on giving one month's notice to investors. Any increase in the Management Fee will be announced on the SGXNET. Please refer to "Fees and Charges" below for further details of the fees and charges payable and the maximum of such fees as well as other ongoing expenses that may be borne by the Certificates.
[5] Please note that the Gap Premium is calculated on a 360-day basis.
[6] These costs are embedded within the Leverage Strategy.

Launch Date:	22 April 2022
Closing Date:	26 April 2022
Expected Listing Date:	27 April 2022
Last Trading Date:	The date falling 5 Business Days immediately preceding the Expiry Date, currently being 18 January 2024
Expiry Date:	25 January 2024 (if the Expiry Date is not a Business Day, then the Expiry Date shall fall on the preceding Business Day and subject to adjustment of the Valuation Date upon the occurrence of Market Disruption Events as set out in the Conditions of the Certificates)
Board Lot:	100 Certificates
Valuation Date:	24 January 2024 or if such day is not an Exchange Business Day, the immediately preceding Exchange Business Day.
Exercise:	The Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in a Board Lot or integral multiples thereof. Certificate Holders shall not be required to deliver an exercise notice. Exercise of Certificates shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) of the Conditions. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.
Cash Settlement Amount:	In respect of each Certificate, shall be an amount payable in the Settlement Currency equal to: Closing Level multiplied by the Notional Amount per Certificate Please refer to the "Information relating to the European Style Cash Settled Long Certificates on Single Equities" section on pages 43 to 58 of this document for examples and illustrations of the calculation of the Cash Settlement Amount.
Hedging Fee Factor:	In respect of each Certificate, shall be an amount calculated as: Product (for t from 2 to Valuation Date) of (1 – Management Fee x (ACT (t-1;t) ÷ 360)) x (1 – Gap Premium (t-1) x (ACT (t-1;t) ÷ 360)),

where:

"**t**" refers to "**Observation Date**" which means each Underlying Stock Business Day (subject to Market Disruption Event) from (and including) the Underlying Stock Business Day immediately preceding 29 January 2021 to the Valuation Date; and

ACT (t-1;t) means the number of calendar days between the Underlying Stock Business Day immediately preceding the Observation Date (which is "t-1") (included) and the Observation Date (which is "t") (excluded).

If the Issuer determines, in its sole discretion, that on any Observation Date a Market Disruption Event has occurred, then that Observation Date shall be postponed until the first succeeding Underlying Stock Business Day on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the five Underlying Stock Business Days immediately following the original date that, but for the Market Disruption Event, would have been an Observation Date. In that case, that fifth Underlying Stock Business Day shall be deemed to be the Observation Date notwithstanding the Market Disruption Event and the Issuer shall determine, its good faith estimate of the level of the Leverage Strategy and the value of the Certificate on that fifth Underlying Stock Business Day in accordance with the formula for and method of calculation last in effect prior to the occurrence of the first Market Disruption Event taking into account, inter alia, the exchange traded or quoted price of the Underlying Stock and the potential increased cost of hedging by the Issuer as a result of the occurrence of the Market Disruption Event.

An "**Underlying Stock Business Day**" is a day on which The Stock Exchange of Hong Kong Limited (the "**HKEX**") is open for dealings in Hong Kong during its normal trading hours and banks are open for business in Hong Kong.

Please refer to the "Information relating to the European Style Cash Settled Long Certificates on Single Equities" section on pages 43 to 58 of this document for examples and illustrations of the calculation of the Hedging Fee Factor.

Closing Level: In respect of each Certificate, shall be an amount payable in the Settlement Currency equal to:

$$\left(\frac{\text{Final Reference Level} \times \text{Final Exchange Rate}}{\text{Initial Reference Level} \times \text{Initial Exchange Rate}} - \text{Strike Level}\right) \times \text{Hedging Fee Factor}$$

Initial Reference Level: 1,000

Final Reference Level: The closing level of the Leverage Strategy (as described below) on the Valuation Date

The calculation of the closing level of the Leverage Strategy is set out in the "Specific Definitions relating to the Leverage Strategy"

	section on pages 20 to 26 below.
Initial Exchange Rate[3]:	0.172
Final Exchange Rate:	The rate for the conversion of HKD to SGD as at 5:00pm (Singapore Time) on the Valuation Date as shown on Reuters, provided that if the Reuters service ceases to display such information, as determined by the Issuer by reference to such source(s) as the Issuer may reasonably determine to be appropriate at such a time.
Air Bag Mechanism:	The "**Air Bag Mechanism**" refers to the mechanism built in the Leverage Strategy and which is designed to reduce the Leverage Strategy exposure to the Underlying Stock during extreme market conditions. If the Underlying Stock falls by 15% or more ("**Air Bag Trigger Price**") during the trading day (which represents approximately 75% loss after a 5 times leverage), the Air Bag Mechanism is triggered and the Leverage Strategy is adjusted intra-day. The Air Bag Mechanism reduces the impact on the Leverage Strategy if the Underlying Stock falls further, but will also maintain a reduced exposure to the Underlying Stock in the event the Underlying Stock starts to rise after the Air Bag Mechanism is triggered, thereby reducing its ability to recoup losses. Trading of Certificates is suspended for at least 30 minutes after the Air Bag is triggered. The Leverage Strategy is floored at 0 and the Certificates cannot be valued below zero. Please refer to the "Extraordinary Strategy Adjustment for Performance Reasons ("Air Bag Mechanism")" section on pages 24 to 26 below and the "Description of Air Bag Mechanism" section on pages 49 to 51 of this document for further information of the Air Bag Mechanism.
Adjustments and Extraordinary Events:	The Issuer has the right to make adjustments to the terms of the Certificates if certain events, including any capitalisation issue, rights issue, extraordinary distributions, merger, delisting, insolvency (as more specifically set out in the terms and conditions of the Certificates) occur in respect of the Underlying Stock. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
Underlying Stock Currency:	Hong Kong Dollar ("**HKD**")
Settlement Currency:	Singapore Dollar ("**SGD**")
Exercise Expenses:	Certificate Holders will be required to pay all charges which are incurred in respect of the exercise of the Certificates.
Relevant Stock Exchange for the Certificates:	The SGX-ST

Relevant Stock Exchange for the Underlying Stock:	HKEX
Business Day and Exchange Business Day:	A "**Business Day**" is a day on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore. An "**Exchange Business Day**" is a day on which the SGX-ST and the HKEX are open for dealings in Singapore and Hong Kong respectively during its normal trading hours and banks are open for business in Singapore and Hong Kong.
Warrant Agent:	The Central Depository (Pte) Limited ("**CDP**")
Clearing System:	CDP
Fees and Charges:	Normal transaction and brokerage fees shall apply to the trading of the Certificates on the SGX-ST. Investors should note that they may be required to pay stamp taxes or other documentary charges in accordance with the laws and practices of the country where the Certificates are transferred. Investors who are in any doubt as to their tax position should consult their own independent tax advisers. In addition, investors should be aware that tax regulations and their application by the relevant taxation authorities change from time to time. Accordingly, it is not possible to predict the precise tax treatment which will apply at any given time. Investors holding position overnight would also be required to bear the Management Fee and Gap Premium, which are calculated daily and applied to the value of the Certificates, as well as certain costs embedded within the Leverage Strategy including the Funding Cost and Rebalancing Cost. The Management Fee may be increased up to a maximum of 3% p.a. on giving one month's notice to investors in accordance with the terms and conditions of the Certificates. Any increase in the Management Fee will be announced on the SGXNET.
Further Information:	Please refer to the website at dlc.socgen.com for more information on the theoretical closing price of the Certificates on the previous trading day, the closing price of the Underlying Stock on the previous trading day, the Air Bag Trigger Price for each trading day and the Management Fee and Gap Premium.

Specific Definitions relating to the Leverage Strategy

Description of the Leverage Strategy

The Leverage Strategy is designed to track a 5 times daily leveraged exposure to the Underlying Stock.

At the end of each trading day of the Underlying Stock, the exposure of the Leverage Strategy to the Underlying Stock is reset within the Leverage Strategy in order to retain a daily leverage of 5 times the performance of the Underlying Stock (excluding costs) regardless of the performance of the Underlying Stock on the preceding day. This mechanism is referred to as the Daily Reset.

The Leverage Strategy incorporates an air bag mechanism which is designed to reduce exposure to the Underlying Stock during extreme market conditions, as further described below.

Leverage Strategy Formula

$\mathbf{LSL_t}$	means, for any Observation Date(t), the Leverage Strategy Closing Level as of such day (t). Subject to the occurrence of an Intraday Restrike Event, the Leverage Strategy Closing Level as of such Observation Date(t) is calculated in accordance with the following formulae: On Observation Date(1): $\mathrm{LSL_1} = 1000$ On each subsequent Observation Date(t): $\mathrm{LSL_t} = \mathrm{Max}\left[\mathrm{LSL_{t-1}} \times \left(1 + \mathrm{LR_{t-1,t}} - \mathrm{FC_{t-1,t}} - \mathrm{RC_{t-1,t}}\right), 0\right]$
$\mathbf{LR_{t-1,t}}$	means the Leveraged Return of the Underlying Stock between Observation Date(t-1) and Observation Date(t) closing prices, calculated as follows: $\mathrm{LR_{t-1,t}} = \mathrm{Leverage} \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right)$
$\mathbf{FC_{t-1,t}}$	means, the Funding Cost between Observation Date(t-1) (included) and Observation Date(t) (excluded) calculated as follows : $\mathrm{FC_{t-1,t}} = (\mathrm{Leverage} - 1) \times \frac{\mathrm{Rate_{t-1}} \times \mathrm{ACT(t-1,t)}}{\mathrm{DayCountBasisRate}}$
$\mathbf{RC_{t-1,t}}$	means the Rebalancing Cost of the Leverage Strategy on Observation Date (t), calculated as follows : $\mathrm{RC_{t-1,t}} = \mathrm{Leverage} \times (\mathrm{Leverage} - 1) \times \left(\left\lvert\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right\rvert\right) \times \mathrm{TC}$
TC	means the Transaction Costs applicable (including Stamp Duty and any other applicable taxes, levies and costs which may be levied on the stock transactions on the Relevant Stock Exchange for the Underlying Stock by the applicable regulatory authorities from time to time) that are currently equal to: 0.13% "Stamp Duty" refers to the applicable rate of stamp duty on the stock transactions in the jurisdiction of the Relevant Stock Exchange for the Underlying Stock, which may be changed by the applicable regulatory authorities from time to time.
Leverage	5
$\mathbf{S_t}$	means, in respect of each Observation Date(t), the Closing Price of the

Underlying Stock as of such Observation Date(t), subject to the adjustments and provisions of the Conditions.

$\mathbf{Rate_t}$	means, in respect of each Observation Date(t), a rate calculated as of such day in accordance with the following formula: $\mathrm{Rate_t} = \mathrm{CashRate_t} + \%\mathrm{SpreadLevel_t}$
$\mathbf{Rfactor_t}$	means, in the event Observation Date (t) is an ex-dividend date of the Underlying Stock, an amount determined by the Calculation Agent, subject to the adjustments and provisions of the Conditions, according to the following formula : $$Rfactor_t = 1 - \frac{Div_t}{\mathbf{S_{t-1}}}$$ where Div_t is the dividend to be paid out in respect of the Underlying Stock and the relevant ex-dividend date which shall be considered net of any applicable withholding taxes.
$\mathbf{CashRate_t}$	means, in respect of each Observation Date(t), the Overnight HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKDOND= or any successor page, being the rate as of day (t), provided that if any of such rate is not available, then that rate shall be determined by reference to the latest available rate that was published on the relevant Reuters page.
$\%\mathbf{SpreadLevel_t}$	means, in respect of each Observation Date(t), a rate which shall be determined with respect to such Valuation Date(t) by the Calculation Agent as the difference between (1) the 12-month HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKD1YD= and (2) Overnight HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKDOND= or any successor page, each being the rate as of day (t), provided that if any of such rates is not available, then that rate shall be determined by reference to the latest available rate that was published on the relevant Reuters page. Provided that if such difference is negative, $\%\mathbf{SpreadLevel_t}$ should be 0%.
ACT(t-1,t)	ACT (t-1;t) means the number of calendar days between the Underlying Stock Business Day immediately preceding the Observation Date (which is “t-1”) (included) and the Observation Date (which is “t”) (excluded).
DayCountBasisRate	365
Benchmark Fallback	upon the occurrence or likely occurrence, as determined by the Calculation Agent, of a Reference Rate Event, the Calculation Agent may make adjustments as it may determine appropriate to account for the relevant event or circumstance, including but not limited to using any alternative rates from such date, with or without retroactive effect as the Calculation Agent may in its sole and absolute discretion determine.

Reference Rate Event means, in respect of the Reference Rate any of the following has occurred or will occur:

(i) a Reference Rate Cessation;

(ii) an Administrator/Benchmark Event; or

(iii) a Reference Rate is, with respect to over-the-counter derivatives transactions which reference such Reference Rate, the subject of any market-wide development formally agreed upon by the International Swaps and Derivative Association (ISDA) or the Asia Securities Industry & Financial Markets Association (ASIFMA), pursuant to which such Reference Rate is, on a specified date, replaced with a risk-free rate (or near risk-free rate) established in order to comply with the recommendations in the Financial Stability Board's paper titled "Reforming Major Interest Rate Benchmarks" dated 22 July 2014.

Reference Rate Cessation means, for a Reference Rate, the occurrence of one or more of the following events:

(i) a public statement or publication of information by or on behalf of the administrator of the Reference Rate announcing that it has ceased or will cease to provide the Reference Rate permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the Reference Rate;

(ii) a public statement or publication of information by the regulatory supervisor for the administrator of the Reference Rate, the central bank for the currency of the Reference Rate, an insolvency official with jurisdiction over the administrator for the Reference Rate, a resolution authority with jurisdiction over the administrator for the Reference Rate or a court or an entity with similar insolvency or resolution authority over the administrator for the Reference Rate, which states that the administrator of the Reference Rate has ceased or will cease to provide the Reference Rate permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the Reference Rate; or

(iii) in respect of a Reference Rate, a public statement or publication of information by the regulatory supervisor for the administrator of such Reference Rate announcing that (a) the regulatory supervisor has determined that such Reference Rate is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such Reference Rate is intended to measure and that representativeness will not be restored and (b) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts;

Administrator/ Benchmark Event means, for a Reference Rate, any authorisation, registration, recognition, endorsement, equivalence decision, approval or inclusion in any official register in respect of the Reference Rate or the administrator or sponsor of the Benchmark has not been, or will not be, obtained or has been, or will be, rejected, refused, suspended or withdrawn by the relevant competent authority or other relevant official body, in each case with the effect that either the Issuer, the Calculation Agent or any other entity is not, or will not be, permitted under any applicable law or regulation to use the Reference Rate to perform its or their respective obligations under the Certificates.

Reference Rate(s) means the rate(s) used in the Leverage Strategy Formula, for example SORA, SOFR and US Federal Funds Effective Rate.

Extraordinary Strategy Adjustment for Performance Reasons ("Air Bag Mechanism")

Extraordinary Strategy Adjustment for Performance Reasons

If the Calculation Agent determines that an Intraday Restrike Event has occurred during an Observation Date(t) (the **Intraday Restrike Date,** noted hereafter **IRD**), an adjustment (an **Extraordinary Strategy Adjustment for Performance Reasons**) shall take place during such Observation Date(t) in accordance with the following provisions.

(1) Provided the last Intraday Restrike Observation Period as of such Intraday Restrike Date does not end on the TimeReferenceClosing, the Leverage Strategy Closing Level on the Intraday Restrike Date ($\mathrm{LSL_{IRD}}$) should be computed as follows :

$$\mathrm{LSL_{IRD}} = \mathrm{Max}\left[\mathrm{ILSL_{IR(n)}} \times \left(1 + \mathrm{ILR_{IR(n),IR(C)}} - \mathrm{IRC_{IR(n),IR(C)}}\right), 0\right]$$

(2) If the last Intraday Restrike Event Observation Period on the relevant Intraday Restrike Date ends on the TimeReferenceClosing:

$$\mathrm{LSL_{IRD}} = \mathrm{Max}\left[\mathrm{ILSL_{IR(n)}}, 0\right]$$

$\mathbf{ILSL_{IR(k)}}$ means, in respect of IR(k), the Intraday Leverage Strategy Level in accordance with the following provisions :

(1) for k = 1 :

$$\mathrm{ILSL_{IR(1)}} = \mathrm{Max}\left[\mathrm{LSL_{IRD-1}} \times \left(1 + \mathrm{ILR_{IR(0),IR(1)}} - \mathrm{FC_{IRD-1,IRD}} - \mathrm{IRC_{IR(0),IR(1)}}\right), 0\right]$$

(2) for k > 1 :

$$\mathrm{ILSL_{IR(k)}} = \mathrm{Max}\left[\mathrm{ILSL_{IR(k-1)}} \times \left(1 + \mathrm{ILR_{IR(k-1),IR(k)}} - \mathrm{IRC_{IR(k-1),IR(k)}}\right), 0\right]$$

$\mathbf{ILR_{IR(k-1),IR(k)}}$ means the Intraday Leveraged Return between IR(k-1) and IR(k), calculated as follows :

$$\mathrm{ILR_{IR(k-1),IR(k)}} = \mathrm{Leverage} \times \left(\frac{\mathrm{IS_{IR(k)}}}{\mathrm{IS_{IR(k-1)}}} - 1\right)$$

$\mathbf{IRC_{IR(k-1),IR(k)}}$ means the Intraday Rebalancing Cost of the Leverage Strategy in respect of IR(k) on a given Intraday Restrike Date, calculated as follows :

$$\mathrm{IRC_{IR(k-1),IR(k)}} = \mathrm{Leverage} \times (\mathrm{Leverage} - 1) \times \left(\left|\frac{\mathrm{IS_{IR(k)}}}{\mathrm{IS_{IR(k-1)}}} - 1\right|\right) \times \mathrm{TC}$$

$\mathbf{IS_{IR(k)}}$ means the Underlying Stock Price in respect of IR(k) computed as follows :

(1) for k=0

$$\mathrm{IS_{IR(0)}} = \mathrm{S_{IRD-1}} \times \mathrm{Rfactor_{IRD}}$$

(2) for k=1 to n

means in respect of IR(k), the lowest price of the Underlying Stock during the respective Intraday Restrike Observation Period

(3) with respect to IR(C)

$IS_{IR(C)} = S_{IRD}$

In each case, subject to the adjustments and provisions of the Conditions.

IR(k)	For k=0, means the scheduled close for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on the Observation Date immediately preceding the relevant Intraday Restrike Date; For k=1 to n, means the k^{th} Intraday Restrike Event on the relevant Intraday Restrike Date.
IR(C)	means the scheduled close for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on the relevant Intraday Restrike Date.
n	means the number of Intraday Restrike Events that occurred on the relevant Intraday Restrike Date.
Intraday Restrike Event	means in respect of an Observation Date(t): (1) provided no Intraday Restrike Event has previously occurred on such Observation Date (t), the decrease at any Calculation Time of the Underlying Stock price by 15% or more compared with the relevant Underlying Stock Price $\mathbf{IS_{IR(0)}}$ as of such Calculation Time. (2) if k Intraday Restrike Events have occurred on the relevant Intraday Restrike Date, the decrease at any Calculation Time of the Underlying Stock price by 15% or more compared with the relevant Underlying Stock Price $\mathbf{IS_{IR(k)}}$ as of such Calculation Time.
Calculation Time	means any time between the TimeReferenceOpening and the TimeReferenceClosing, provided that the relevant data is available to enable the Calculation Agent to determine the Leverage Strategy Level.
TimeReferenceOpening	means the scheduled opening time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto).
TimeReferenceClosing	means the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto).
Intraday Restrike Event Observation Period	means in respect of an Intraday Restrike Event, the period starting on and excluding the Intraday Restrike Event Time and finishing on and including the sooner between (1) the time falling 15 minutes after the Intraday Restrike Event Time and (2) the TimeReferenceClosing. Where, during such period, the Calculation Agent determines that (1) the trading in the Underlying Stock is disrupted or subject to suspension or limitation or (2) the Relevant Stock Exchange for the Underlying Stock is not

open for continuous trading, the Intraday Restrike Event Observation Period will be extended to the extent necessary until (1) the trading in the Underlying Stock is no longer disrupted, suspended or limited and (2) the Relevant Stock Exchange for the Underlying Stock is open for continuous trading.

Intraday Restrike Event Time means in respect of an Intraday Restrike Event, the Calculation Time on which such event occurs.

The Conditions set out in the section headed "Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities" in the Base Listing Document are set out below. This section is qualified in its entirety by reference to the detailed information appearing elsewhere in this document which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions set out below, replace or modify the relevant Conditions for the purpose of the Certificates.

TERMS AND CONDITIONS OF

THE EUROPEAN STYLE CASH SETTLED LONG/SHORT CERTIFICATES ON SINGLE EQUITIES

1. Form, Status and Guarantee, Transfer and Title

(a) *Form*. The Certificates (which expression shall, unless the context otherwise requires, include any further certificates issued pursuant to Condition 11) are issued subject to and with the benefit of:-

(i) a master instrument by way of deed poll (the "**Master Instrument**") dated 18 June 2021, made by SG Issuer (the "**Issuer**") and Société Générale (the "**Guarantor**"); and

(ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time before or on the Closing Date, made between the Issuer and the Warrant Agent for the Certificates.

Copies of the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The holders of the Certificates (the "**Certificate Holders**") are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

(b) *Status and Guarantee*. The Certificates constitute direct, general and unsecured obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Certificates provide for cash settlement on exercise. The Certificates do not entitle Certificate Holders to the delivery of any Underlying Stock, are not secured by the Underlying Stock and do not entitle Certificate Holders to any interest in any Underlying Stock.

The due and punctual payment of any amounts due by the Issuer in respect of the Certificates issued by the Issuer is unconditionally and irrevocably guaranteed by the Guarantor as provided in the Guarantee (each such amount payable under the Guarantee, a "**Guarantee Obligation**").

The Guarantee Obligations will constitute direct, unconditional, unsecured and unsubordinated obligations of the Guarantor ranking as senior preferred obligations as provided for in Article L. 613-30-3 I 3° of the French Code *Monétaire et Financier* (the "**Code**").

Such Guarantee Obligations rank and will rank equally and rateably without any preference or priority among themselves and:

(i) *pari passu* with all other direct, unconditional, unsecured and unsubordinated obligations of the Guarantor outstanding as of the date of the entry into force of the law no. 2016-1691 (the "**Law**") on 11 December 2016;

(ii) *pari passu* with all other present or future direct, unconditional, unsecured and senior preferred obligations (as provided for in Article L. 613-30-3 I 3° of the Code) of the Guarantor issued after the date of the entry into force of the Law on 11 December 2016;

(iii) junior to all present or future claims of the Guarantor benefiting from the statutorily preferred exceptions; and

(iv) senior to all present and future senior non-preferred obligations (as provided for in Article L.613-30-3 I 4° of the Code) of the Guarantor.

In the event of the failure of the Issuer to promptly perform its obligations to any Certificate Holder under the terms of the Certificates, such Certificate Holder may, but is not obliged to, give written notice to the Guarantor at Société Générale, Tour Société Générale, 75886 Paris Cedex 18, France marked for the attention of SEGL/JUR/OMF - Market Transactions & Financing.

(c) Transfer. The Certificates are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Certificates in definitive form will not be issued. Transfers of Certificates may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Certificates, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.

(d) *Title*. Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Certificates shall be treated by the Issuer, the Guarantor and the Warrant Agent as the holder and absolute owner of such number of Certificates, notwithstanding any notice to the contrary. The expression "**Certificate Holder**" shall be construed accordingly.

(e) *Bail-In*. By the acquisition of Certificates, each Certificate Holder (which, for the purposes of this Condition, includes any current or future holder of a beneficial interest in the Certificates) acknowledges, accepts, consents and agrees:

(i) to be bound by the effect of the exercise of the Bail-In Power (as defined below) by the Relevant Resolution Authority (as defined below) on the Issuer's liabilities under the Certificates, which may include and result in any of the following, or some combination thereof:

(A) the reduction of all, or a portion, of the Amounts Due (as defined below), on a permanent basis;

(B) the conversion of all, or a portion, of the Amounts Due into shares, other securities or other obligations of the Issuer or the Guarantor or another person (and the issue to the Certificate Holder of such shares, securities or obligations), including by means of an amendment, modification or variation of the Conditions of the Certificates, in which case the Certificate Holder agrees to accept in lieu of its rights under the Certificates any such shares, other securities or other obligations of the Issuer or the Guarantor or another person;

(C) the cancellation of the Certificates; and/or

(D) the amendment or alteration of the expiration of the Certificates or amendment of the amounts payable on the Certificates, or the date on which the amounts become payable, including by suspending payment for a temporary period; and

that terms of the Certificates are subject to, and may be varied, if necessary, to give effect to the exercise of the Bail-In Power by the Relevant Resolution Authority or the regulator,

(the "**Statutory Bail-In**");

(ii) if the Relevant Resolution Authority exercises its Bail-In Power on liabilities of the Guarantor, pursuant to Article L.613-30-3-I-3 of the French Monetary and Financial Code (the "**M&F Code**"):

(A) ranking:

(1) junior to liabilities of the Guarantor benefitting from statutorily preferred exceptions pursuant to Article L.613-30-3-I 1° and 2 of the M&F Code;

(2) *pari passu* with liabilities of the Guarantor as defined in Article L.613-30-3-I-3 of the M&F Code; and

(3) senior to liabilities of the Guarantor as defined in Article L.613-30-3-I-4 of the M&F Code; and

(B) which are not *titres non structurés* as defined under Article R.613-28 of the M&F Code, and

(C) which are not or are no longer eligible to be taken into account for the purposes of the MREL (as defined below) ratio of the Guarantor

and such exercise of the Bail-In Power results in the write-down or cancellation of all, or a portion of, the principal amount of, or the outstanding amount payable in respect of, and/or interest on, such liabilities, and/or the conversion of all, or a portion, of the principal amount of, or the outstanding amount payable in respect of, or interest on, such liabilities into shares or other securities or other obligations of the Guarantor or another person, including by means of variation to their terms and conditions in order to give effect to such exercise of Bail-In Power, then the Issuer's obligations under the Certificates will be limited to (i) payment of the amount as reduced or cancelled that would be recoverable by the Certificate Holders and/or (ii) the delivery or the payment of value of the shares or other securities or other obligations of the Guarantor or another person that would be paid or delivered to the Certificate Holders as if, in either case, the Certificates had been directly issued by the Guarantor itself, and as if any Amount Due under the Certificates had accordingly been directly subject to the exercise of the Bail-In Power (the "**Contractual Bail-in**").

No repayment or payment of the Amounts Due will become due and payable or be paid after the exercise of the Statutory Bail-In with respect to the Issuer or the Guarantor unless, at the time such repayment or payment, respectively, is scheduled to become due, such repayment or payment would be permitted to be made by the

Issuer or the Guarantor under the applicable laws and regulations in effect in France or Luxembourg and the European Union applicable to the Issuer or the Guarantor or other members of its group.

No repayment or payment of the Amounts Due will become due and payable or be paid under the Certificates issued by SG Issuer after implementation of the Contractual Bail-in.

Upon the exercise of the Statutory Bail-in or upon implementation of the Contractual Bail-in with respect to the Certificates, the Issuer or the Guarantor will provide a written notice to the Certificate Holders in accordance with Condition 9 as soon as practicable regarding such exercise of the Statutory Bail-in or implementation of the Contractual Bail-in. Any delay or failure by the Issuer or the Guarantor to give notice shall not affect the validity and enforceability of the Statutory Bail-in or Contractual Bail-in nor the effects on the Certificates described above.

Neither a cancellation of the Certificates, a reduction, in part or in full, of the Amounts Due, the conversion thereof into another security or obligation of the Issuer or the Guarantor or another person, as a result of the exercise of the Statutory Bail-in or the implementation of the Contractual Bail-in with respect to the Certificates will be an event of default or otherwise constitute non-performance of a contractual obligation, or entitle the Certificate Holder to any remedies (including equitable remedies) which are hereby expressly waived.

The matters set forth in this Condition shall be exhaustive on the foregoing matters to the exclusion of any other agreements, arrangements or understandings between the Issuer, the Guarantor and each Certificate Holder. No expenses necessary for the procedures under this Condition, including, but not limited to, those incurred by the Issuer and the Guarantor, shall be borne by any Certificate Holder.

For the purposes of this Condition:

"**Amounts Due**" means any amounts due by the Issuer under the Certificates.

"**Bail-In Power**" means any statutory cancellation, write-down and/or conversion power existing from time to time under any laws, regulations, rules or requirements relating to the resolution of banks, banking group companies, credit institutions and/or investment firms, including but not limited to any such laws, regulations, rules or requirements that are implemented, adopted or enacted within the context of a European Union directive or regulation of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms, or any other applicable laws or regulations, as amended, or otherwise, pursuant to which obligations of a bank, banking group company, credit institution or investment firm or any of its affiliates can be reduced, cancelled and/or converted into shares or other securities or obligations of the obligor or any other person.

"**MREL**" means the Minimum Requirement for own funds and Eligible Liabilities as defined in Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (as amended from time to time).

"**Relevant Resolution Authority**" means any authority with the ability to exercise the Bail-in Power on Societe Generale or SG Issuer as the case may be.

2. Certificate Rights and Exercise Expenses

(a) *Certificate Rights*. Every Certificate entitles each Certificate Holder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to the Closing Level multiplied by the Notional Amount per Certificate.

The "**Closing Level**", in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to:

$$\left(\frac{\text{Final Reference Level} \times \text{Final Exchange Rate}}{\text{Initial Reference Level} \times \text{Initial Exchange Rate}} - \text{Strike Level}\right) \times \text{Hedging Fee Factor}$$

If the Issuer determines, in its sole discretion, that on the Valuation Date or any Observation Date a Market Disruption Event has occurred, then that Valuation Date or Observation Date shall be postponed until the first succeeding Exchange Business Day or Underlying Stock Business Day, as the case may be, on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the five Exchange Business Days or Underlying Stock Business Days, as the case may be, immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date or an Observation Date. In that case:-

(i) that fifth Exchange Business Day or Underlying Stock Business Day, as the case may be, shall be deemed to be the Valuation Date or the Observation Date notwithstanding the Market Disruption Event; and

(ii) the Issuer shall determine the Final Reference Level or the relevant closing level on the basis of its good faith estimate of the Final Reference Level or the relevant closing level that would have prevailed on that fifth Exchange Business Day or Underlying Stock Business Day, as the case may be, but for the Market Disruption Event.

"**Market Disruption Event"** means the occurrence or existence of (i) any suspension of trading on the Relevant Stock Exchange of the Underlying Stock requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Underlying Stock if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or a disruption to trading on the Relevant Stock Exchange if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism.

(b) *Exercise Expenses*. Certificate Holders will be required to pay all charges which are incurred in respect of the exercise of the Certificates (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Certificate Holders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the

Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Certificate Holders in accordance with Condition 4.

(c) No Rights. The purchase of Certificates does not confer on the Certificate Holders any right (whether in respect of voting, dividend or other distributions in respect of the Underlying Stock or otherwise) which the holder of an Underlying Stock may have.

3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Certificates shall be deemed to expire at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

4. Exercise of Certificates

(a) *Exercise*. Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).

(b) *Automatic Exercise*. Certificate Holders shall not be required to deliver an exercise notice. Exercise of Certificates shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.

(c) *Settlement*. In respect of Certificates which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the relevant Certificate Holder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be despatched as soon as practicable and no later than five Business Days following the Expiry Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Certificate Holder only (or, in the case of joint Certificate Holders, the first-named Certificate Holder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Certificate Holder and posted to the Certificate Holder's address appearing in the records maintained by CDP (or, in the case of joint Certificate Holders, to the address of the first-named Certificate Holder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

(d) *CDP not liable*. CDP shall not be liable to any Certificate Holder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Certificates or otherwise pursuant to or in connection with these Conditions.

(e) *Business Day*. In these Conditions, a "**Business Day**" shall be a day on which the

SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

5. Warrant Agent

(a) *Warrant Agent*. The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Certificates are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Certificate Holders in accordance with Condition 9.

(b) *Agent of Issuer*. The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Certificate Holders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Certificate Holders.

6. Adjustments

(a) *Potential Adjustment Event*. Following the declaration by a Company of the terms of any Potential Adjustment Event (as defined below), the Issuer will determine whether such Potential Adjustment Event has a dilutive or concentrative or other effect on the theoretical value of the Underlying Stock and, if so, will (i) make the corresponding adjustment, if any, to any one or more of the Conditions as the Issuer determines appropriate to account for that dilutive or concentrative or other effect, and (ii) determine the effective date of that adjustment. The Issuer may, but need not, determine the appropriate adjustment by reference to the adjustment in respect of such Potential Adjustment Event made by an exchange on which options or futures contracts on the Underlying Stock are traded.

(b) *Definitions*. "**Potential Adjustment Event**" means any of the following:

(i) a subdivision, consolidation, reclassification or other restructuring of the Underlying Stock (excluding a Merger Event) or a free distribution or dividend of any such Underlying Stock to existing holders by way of bonus, capitalisation or similar issue;

(ii) a distribution or dividend to existing holders of the Underlying Stock of (1) such Underlying Stock, or (2) other share capital or securities granting the right to payment of dividends and/or the proceeds of liquidation of the Company equally or proportionately with such payments to holders of such Underlying Stock, or (3) share capital or other securities of another issuer acquired by the Company as a result of a "spin-off" or other similar transaction, or (4) any other type of securities, rights or warrants or other assets, in any case for payment (in cash or otherwise) at less than the prevailing market price as determined by the Issuer;

(iii) an extraordinary dividend;

(iv) a call by the Company in respect of the Underlying Stock that is not fully paid;

(v) a repurchase by the Company of the Underlying Stock whether out of profits or capital and whether the consideration for such repurchase is cash, securities or otherwise;

(vi) with respect to a Company an event that results in any shareholder rights pursuant to a shareholder rights agreement or other plan or arrangement of the type commonly referred to as a "poison pill" being distributed, or becoming separated from shares of common stock or other shares of the capital stock of such Company (provided that any adjustment effected as a result of such an event shall be readjusted upon any redemption of such rights); or

(vii) any other event that may have, in the opinion of the Issuer, a dilutive or concentrative or other effect on the theoretical value of the Underlying Stock.

(c) *Merger Event, Tender Offer, Nationalisation and Insolvency*. If a Merger Event, Tender Offer, Nationalisation or Insolvency occurs in relation to the Underlying Stock, the Issuer may take any action described below:

(i) determine the appropriate adjustment, if any, to be made to any one or more of the Conditions to account for the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, and determine the effective date of that adjustment. The Issuer may, but need not, determine the appropriate adjustment by reference to the adjustment in respect of the Merger Event, Tender Offer, Nationalisation or Insolvency made by an options exchange to options on the Underlying Stock traded on that options exchange;

(ii) cancel the Certificates by giving notice to the Certificate Holders in accordance with Condition 9. If the Certificates are so cancelled, the Issuer will pay an amount to each Certificate Holder in respect of each Certificate held by such Certificate Holder which amount shall be the fair market value of a Certificate taking into account the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, less the cost to the Issuer and/or any of its affiliates of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its reasonable discretion. Payment will be made in such manner as shall be notified to the Certificate Holders in accordance with Condition 9; or

(iii) following any adjustment to the settlement terms of options on the Underlying Stock on such exchange(s) or trading system(s) or quotation system(s) as the Issuer in its reasonable discretion shall select (the "**Option Reference Source**") make a corresponding adjustment to any one or more of the Conditions, which adjustment will be effective as of the date determined by the Issuer to be the effective date of the corresponding adjustment made by the Option Reference Source. If options on the Underlying Stock are not traded on the Option Reference Source, the Issuer will make such adjustment, if any, to any one or more of the Conditions as the Issuer determines appropriate, with reference to the rules and precedents (if any) set by the Option Reference Source, to account for the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, that in the determination of the Issuer would have given rise to an adjustment by the Option Reference Source if such options were so traded.

Once the Issuer determines that its proposed course of action in connection with a

Merger Event, Tender Offer, Nationalisation or Insolvency, it shall give notice to the Certificate Holders in accordance with Condition 9 stating the occurrence of the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, giving details thereof and the action proposed to be taken in relation thereto. Certificate Holders should be aware that due to the nature of such events, the Issuer will not make an immediate determination of its proposed course of action or adjustment upon the announcement or occurrence of a Merger Event, Tender Offer, Nationalisation or Insolvency.

(d) *Definitions*. "**Insolvency**" means that by reason of the voluntary or involuntary liquidation, bankruptcy, insolvency, dissolution or winding-up of or any analogous proceeding affecting a Company (i) all the Underlying Stock of that Company is required to be transferred to a trustee, liquidator or other similar official or (ii) holders of the Underlying Stock of that Company become legally prohibited from transferring them. "**Merger Date**" means the closing date of a Merger Event or, where a closing date cannot be determined under the local law applicable to such Merger Event, such other date as determined by the Issuer. "**Merger Event**" means, in respect of the Underlying Stock, any (i) reclassification or change of such Underlying Stock that results in a transfer of or an irrevocable commitment to transfer all of such Underlying Stock outstanding to another entity or person, (ii) consolidation, amalgamation, merger or binding share exchange of a Company with or into another entity or person (other than a consolidation, amalgamation, merger or binding share exchange in which such Company is the continuing entity and which does not result in reclassification or change of all of such Underlying Stock outstanding), (iii) takeover offer, exchange offer, solicitation, proposal or other event by any entity or person to purchase or otherwise obtain 100 per cent. of the outstanding Underlying Stock of the Company that results in a transfer of or an irrevocable commitment to transfer all such Underlying Stock (other than such Underlying Stock owned or controlled by such other entity or person), or (iv) consolidation, amalgamation, merger or binding share exchange of the Company or its subsidiaries with or into another entity in which the Company is the continuing entity and which does not result in a reclassification or change of all such Underlying Stock outstanding but results in the outstanding Underlying Stock (other than Underlying Stock owned or controlled by such other entity) immediately prior to such event collectively representing less than 50 per cent. of the outstanding Underlying Stock immediately following such event, in each case if the Merger Date is on or before the Valuation Date. "**Nationalisation**" means that all the Underlying Stock or all or substantially all of the assets of a Company are nationalised, expropriated or are otherwise required to be transferred to any governmental agency, authority, entity or instrumentality thereof. "**Tender Offer**" means a takeover offer, tender offer, exchange offer, solicitation, proposal or other event by any entity or person that results in such entity or person purchasing, or otherwise obtaining or having the right to obtain, by conversion or other means, greater than 10 per cent. and less than 100 per cent. of the outstanding voting shares of the Company, as determined by the Issuer, based upon the making of filings with governmental or self-regulatory agencies or such other information as the Issuer deems relevant.

(e) *Other Adjustments*. Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events occur which it believes in its sole discretion (and notwithstanding any prior adjustment made pursuant to the above) should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

(f) *Notice of Adjustments*. All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Certificate Holders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

7. Purchases

The Issuer, the Guarantor or any of their respective subsidiaries may at any time purchase Certificates at any price in the open market or by tender or by private treaty. Any Certificates so purchased may be held or resold or surrendered for cancellation.

8. Meetings of Certificate Holders; Modification

(a) *Meetings of Certificate Holders*. The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Certificate Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Certificates or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Certificate Holders.

Such a meeting may be convened by the Issuer or by Certificate Holders holding not less than ten per cent. of the Certificates for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Certificates for the time being remaining unexercised, or at any adjourned meeting, two or more persons being or representing Certificate Holders whatever the number of Certificates so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Certificate Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Certificate Holders shall be binding on all the Certificate Holders whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

(b) *Modification*. The Issuer may, without the consent of the Certificate Holders, effect (i) any modification of the provisions of the Certificates or the Master Instrument which is not materially prejudicial to the interests of the Certificate Holders or (ii) any modification of the provisions of the Certificates or the Master Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Certificate Holders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

9. Notices

(a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Certificate Holder or to which a Certificate Holder is entitled or which the Issuer shall have agreed to deliver to a Certificate Holder may be delivered by hand or sent by post addressed to the Certificate Holder at his address appearing in the records maintained by CDP or, in the case of joint Certificate Holders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Certificate Holder.

(b) *Notices.* All notices to Certificate Holders will be validly given if published in English on the web-site of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the web-site of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Certificate, give notice of the date of expiry of such Certificate in the manner prescribed above.

10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Certificates will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Certificate Holders, to create and issue further certificates so as to form a single series with the Certificates, subject to the approval of the SGX-ST.

12. Delisting

(a) Delisting. If at any time, the Underlying Stock ceases to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Certificates as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Certificate Holders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Certificate Holder or the tax or other consequences that may result in any particular jurisdiction).

(b) Issuer's Determination. The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Certificate Holders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Certificate Holders in accordance with Condition 9 as soon as practicable after they are determined.

13. Early Termination

(a) *Early Termination for Illegality and Force Majeure, etc.* If the Issuer determines that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control, the performance of its obligations under the Certificates has become illegal or impractical in whole or in part for any reason, or the Issuer determines that, for reasons beyond its control, it is no longer legal or practical for it to maintain its hedging arrangements with respect to the Certificates for any reason, the Issuer may in its discretion and without obligation terminate the Certificates early in accordance with Condition 13(d).

Should any one or more of the provisions contained in the Conditions be or become invalid, the validity of the remaining provisions shall not in any way be affected thereby.

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or Société Générale as Guarantor or in any other capacity (including without limitation as hedging counterparty of the Issuer, market maker of the Certificates or direct or indirect shareholder or sponsor of the Issuer) or any of its affiliates involved in the issuer of the Certificates (hereafter the "**Relevant Affiliates**" and each of the Issuer, Société Générale and the Relevant Affiliates, a "**Relevant Entity**") that, after the Certificates have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Certificates or hedging the Issuer's obligations under the Certificates, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Certificates, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Certificates, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Certificates or to hedge the Issuer's obligations under the Certificates, (c) to perform obligations in connection with, the Certificates or any contractual arrangement entered into between the Issuer and Société Générale or any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Certificates) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Certificates.

"**Change in law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Certificates have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Certificates have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Certificates are issued, or the change in the interpretation or application or practice relating thereto, existing when the Certificates are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Certificates are issued).

(b) *Early Termination for Holding Limit Event*. The Issuer may in its discretion and without obligation terminate the Certificates early in accordance with Condition 13(d) where a Holding Limit Event (as defined below) occurs.

For the purposes of this Condition:

"**Holding Limit Event**" means, assuming the investor is the Issuer and/or any of its affiliates, the Issuer together with its affiliates, in aggregate hold, an interest in the Underlying Stock, constituting or likely to constitute (directly or indirectly) ownership, control or the power to vote a percentage of any class of voting securities of the Underlying Stock, of the Underlying Stock in excess of a percentage permitted or advisable, as determined by the Issuer, for the purpose of its compliance with the Bank Holding Company Act of 1956 as amended by Section 619 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Volcker Rule), including any requests, regulations, rules, guidelines or directives made by the relevant governmental authority under, or issued by the relevant governmental authority in connection with, such statutes.

(c) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Certificates in accordance with Condition 13(d) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such termination provided that such termination (i) is considered by the Issuer not to be materially prejudicial to the interests of Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such termination in any particular jurisdiction); or (ii) is otherwise considered by the Issuer to be appropriate and such termination is approved by the SGX-ST.

(d) *Termination*. If the Issuer terminates the Certificates early, then the Issuer will give notice to the Certificate Holders in accordance with Condition 9. The Issuer will, if and to the extent permitted by applicable law, pay an amount to each Certificate Holder in respect of each Certificate held by such holder equal to the fair market value of a Certificate notwithstanding such illegality, impracticality or the relevant event less the cost to the Issuer of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its sole and absolute discretion. Payment will be made in such manner as shall be notified to the Certificate Holders in accordance with Condition 9.

14. Substitution of the Issuer

The Issuer may be replaced by the Guarantor or any subsidiary of the Guarantor as principal obligor in respect of the Certificates without the consent of the relevant Certificate Holders. If the Issuer determines that it shall be replaced by the Guarantor or any subsidiary of the Guarantor (the "**Substituted Obligor**"), it shall give at least 90 days' notice (exclusive of the day on which the notice is given and of the day on which the substitution is effected) specifying the date of the substitution, in accordance with Condition 9, to the Certificate Holders of such event and, immediately on the expiry of such notice, the Substituted Obligor shall become the principal obligor in place of the Issuer and the Certificate Holders shall thereupon cease to have any rights or claims whatsoever against the Issuer.

Upon any such substitution, all references to the Issuer in the Conditions and all agreements relating to the Certificates will be to the Substituted Obligor and the Certificates will be modified as required, and the Certificate Holders will be notified of the modified terms and conditions of such Certificates in accordance with Condition 9.

For the purposes of this Condition, it is expressly agreed that by subscribing to, acquiring or otherwise purchasing or holding the Certificates, the Certificate Holders are expressly deemed to have consented to the substitution of the Issuer by the Substituted Obligor and to the release of the Issuer from any and all obligations in respect of the Certificates and all agreements relating thereto and are expressly deemed to have accepted such substitution and the consequences thereof.

15. Governing Law

The Certificates, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and the Guarantor and each Certificate Holder (by its purchase of the Certificates) shall be deemed to have submitted for all purposes in connection with the Certificates, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore. The Guarantee shall be governed by and construed in accordance with Singapore law.

16. Prescription

Claims against the Issuer for payment of any amount in respect of the Certificates will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Certificates shall be forfeited and shall revert to the Issuer.

17. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore

Unless otherwise provided in the Global Warrant, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

SUMMARY OF THE ISSUE

The following is a summary of the issue and should be read in conjunction with, and is qualified by reference to, the other information set out in this document and the Base Listing Document. Terms used in this Summary are defined in the Conditions.

Issuer:	SG Issuer
Company:	Hong Kong Exchanges and Clearing Limited
The Certificates:	European Style Cash Settled Long Certificates relating to the Underlying Stock
Number:	A further 30,000,000 Certificates The Certificates shall be consolidated and form a single series with an existing issue of 1,900,000 European Style Cash Settled Long Certificates relating to the ordinary shares of Hong Kong Exchanges and Clearing Limited issued by the Issuer and listed on the SGX-ST, in which dealings commenced on 29 January 2021.
Form:	The Certificates will be issued subject to, and with the benefit of, a master instrument by way of deed poll dated 18 June 2021 (the "**Master Instrument**") and executed by the Issuer and the Guarantor and a master warrant agent agreement dated 29 May 2017 (the "**Master Warrant Agent Agreement**") and made between the Issuer, the Guarantor and the Warrant Agent.
Cash Settlement Amount:	In respect of each Certificate, is the amount (if positive) equal to: Notional Amount per Certificate x Closing Level
Denominations:	Certificates are represented by a global warrant in respect of all the Certificates.
Exercise:	The Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in a Board Lot or integral multiples thereof. Certificate Holders will not be required to deliver an exercise notice. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates will be deemed to have been automatically exercised at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) of the Conditions. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.

Exercise and Trading Currency:	SGD
Board Lot:	100 Certificates
Transfers of Certificates:	Certificates may only be transferred in Board Lots (or integral multiples thereof). All transfers in Certificates, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records of CDP.
Listing:	Application has been made to the SGX-ST for permission to deal in and for quotation of the Certificates and the SGX-ST has agreed in principle to grant permission to deal in and for quotation of the Certificates. Issue of the Certificates is conditional on such listing being granted. It is expected that dealings in the Certificates on the SGX-ST will commence on or about 27 April 2022.
Governing Law:	The laws of Singapore
Warrant Agent:	The Central Depository (Pte) Limited 11 North Buona Vista Drive #06-07 The Metropolis Tower 2 Singapore 138589
Further Issues:	Further issues which will form a single series with the Certificates will be permitted, subject to the approval of the SGX-ST.

The above summary is qualified in its entirety by reference to the detailed information appearing elsewhere in this document and the Base Listing Document.

INFORMATION RELATING TO THE EUROPEAN STYLE CASH SETTLED LONG CERTIFICATES ON SINGLE EQUITIES

What are European Style Cash Settled Long Certificates on Single Equities?

European style cash settled long certificates on single equities (the "**Certificates**") are structured products relating to the Underlying Stock and the return on a Certificate is linked to the performance of the Leverage Strategy.

A) Cash Settlement Amount Payable upon the Exercise of the Certificates at Expiry

Upon the exercise of the Certificates at expiry, the Certificate Holders would be paid a Cash Settlement Amount in respect of each Certificate.

The Cash Settlement Amount, in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to the Closing Level multiplied by the Notional Amount per Certificate.

The Closing Level, in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to (1) divided by (2) less (3) subject to any adjustments such as (4), where:

(1) is the Final Reference Level multiplied by the Final Exchange Rate;

(2) is the Initial Reference Level multiplied by the Initial Exchange Rate;

(3) is the Strike Level; and

(4) is the Hedging Fee Factor.

If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised and investors will receive a Cash Settlement Amount. If the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired. Please refer to the section headed "Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities" for further details on the calculation of the Cash Settlement Amount.

The Certificates are only suitable for investors who believe that the price of the Underlying Stock will increase and are seeking short-term leveraged exposure to the Underlying Stock.

B) Trading the Certificates before Expiry

If the Certificate Holders want to cash out their investments in the Certificates before the expiry of the Certificates, they may sell the Certificates in the secondary market during the life of the Certificates, and would be subject to the following fees and charges:

(i) <u>For Certificate Holders who trade the Certificates intraday</u>: shall pay normal transaction and brokerage fees for the trading of the Certificates on the SGX-ST, and may be required to pay stamp taxes or other documentary charges in accordance with the laws and practices of the country where the Certificates are transferred; and

(ii) <u>For Certificate Holders who hold the Certificates overnight</u>: in addition to the normal transaction and brokerage fees and applicable stamp taxes, would also be required to bear the Management Fee and Gap Premium as well as certain costs embedded within the Leverage Strategy including the Funding Cost and Rebalancing Cost.

Illustration of the Calculation of Hedging Fee Factor

Hedging Fee Factor	=	Product of the Daily Fees

Daily Fees	=	**Daily Management Fee Adjustment** 1 – Management Fee x ACT (t-1;t) / 360 x **Daily Gap Premium Adjustment** 1 – Gap Premium (t-1) x ACT (t-1;t) / 360

Illustration of the Calculation of Cash Settlement Amount

Cash Settlement Amount = Final Value of Certificates – Strike Level (zero)

		t[7]=0		t=1		t=2		t=i
Value of Certificates	=	Notional Amount	x	Leverage Strategy daily performance[8] x Daily Fees	x	Leverage Strategy daily performance x Daily Fees	x …	Leverage Strategy Daily performance x Daily Fees

Value of Certificates	=	t=0 Notional Amount	x	**Product of the daily Leverage Strategy Performance** Leverage Strategy daily performance x Leverage Strategy daily performance	x	**Product of the Daily Fees (Hedging Fee Factor)** Daily Fees x Daily Fees

Final Value of Certificates	=	t=0 Notional Amount	x	Final Reference Level x Final Exchange Rate ÷ Initial Reference Level x Initial Exchange Rate	x	Hedging Fee Factor

Illustration of the applicable fees and charges for an intraday trading scenario

Hedging Fee is implemented overnight in the price of the Certificate. As a consequence, when trading intraday, investors will not bear any Hedging Fee.

Investors will only support bid/ask costs, which are the difference between the price at which the Designated Market Maker purchases (bid) and sells (ask) the Certificate at any point of time.

[7] "t" refers to "**Observation Date**" which means each Underlying Stock Business Day (subject to Market Disruption Event) from (and including) the Underlying Stock Business Day immediately preceding the Expected Listing Date to the Valuation Date.
[8] Leverage Strategy daily performance is computed as the Leverage Strategy Closing Level on Business Day (t) divided by the Leverage Strategy Closing Level on Business Day (t-1).

Example of Calculation of Hedging Fee Factor and Cash Settlement Amount

The example is purely hypothetical. We include the example to illustrate how the Certificates work, and you MUST NOT rely on them as any indication of the actual return or what the payout on the Certificates might actually be. The example also assumes a product which expires 16 days after listing date, to illustrate the daily calculation of price, costs and fees from listing date to expiry date.

Assuming an investor purchases the following Certificates at the Issue Price:

Underlying Stock:	Ordinary shares of Hong Kong Exchanges and Clearing Limited
Expected Listing Date:	**03/07/2018**
Expiry Date:	**18/07/2018**
Initial Reference Level:	**1,000**
Initial Exchange Rate:	**1**
Final Reference Level:	**1,200**
Final Exchange Rate:	**1**
Issue Price:	**2.20 SGD**
Notional Amount per Certificate:	**2.20 SGD**
Management Fee (p.a.):	**0.40%**
Gap Premium (p.a.):	**4.60%**
Strike Level:	Zero

Hedging Fee Factor

Hedging Fee Factor on the n^{th} Underlying Stock Business Day after issuance of Certificate ("HFF (n)") is calculated as follows:

HFF(0) = 100%

On Next Calendar Day (assuming it is an Underlying Stock Business Day):

$$\mathrm{HFF}\ (1)\ =\ \mathrm{HFF}\ (0)\ \times\left(1-\ \mathrm{Management\ Fee}\ \times\frac{\mathrm{ACT}\ (\mathrm{t}-1;\mathrm{t})}{360}\right)\times\left(1-\ \mathrm{Gap\ Premium}\ \times\frac{\mathrm{ACT}\ (\mathrm{t}-1;\mathrm{t})}{360}\right)$$

$$\mathrm{HFF}\ (1)=\ 100\%\ \times\left(1-\ 0.40\%\ \times\frac{1}{360}\right)\times\left(1-\ 4.60\%\ \times\frac{1}{360}\right)$$

$$\mathrm{HFF}\ (1)=\ 100\%\ \times\ 99.9989\%\ \times\ 99.9872\%\ \approx\ 99.9861\%$$

Assuming 2^{nd} Underlying Stock Business Day falls 3 Calendar Days after 1^{st} Underlying Stock

Business Day:

$$\text{HFF}\ (2) = \text{HFF}\ (1) \times \left(1 - \text{Management Fee} \times \frac{\text{ACT}\ (t-1;t)}{360}\right) \times \left(1 - \text{Gap Premium} \times \frac{\text{ACT}\ (t-1;t)}{360}\right)$$

$$\text{HFF}\ (2) = 99.9861\% \times \left(1 - 0.40\% \times \frac{3}{360}\right) \times \left(1 - 4.60\% \times \frac{3}{360}\right)$$

$$\text{HFF}\ (2) = 99.9861\% \times 99.9967\% \times 99.9617\% \approx 99.9445\%$$

The same principle applies to the following Underlying Stock Business Days:

$$\text{HFF}\ (n) = \text{HFF}\ (n-1) \times \left(1 - \text{Management Fee} \times \frac{\text{ACT}\ (t-1;t)}{360}\right) \times \left(1 - \text{Gap Premium} \times \frac{\text{ACT}\ (t-1;t)}{360}\right)$$

In this example, the Hedging Fee Factor as of the Valuation Date would be equal to 99.7919% as illustrated below:

Date	HFF
3/7/2018	100.0000%
4/7/2018	99.9861%
5/7/2018	99.9722%
6/7/2018	99.9583%
9/7/2018	99.9167%
10/7/2018	99.9028%
11/7/2018	99.8889%
12/7/2018	99.8751%
13/7/2018	99.8612%
16/7/2018	99.8196%
17/7/2018	99.8057%
18/7/2018	99.7919%

Cash Settlement Amount

In this example, the Closing Level and the Cash Settlement Amount would be computed as follows:

Closing Level = [(Final Reference Level x Final Exchange Rate) / (Initial Reference Level x Initial Exchange Rate) – Strike Level] x Hedging Fee Factor

= [(1200 x 1) / (1000 x 1) – 0] x 99.7919%

= 119.75%

Cash Settlement Amount = Closing Level x Notional Amount per Certificate

= 119.75% x 2.20 SGD

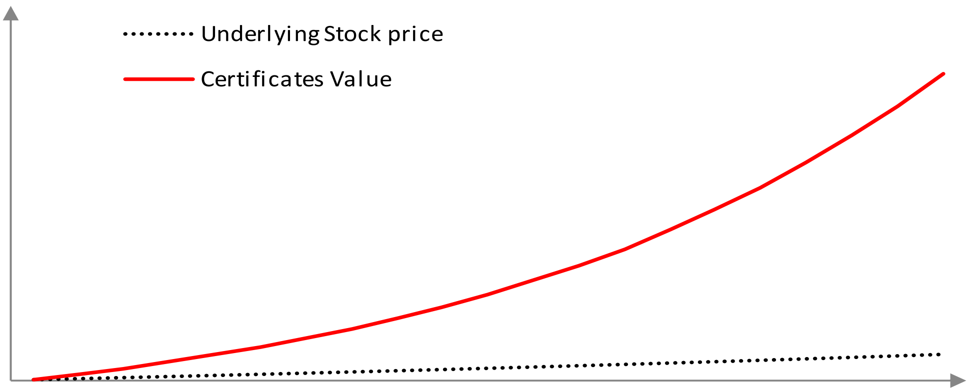
= 2.635 SGD

Illustration on how returns and losses can occur under different scenarios

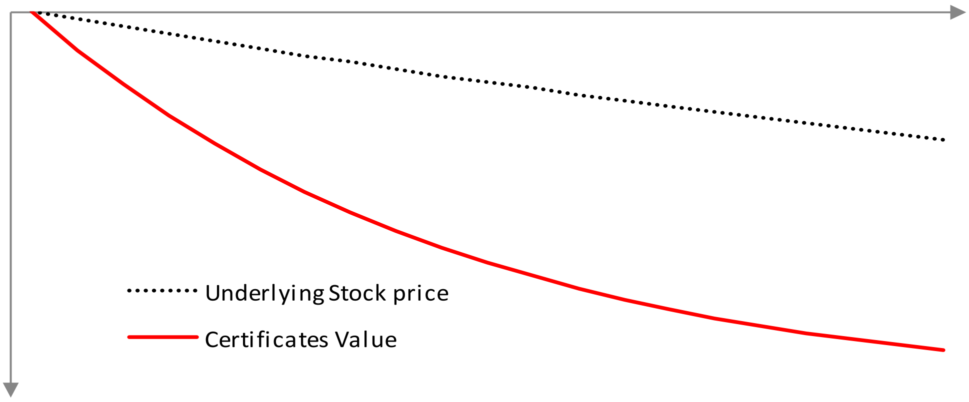
The examples are purely hypothetical and do not take fees and charges payable by investors into consideration. The examples highlight the effect of the Underlying Stock performance on the value of the Certificates and do not take into account the possible influence of fees, exchange rates, dividends, or any other market parameters.

1. Illustrative examples

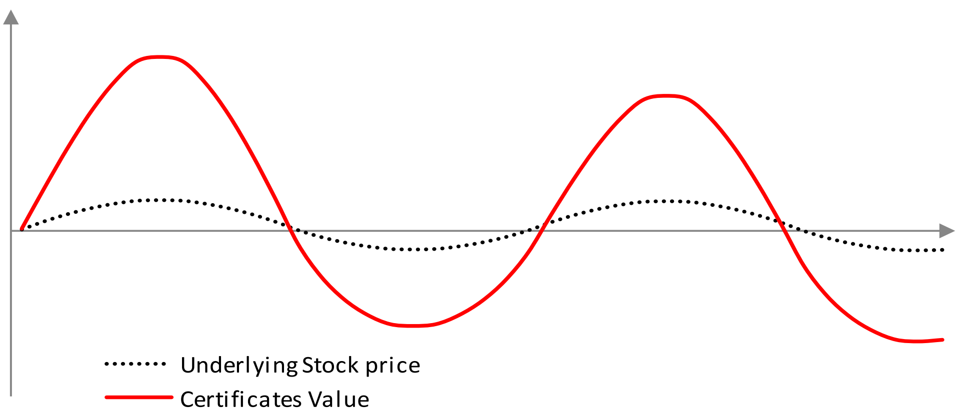
Scenario 1 – Upward Trend



Scenario 2 – Downward Trend



Scenario 3 – Volatile Market



2. Numerical Examples

Scenario 1 – Upward Trend

Underlying Stock						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		2.0%	2.0%	2.0%	2.0%	2.0%
Value at end of day	10,000.0	10,200.0	10,404.0	10,612.1	10,824.3	11,040.8
Accumulated Return		2.00%	4.04%	6.12%	8.24%	10.41%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		10.0%	10.0%	10.0%	10.0%	10.0%
Price at end of day	2.2	2.42	2.66	2.93	3.22	3.54
Accumulated Return		10.00%	21.00%	33.10%	46.41%	61.05%

Scenario 2 – Downward Trend

Underlying Stock						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
Value at end of day	10,000.0	9,800.0	9,604.0	9,411.9	9,223.7	9,039.2
Accumulated Return		-2.00%	-3.96%	-5.88%	-7.76%	-9.61%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		-10.0%	-10.0%	-10.0%	-10.0%	-10.0%
Price at end of day	2.2	1.98	1.78	1.60	1.44	1.30
Accumulated Return		-10.00%	-19.00%	-27.10%	-34.39%	-40.95%

Scenario 3 – Volatile Market

Underlying Stock						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		2.0%	-2.0%	2.0%	-2.0%	2.0%
Value at end of day	10,000.0	10,200.0	9,996.0	10,195.9	9,992.0	10,191.8
Accumulated Return		2.00%	-0.04%	1.96%	-0.08%	1.92%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		10.0%	-10.0%	10.0%	-10.0%	10.0%
Price at end of day	2.2	2.42	2.18	2.40	2.16	2.37
Accumulated Return		10.00%	-1.00%	8.90%	-1.99%	7.81%

Description of Air Bag Mechanism

The Certificates integrate an "Air Bag Mechanism" which is designed to reduce exposure to the Underlying Stock during extreme market conditions.

When the Air Bag triggers, a 30-minute period starts. This period is divided into two sub-periods:

- Observation Period : during 15 minutes after the Air Bag trigger, the price of the Underlying Stock is observed and its minimum price is recorded; and
- Reset Period: after 15 minutes, the Leverage Strategy is reset using the minimum price of the Underlying Stock during the Observation Period as the New Observed Price. The New Observed Price replaces the last closing price of the Underlying Stock in order to compute the performance of the Leverage Strategy, 30 minutes after the Air Bag trigger.

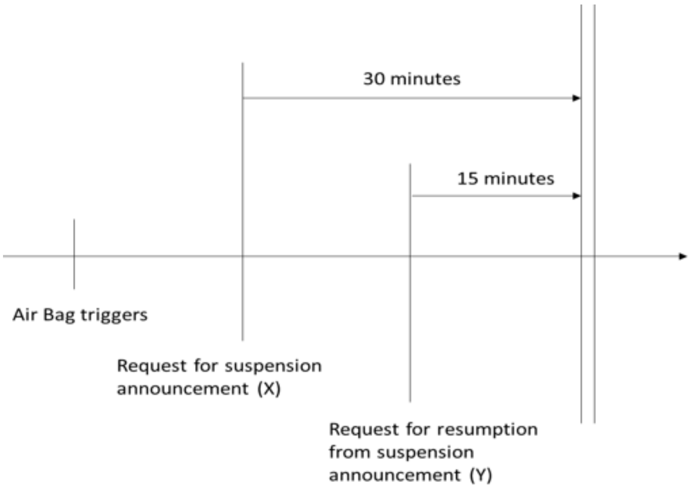
Trading of Certificates is suspended for at least 30 minutes after the Air Bag is triggered and does not take into account the mid-day break. Investors cannot sell or purchase any Certificates during this period.

Air Bag Mechanism timeline

<table>
<tr><th>Air Bag Trigger</th><th>Observation Period</th><th>Resumption of Trading</th></tr>
<tr><td>More than 45 minutes before Market Close</td><td rowspan="2">First 15 minutes after Air Bag Trigger</td><td>Trading resumes the same day between 30 and 45 minutes after Air Bag Trigger</td></tr>
<tr><td>Less than 45 minutes before Market Close and more than 15 minutes before Market Close</td><td rowspan="2">Next trading day at Market Open</td></tr>
<tr><td>15 minutes or less than 15 minutes before Market Close</td><td>From Air Bag Trigger to Market Close</td></tr>
</table>

With **Market Close** defined as:

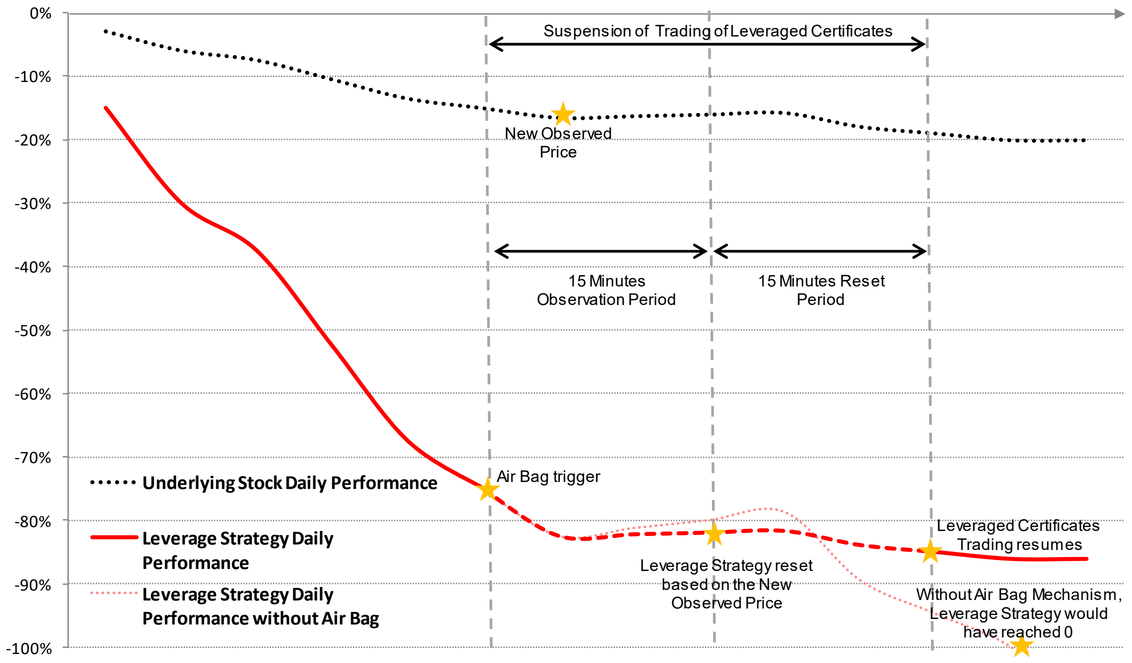
- Underlying Stock closing time with respect to the Observation Period
- The sooner between Underlying Stock closing time and SGX closing time with respect to the Resumption of Trading



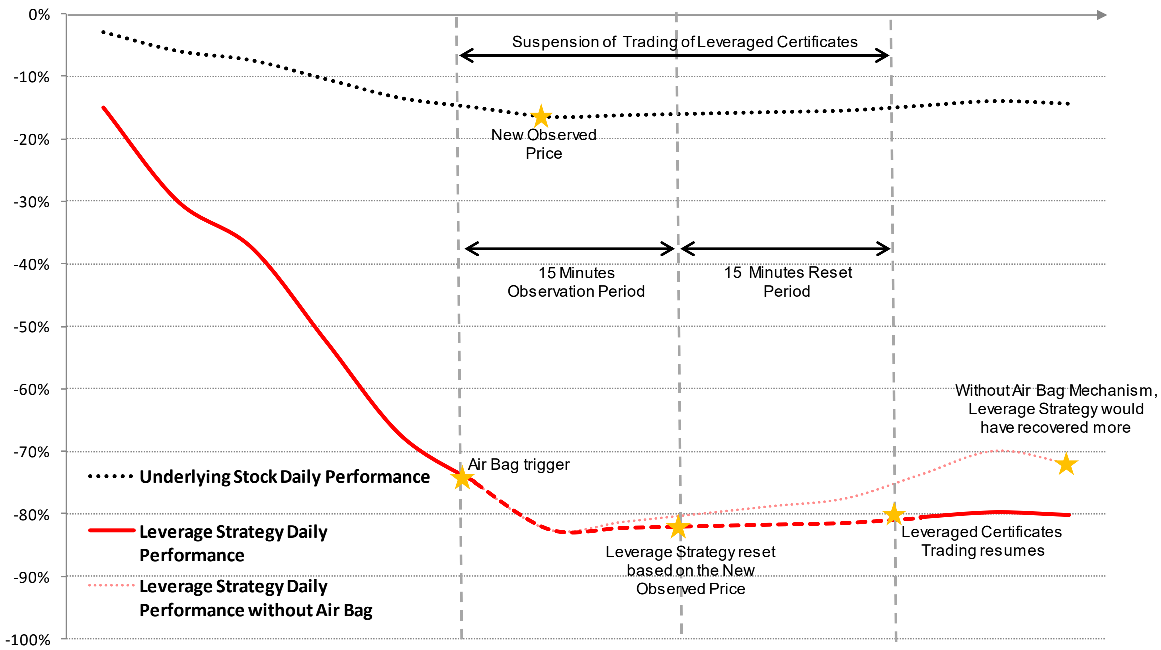
- The later between X+30 minutes or Y+15 minutes will be the earliest time the Certificates can be resumed, the next quarter-of-an-hour of which will be the scheduled resumption time of the Certificates
- If the scheduled resumption time of the Certificates is at or later than the scheduled closing time of the underlying asset, the Certificates will resume at 9 a.m. on the next SGX-ST trading day

Illustrative examples of the Air Bag Mechanism[9]

Scenario 1 – Downward Trend after Air Bag trigger



Scenario 2 – Upward Trend after Air Bag trigger



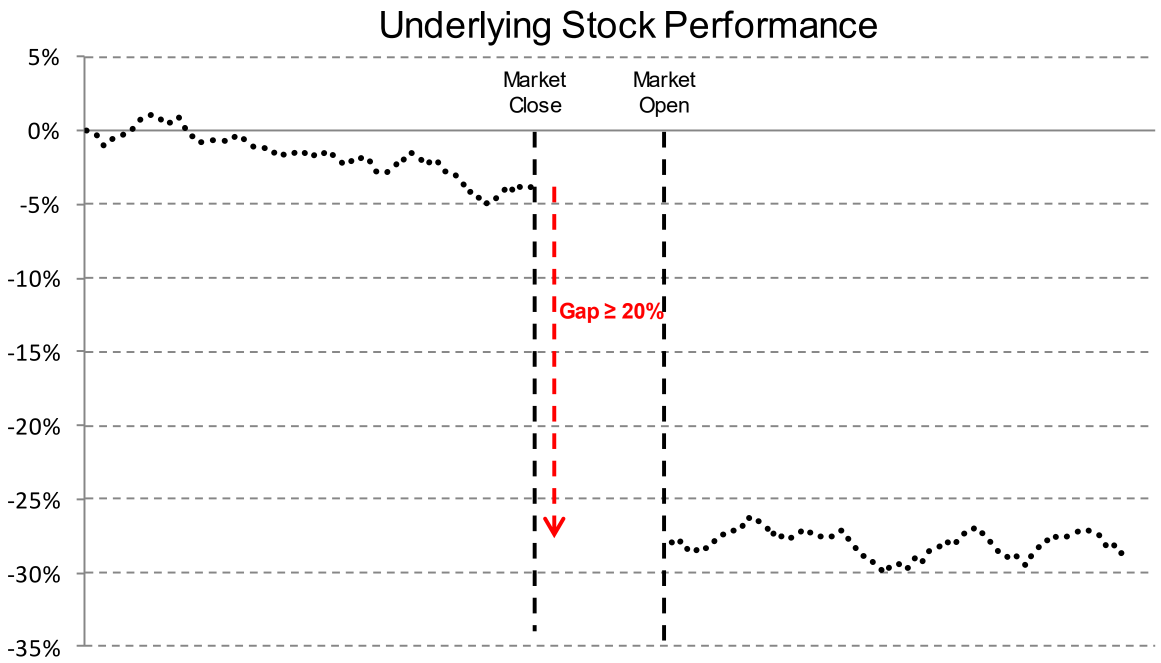
[9] The illustrative examples are not exhaustive.

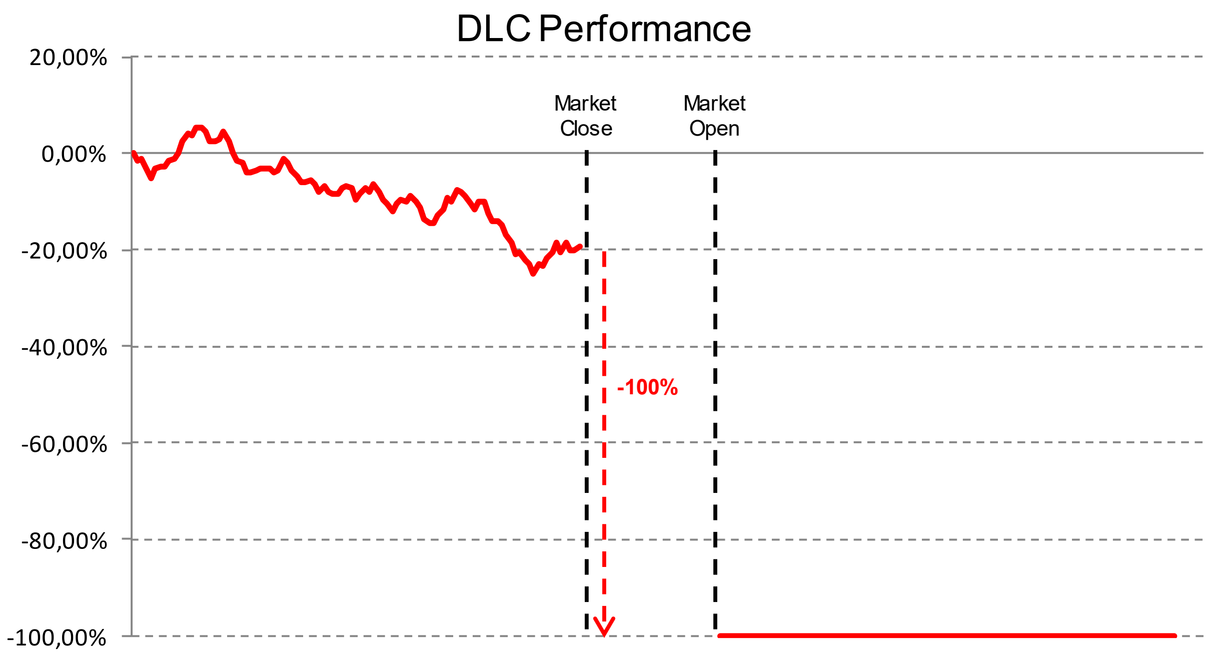
Scenarios where the investor may lose the entire value of the investment

The scenarios below are purely hypothetical and do not take fees and charges payable by investors into consideration. The scenarios highlight cases where the Certificates may lose 100% of their value.

<u>*Scenario 1 – Overnight fall of the Underlying Stock*</u>

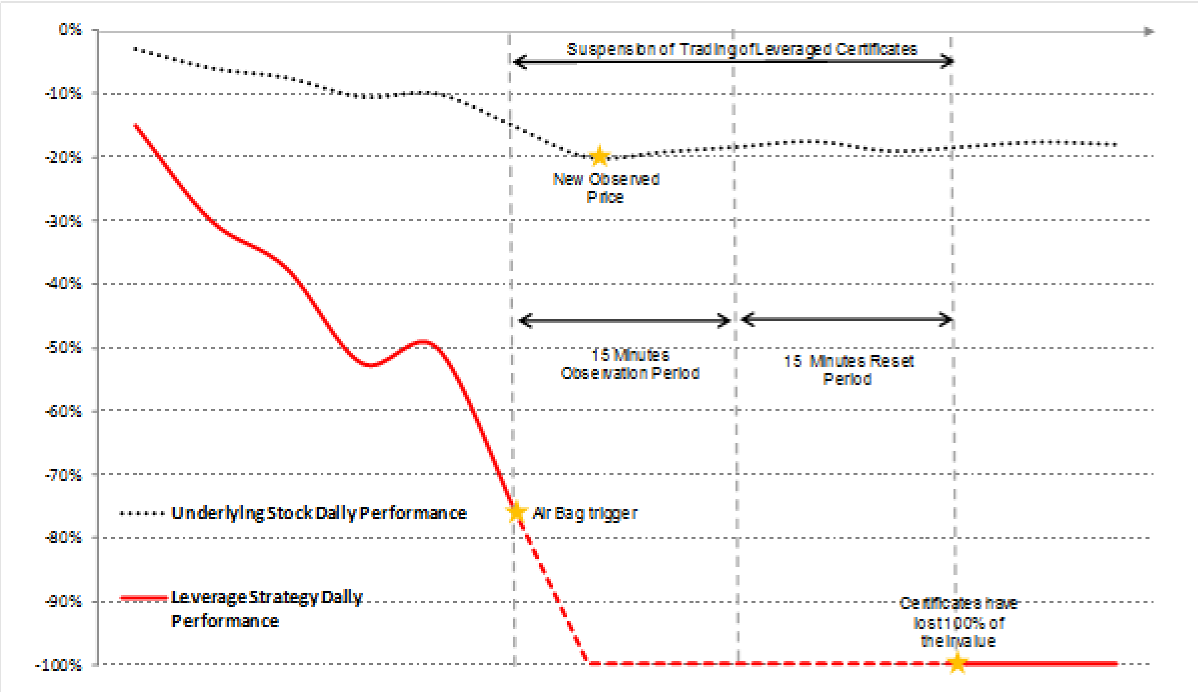
On any business day, the opening price of the Underlying Stock may be higher or lower than the closing price on the previous day. The difference between the previous closing price and the opening price of the Underlying Stock is termed a "gap". If the opening price of the Underlying Stock is 20% or more below the previous day closing price, the Air Bag Mechanism would only be triggered when the market opens the following day, and the Certificates would lose their entire value in such event.





Scenario 2 – Sharp intraday fall of the Underlying Stock

Although the Air Bag Mechanism is designed to reduce the exposure to the Underlying Stock during extreme market conditions, the Certificate can lose 100% of its value in the event the price of the Underlying Stock falls by 20% or more within the 15 minutes Observation Period compared to the reference price, being: (i) if air bag has not been previously triggered on the same day, the previous closing price of the Underlying Stock, or (ii) if one or more air bag have been previously triggered on the same day, the latest New Observed Price. The Certificates would lose their entire value in such event.



Examples and illustrations of adjustments due to certain corporate actions

The examples are purely hypothetical and do not take fees and charges payable by investors into consideration. The examples highlight the effect of corporate actions on the value of the Certificates and do not take into account the possible influence of fees, exchange rates, or any other market parameters.

In the case of any corporate action on the Underlying Stock, the Calculation Agent will, as soon as reasonably practical after it becomes aware of such event, determine whether such corporate action has a dilutive or concentrative effect on the theoretical value of the Underlying Stock, and if so, will (a) calculate the corresponding adjustment, if any, to be made to the elements relating to the Underlying Stock which are used to determine any settlement or payment terms under the Certificates and/or adjust at its discretion any other terms of the Certificates as it determines appropriate to preserve the economic equivalent of the obligations of the Issuer under the Certificates and (b) determine the effective date of such adjustment.

Notwithstanding the foregoing, in the event Observation Date (t) is an ex-date with respect to a corporate action related to the Underlying Stock, the Calculation Agent may, in its sole and absolute discretion, replace the $Rfactor_t$ with respect to such Observation Date (t) by an amount computed according to the following generic formula :

$$Rfactor_t = \left[1 - \frac{Div_t + DivExc_t - M \times R}{\mathrm{S_{t-1}}}\right] \times \frac{1}{1+M}$$

This formula is provided for indicative purposes and the Calculation Agent may determine that this formula is not appropriate for certain corporate actions and may apply a different formula instead.

Such adjustment of $Rfactor_t$ would affect the Leveraged Return, the Rebalancing Cost, and the Underlying Reference Price used to determine the Intraday Restrike Event. The Air Bag mechanism would not be triggered if the stock price falls by 15% exclusively because of the dilutive effect of a corporate action.

Where:

$\mathrm{DivExc_t}$ is the amount received as an Extraordinary Dividend by a holder of existing Shares for each Share held prior to the Extraordinary Dividend, net of any applicable withholding taxes.

M is the number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe or to receive (positive amount) or the number of existing Shares redeemed or canceled per existing Share (negative amount), as the case may be, resulting from the corporate action.

R is the subscription price per Share (positive amount) or the redemption price per Share (negative amount) including any dividends or other benefits forgone to be subscribe to or to receive (as applicable), or to redeem a Share.

1. Stock split

Assuming the Underlying Stock is subject to a 1 to 2 stock split (i.e. 1 new Share for every 1 existing share):

$\mathrm{S_{t-1}}$ = \$100

$\mathrm{S_t}$ = \$51

$\mathrm{Div_t} = \$0$

$\mathrm{DivExc_t} = \$0$

M = 1 (i.e. 1 new Shares for 1 existing Share)

R = $0 (no subscription price / redemption price)

$$Rfactor_t = \left[1 - \frac{0 + 0 - 2 \times 0)}{100}\right] \times \frac{1}{1+1} = 50\%$$

As a consequence:

$$\mathrm{LR}_{\mathrm{t-1,t}} = \text{Leverage } \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{51}{100 \times 50\%} - 1\right) = 10\%$$

$\mathrm{S_{t-1}}$	$\mathrm{S_{t-1}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	50	51	2%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.42	10%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $42.5, which is 15% below $50, the Underlying Stock Reference Price.

2. <u>Share Consolidation</u>

Assuming the Underlying Stock is subject to a 2 to 1 share consolidation (i.e. 1 Share canceled for every 2 existing Shares):

$\mathrm{S_{t-1}}$ = $100

$\mathrm{S_t}$ = $202

$\mathrm{Div_t} = \$0$

$\mathrm{DivExc_t} = \$0$

M = -0.5 (i.e. 0.5 Shares canceled for each 1 existing Share)

R = $0 (no subscription price / redemption price)

$$Rfactor_t = \left[1 - \frac{0 + 0 - (-0.5) \times 0)}{100}\right] \times \frac{1}{1 + (-0.5)} = 200\%$$

As a consequence:

$$\mathrm{LR}_{\mathrm{t-1,t}} = \text{Leverage } \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{202}{100 \times 200\%} - 1\right) = 5\%$$

S_{t-1}	$S_{t-1} \times Rfactor_t$	S_t	Adjusted Underlying Stock Performance
100	200	202	1%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.31	5%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $170, which is 15% below $200, the Underlying Stock Reference Price.

3. Rights Issues

Assuming there is a rights issue with respect to the Underlying Stock, with a right to receive 1 new Share for every 2 existing Shares, for a subscription price of $40.

S_{t-1} = $100

S_t = $84

$\mathrm{Div}_t = \$0$

$\mathrm{DivExc}_t = \$0$

R = $40 (i.e. subscription price of $40)

M = 0.5 (i.e. 1 new share for every 2 existing shares)

$$Rfactor_t = \left[1 - \frac{0 + 0 - 0.5 \times 40}{100}\right] \times \frac{1}{1 + 0.5} = 80\%$$

As a consequence:

$$\mathrm{LR}_{t-1,t} = \mathrm{Leverage} \times \left(\frac{S_t}{S_{t-1} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{84}{100 \times 80\%} - 1\right) = 25\%$$

S_{t-1}	$S_{t-1} \times Rfactor_t$	S_t	Adjusted Underlying Stock Performance
100	80	84	5%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.75	25%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $68, which is 15% below $80, the Underlying Stock Reference Price.

4. Bonus Issues

Assuming there is a bonus issue with respect to the Underlying Stock, where shareholders receive 1 bonus share for 5 existing shares:

S_{t-1} = \$100

S_t = \$85

$Div_t = \$0$

$DivExc_t = \$0$

R = \$0

M = 0.2 (i.e. 1 new share for 5 existing shares)

$$Rfactor_t = \left[1 - \frac{0 + 0 - 0.2 \times 0}{100}\right] \times \frac{1}{1 + 0.2} = 83.33\%$$

As a consequence:

$$LR_{t-1,t} = \text{Leverage} \times \left(\frac{S_t}{S_{t-1} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{85}{100 \times 83.33\%} - 1\right) = 10\%$$

S_{t-1}	$S_{t-1} \times Rfactor_t$	S_t	Adjusted Underlying Stock Performance
100	83.33	85	2%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.42	10%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to \$70.83, which is 15% below \$83.33, the Underlying Stock Reference Price.

5. Extraordinary Dividend

Assuming there is an extraordinary dividend of \$20 (net of taxes) paid in respect of each stock.

S_{t-1} = \$100

S_t = \$84

$Div_t = \$0$

$DivExc_t = \$20$

R = \$0

M = 0

$$Rfactor_t = \left[1 - \frac{0 + 20 - 0 \times 0}{100}\right] \times \frac{1}{1 + 0} = 80\%$$

As a consequence:

$$\mathrm{LR}_{\mathrm{t-1,t}} = \mathrm{Leverage} \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{84}{100 \times 80\%} - 1\right) = 25\%$$

$\mathrm{S_{t-1}}$	$\mathrm{S_{t-1}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	80	84	5%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.75	25%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $68, which is 15% below $80, the Underlying Stock Reference Price.

INFORMATION RELATING TO THE COMPANY

*All information contained in this document regarding the Company, including, without limitation, its financial information, is derived from publicly available information which appears on the web-site of Hong Kong Exchanges and Clearing Limited (the "**HKExCL**") at http://www.hkex.com.hk. The Issuer has not independently verified any of such information.*

Hong Kong Exchanges and Clearing Limited (the "**Company**") is principally engaged in the operation of stock exchanges. The Company operates through five business segments. The Cash segment includes various equity products traded on the Cash Market platforms, the Shanghai Stock Exchange and the Shenzhen Stock Exchange. The Equity and Financial Derivatives segment includes derivatives products traded on Hong Kong Futures Exchange Limited (HKFE) and the Stock Exchange of Hong Kong Limited (SEHK) and other related activities. The Commodities segment includes the operations of the London Metal Exchange (LME). The Clearing segment includes the operations of various clearing houses, such as Hong Kong Securities Clearing Company Limited, the SEHK Options Clearing House Limited, HKFE Clearing Corporation Limited, over the counter (OTC) Clearing Hong Kong Limited and LME Clear Limited. The Platform and Infrastructure segment provides users with access to the platform and infrastructure of the Company.

The information set out in Appendix I of this document relates to the audited consolidated financial statements of the Company and its subsidiaries for the year ended 31 December 2021 and has been extracted and reproduced from an announcement by the Company released on 14 March 2022 in relation to the same. Further information relating to the Company may be located on the web-site of the HKExCL at http://www.hkex.com.hk.

INFORMATION RELATING TO THE DESIGNATED MARKET MAKER

Société Générale has been appointed the designated market maker ("**DMM**") for the Certificates. The DMM will provide competitive buy and sell quotes for the Certificates continuously during the trading hours of the SGX-ST on the following basis:

(a)	Maximum bid and offer spread	:	(i) when the best bid price of the Certificate is S$10 and below: 10 ticks or S$0.20 whichever is greater; and (ii) when the best bid price of the Certificate is above S$10: 5% of the best bid price of the Certificate.
(b)	Minimum quantity subject to bid and offer spread	:	10,000 Certificates
(c)	Last Trading Day for Market Making	:	The date falling 5 Exchange Business Days immediately preceding the Expiry Date

In addition, the DMM may not provide a quotation in the following circumstances:

(i) during the pre-market opening and five minutes following the opening of the SGX-ST on any trading day;

(ii) if the Certificates are valueless (where the Issuer's bid price is below the minimum bid size for such securities as prescribed by the SGX-ST);

(iii) before the Relevant Stock Exchange for the Underlying Stock has opened and after the Relevant Stock Exchange for the Underlying Stock has closed on any trading day;

(iv) when trading in the Underlying Stock is suspended or limited in a material way for any reason, for the avoidance of doubt, the DMM is not obliged to provide quotations for the Certificates at any time when the Underlying Stock is not negotiated/traded for any reason;

(v) where the Certificates are suspended from trading for any reason;

(vi) market disruption events, including, without limitation, any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the SGX-ST or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) in the Underlying Stock;

(vii) where the Issuer or the DMM faces technical problems affecting the ability of the DMM to provide bids and offer quotations;

(viii) where the ability of the Issuer to source a hedge or unwind an existing hedge, as determined by the Issuer in good faith, is materially affected by the prevailing market conditions, and the Issuer informs the SGX-ST of its inability to do so as soon as practicable;

(ix) in cases where the Issuer has no Certificates to sell, then the DMM will only provide the bid price;

(x) if the stock market experiences exceptional price movement and volatility;

(xi) when it is a public holiday in Singapore and/or Hong Kong and/or the SGX-ST and/or the HKEX are not open for dealings; and

(xii) during the suspension of trading of Certificates after an Air Bag Mechanism has been triggered.

The last trading day on which the DMM will provide competitive quotations for the Certificates would be the fifth Exchange Business Day immediately preceding the Expiry Date.

SUPPLEMENTAL INFORMATION RELATING TO THE GUARANTOR

The information set out in Appendix II of this document is a reproduction of the press release dated 10 February 2022 containing the Guarantor's consolidated financial results for the fourth quarter ended 31 December 2021.

SUPPLEMENTAL GENERAL INFORMATION

The information set out herein is supplemental to, and should be read in conjunction with, the information set out on page 105 of the Base Listing Document.

1. Save as disclosed in this document and the Base Listing Document, neither the Issuer nor the Guarantor is involved in any legal or arbitration proceedings (including any proceedings which are pending or threatened of which the Issuer or the Guarantor is aware) which may have or have had in the previous 12 months a significant effect on the financial position of the Issuer or the Guarantor in the context of the issuance of the Certificates.

2. Settlement of trades done on a normal "ready basis" on the SGX-ST generally take place on the second Business Day following the transaction. Dealing in the Certificates will take place in Board Lots in Singapore dollars. For further details on the transfer of Certificates and their exercise, please refer to the section headed "Summary of the Issue" above.

3. It is not the current intention of the Issuer to apply for a listing of the Certificates on any stock exchange other than the SGX-ST.

4. Save as disclosed in the Base Listing Document and herein, there has been no material adverse change in the financial position or prospects of the Issuer since 31 December 2020 or the Guarantor since 31 December 2021, in the context of the issuance of Certificates hereunder.

5. The following contracts, relating to the issue of the Certificates, have been or will be entered into by the Issuer and/or the Guarantor and may be material to the issue of the Certificates:

   (a) the Guarantee;

   (b) the Master Instrument; and

   (c) the Master Warrant Agent Agreement.

   None of the directors of the Issuer and the Guarantor has any direct or indirect interest in any of the above contracts.

6. The Auditors of the Issuer and the Guarantor have given and have not withdrawn their written agreement to the inclusion of the report, included herein, in the form and context in which it is included. Their report was not prepared exclusively for incorporation into this document.

   The Auditors of the Issuer and the Guarantor have no shareholding in the Issuer or the Guarantor or any of its subsidiaries, nor do they have the right (whether legally enforceable or not) to subscribe for or to nominate persons to subscribe for securities of the Issuer or the Guarantor or any of its subsidiaries.

7. The Certificates are not fully covered by the Underlying Stock held by Issuer or a trustee for and on behalf of the Issuer. The Issuer has appropriate risk management capabilities to manage the issue of the Certificates.

8. Société Générale, Singapore Branch, currently of 8 Marina Boulevard, #12-01 Marina Bay Financial Centre Tower 1, Singapore 018981, has been authorised to accept, on behalf of the Issuer and the Guarantor, service of process and any other notices required to be served on the Issuer or the Guarantor. Any notices required to be served on the Issuer or the Guarantor should be sent to Société Générale at the above address for the attention of Société Générale Legal Department.

9. Copies of the following documents may be inspected during usual business hours on any weekday (Saturdays, Sundays and holidays excepted) at the offices of Société Générale, Singapore Branch at 8 Marina Boulevard, #12-01 Marina Bay Financial Centre Tower 1, Singapore 018981, during the period of 14 days from the date of this document:

   (a) the Memorandum and Articles of Association of the Issuer and the Constitutional Documents of the Guarantor;

   (b) the latest financial reports (including the notes thereto) of the Issuer;

   (c) the latest financial reports (including the notes thereto) of the Guarantor;

   (d) the consent letters from the Auditors to the Issuer and the Guarantor referred to in paragraph 6 above;

   (e) the Base Listing Document;

   (f) this document; and

   (g) the Guarantee.

PLACING AND SALE

General

No action has been or will be taken by the Issuer that would permit a public offering of the Certificates or possession or distribution of any offering material in relation to the Certificates in any jurisdiction where action for that purpose is required. No offers, sales or deliveries of any Certificates, or distribution of any offering material relating to the Certificates may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws or regulations and will not impose any obligation on the Issuer. In the event that the Issuer contemplates a placing, placing fees may be payable in connection with the issue and the Issuer may at its discretion allow discounts to placees.

Each Certificate Holder undertakes that it will inform any subsequent purchaser of the terms and conditions of the Certificates and all such subsequent purchasers as may purchase such securities from time to time shall deemed to be a Certificate Holder for the purposes of the Certificates and shall be bound by the terms and conditions of the Certificates.

Singapore

This document has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this document and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of Certificates may not be circulated or distributed, nor may Certificates be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than pursuant to, and in accordance with the conditions of, any applicable provision of the Securities and Futures Act, Chapter 289 of Singapore.

Hong Kong

Each dealer has represented and agreed, and each further dealer appointed in respect of the Certificates and each other purchaser will be required to represent and agree, that:

(a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Certificates (except for Certificates which are a "structured product" as defined in the Securities and Futures Ordinance (Cap.571) of Hong Kong ("**SFO**")) other than (i) to "professional investors" as defined in the SFO and any rules made under the SFO; or (ii) in other circumstances which do not result in the document being a "prospectus", as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong ("**CWUMPO**") or which do not constitute an offer to the public within the meaning of the CWUMPO; and

(b) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Certificates, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Certificates which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under the SFO.

European Economic Area

Each dealer represents and agrees, and each further dealer appointed in respect of the Certificates will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell, or otherwise make available any Certificates which are the subject of the offering as contemplated by this document to any retail investor in the European Economic Area. For the purposes of this provision:

(a) the expression "**retail investor**" means a person who is one (or more) of the following:

  (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "**MiFID II**"); or

  (ii) a customer within the meaning of Directive 2016/97/EU (as amended, the Insurance Distribution Directive), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or

  (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended and superseded, the Prospectus Regulation); and

(b) the expression "**offer**" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Certificates to be offered so as to enable an investor to decide to purchase or subscribe for the Certificates.

United Kingdom

Each dealer represents and agrees, and each further dealer appointed in respect of the Certificates will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Certificates which are the subject of the offering as contemplated by this document to any retail investor in the United Kingdom. For the purposes of this provision:

(a) the expression "**retail investor**" means a person who is one (or more) of the following:

  (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("EUWA"); or

  (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act, as amended (the "**FSMA**") and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or

  (iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA; and

(b) the expression an "**offer**" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Certificates to be offered so as to enable an investor to decide to purchase or subscribe for the Certificates.

Each dealer further represents and agrees, and each further dealer appointed in respect of the Certificates will be required to further represent and agree, that:

(a) in respect to Certificates having a maturity of less than one year: (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business; and (ii) it has not offered or sold and will not offer or sell any Certificates other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Certificates would otherwise constitute a contravention of Section 19 of the FSMA by the Issuer;

(b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) received by it in connection with the issue or sale of any Certificates in circumstances in which section 21(1) of the FSMA does not apply to the Issuer or the Guarantor; and

(c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Certificates in, from or otherwise involving the United Kingdom.

United States

The Certificates and the Guarantee have not been and will not be registered under the United States Securities Act of 1933, as amended (the "**Securities Act**") or any state securities law, and trading in the Certificates has not been approved by the United States Commodity Futures Trading Commission (the "**CFTC**") under the United States Commodity Exchange Act of 1936, as amended (the "**Commodity Exchange Act**") and the Issuer will not be registered as an investment company under the United States Investment Company Act of 1940, as amended, and the rules and regulations thereunder. None of the Securities and Exchange Commission, any state securities commission or regulatory authority or any other United States, French or other regulatory authority has approved or disapproved of the Certificates or the Guarantee or passed upon the accuracy or adequacy of this document. Accordingly, Certificates, or interests therein, may not at any time be offered, sold, resold, traded, pledged, exercised, redeemed, transferred or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, nor may any U.S. person at any time trade, own, hold or maintain a position in the Certificates or any interests therein. In addition, in the absence of relief from the CFTC, offers, sales, re-sales, trades, pledges, exercises, redemptions, transfers or deliveries of Certificates, or interests therein, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, may constitute a violation of United States law governing commodities trading and commodity pools. Consequently, any offer, sale, resale, trade, pledge, exercise, redemption, transfer or delivery made, directly or indirectly, within the United States or to, or for the account or benefit of, a U.S. person will not be recognised.

Each dealer has represented and agreed, and each further dealer will be required to represent and agree, that it has not and will not at any time offer, sell, resell, trade, pledge, exercise, redeem, transfer or deliver, directly or indirectly, Certificates in the United States or to, or for the account or benefit of, any U.S. person or to others for offer, sale, resale, trade, pledge, exercise, redeem, transfer or delivery, directly or indirectly, in the United States or to, or for the account or benefit of, any such U.S. person. Any person purchasing Certificates of any tranches must agree with the relevant dealer or the seller of such Certificates that (i) it will not at any time offer, sell, resell, trade, pledge, exercise, redeem, transfer or deliver, directly or indirectly, any Certificates in the United States or to, or for the account or benefit of, any U.S. person or to others for offer, sale, resale, trade, pledge, exercise, redemption, transfer or delivery, directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person, and (ii) it is not purchasing any Certificates for the account or benefit of any U.S. person.

Exercise or otherwise redemption of Certificates will be conditional upon certification that each person exercising or otherwise redeeming a Certificate is not a U.S. person or in the United States and that the Certificate is not being exercised or otherwise redeemed on behalf of a U.S. person. No payment will be made to accounts of holders of the Certificates located in the United

States.

As used in the preceding paragraphs, the term “**United States**” includes the territories, the possessions and all other areas subject to the jurisdiction of the United States of America, and the term “**U.S. person**” means any person who is (i) a U.S. person as defined under Regulation S under the Securities Act, (ii) a U.S. person as defined in paragraph 7701(a)(30) of the Internal Revenue Code of 1986, or (iii) a person who comes within any definition of U.S. person for the purposes of the United States Commodity Exchange Act of 1936, as amended (the “**CEA**”) or any rules thereunder of the CFTC (the “**CFTC Rules**”), guidance or order proposed or issued under the CEA (for the avoidance of doubt, any person who is not a “Non-United States person” defined under CFTC Rule 4.7(a)(1)(iv), but excluding, for purposes of subsection (D) thereof, the exception for qualified eligible persons who are not “Non-United States persons”, shall be considered a U.S. person).

APPENDIX I

REPRODUCTION OF THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021 OF HONG KONG EXCHANGES AND CLEARING LIMITED AND ITS SUBSIDIARIES

The information set out below is a reproduction of the audited consolidated financial statements of the Company and its subsidiaries for the year ended 31 December 2021 and has been extracted and reproduced from an announcement by the Company released on 14 March 2022 in relation to the same.

Auditor's Report

Independent Auditor's Report to the Members of Hong Kong Exchanges and Clearing Limited

(incorporated in Hong Kong with limited liability)

Opinion

What we have audited

The consolidated financial statements of Hong Kong Exchanges and Clearing Limited (the "Company") and its subsidiaries (together, the "Group"), which are set out on pages 126 to 214, comprise:

- the consolidated statement of financial position as at 31 December 2021;
- the consolidated income statement for the year then ended;
- the consolidated statement of comprehensive income for the year then ended;
- the consolidated statement of changes in equity for the year then ended;
- the consolidated statement of cash flows for the year then ended; and
- the notes to the consolidated financial statements, which include significant accounting policies and other explanatory information.

Our opinion

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2021, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Hong Kong Financial Reporting Standards ("HKFRSs") issued by the Hong Kong Institute of Certified Public Accountants ("HKICPA") and have been properly prepared in compliance with the Hong Kong Companies Ordinance.

Basis for Opinion

We conducted our audit in accordance with Hong Kong Standards on Auditing ("HKSAs") issued by the HKICPA. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Group in accordance with the HKICPA's Code of Ethics for Professional Accountants ("the Code"), and we have fulfilled our other ethical responsibilities in accordance with the Code.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matters identified in our audit are summarised as follows:

- Goodwill impairment assessment
- IT systems and controls over financial accounting and reporting

Key Audit Matters (Continued)

Goodwill impairment assessment

Nature of the Key Audit Matter

As at 31 December 2021, the Group has goodwill of HK$13,241 million arising from the acquisition of LME Holdings Limited and its subsidiaries (collectively "LME Group") in 2012. Goodwill was allocated to groups of Cash Generating Units ("CGUs") within the "Commodities" segment, HK$10,368 million, and the "Post Trade" segment, HK$2,873 million and is monitored by management at the operating segment level.

Management has performed an impairment assessment over the goodwill allocated to the Commodities and Post Trade segments at the operating segment level by:

1. calculating the "value-in-use" for groups of CGUs within each operating segment using discounted cash flow models. These models use future cash flow projections (revenue, expenses and capital expenditure) for each group of CGUs over a five-year period, with a terminal growth rate applied to the period beyond the fifth year. These cash flows are discounted to net present value using the weighted average cost of capital ("WACC") of groups of CGUs; and
2. comparing the resulting value-in-use of each group of CGUs to their respective book values.

We focus on goodwill due to the size of the balance and significant judgement applied by management in the value-in-use assessments.

Significant judgement was involved on the key assumptions underlying the future cash flow projections for the LME Group, including expected trade volume and pricing within the CGUs in each of the operating segments. Other assumptions involved are the discount rates applied and growth rates applied to the period beyond the fifth year ("terminal growth rate") to those future cash flow projections.

Management has also assessed and monitored the budgeted future cash flow projections used in calculating the value-in-use for each group of CGUs against the actual performance.

Management has concluded that there is no impairment in respect of the goodwill allocated to the groups of CGUs within the respective Commodities and Post Trade segments using the value-in-use model.

Refer to note 3 for critical accounting estimates and assumptions and note 29 for the goodwill disclosure relating to the impairment assessment.

How our audit addressed the Key Audit Matter

We have obtained an understanding of management's internal control and the process of goodwill impairment assessment and assessed the inherent risk of material misstatement by considering the degree of estimation uncertainty and other inherent risk factors.

Our work included testing management's key controls over the goodwill impairment assessment including:

1. controls exercised by management over the development of future cash flow projections used in the budget;
2. approval by the board of directors over the budget developed by management; and
3. control processes performed by management to monitor the actual performance against the budget approved by the board of directors.

Our audit procedures also included the following:

1. We have assessed the discounted cash flow model used by management to estimate the value-in-use of the respective groups of CGUs within the Commodities and Post Trade segments.
2. We have assessed the reasonableness of the WACCs used and the terminal growth rates applied to the period beyond the fifth year by reviewing management's assumptions underlying the cash flow projections from the commodities and post trade business and comparing them to independent market data, industry forecasts and historical average daily volume growth for trading and clearing;
3. We have evaluated the reasonableness of management's key assumptions used in the underlying cash flow projections for the five-year period, by comparing historical budgets and achievements and the reasons for any deviations. We have also agreed the cash flow projections against the latest budgets approved by the board of directors;
4. We have obtained and have evaluated management's sensitivity analyses to assess the impact of reasonably possible changes to the key assumptions (cash flow projections, WACCs and growth rates). We have also performed our own independent sensitivity analyses on these key assumptions, including those applied to the period beyond the fifth year, and evaluated the impact that such possible changes have on the recoverable amount of the goodwill allocated to each group of CGUs at the financial year end;
5. We have reviewed the appropriateness of the goodwill impairment assessment disclosure.

Based on the above, we considered that management's judgements and assumptions applied in the goodwill impairment assessment were supportable by the evidence obtained and procedures performed.

Key Audit Matters (Continued)

IT systems and controls over financial accounting and reporting

Nature of the Key Audit Matter

The Group operates securities and derivatives trading, clearing and settlement systems, which process significant volumes of daily transactions and market data. The trading, clearing and settlement fees generated from the transactions processed are the key drivers of the Group's revenue. The revenue recognition of these fees rely heavily on the Information Technology ("IT") systems processing those transactions and data.

Our audit effort focused on the key IT systems and related controls we planned to rely on over the revenue recognition and financial reporting processes. This focus includes (1) the core trading, clearing and settlement systems that process transactions for revenue recognition of these fees, (2) the financial accounting and reporting system that generates financial information utilised in the preparation of the Group's financial statements and (3) the interfaces between the core systems and the financial accounting and reporting system ("key IT systems").

We focused on these areas as the Group's revenue recognition and financial reporting processes are highly dependent on automated controls, system generated information and system interfaces, which are underpinned by the design and operating effectiveness of the IT general controls over the key IT systems and the automated application controls over the processes. The Group relied on the key IT systems and controls to ensure the accuracy and completeness of the revenue recognition during the financial accounting and reporting processes.

How our audit addressed the Key Audit Matter

As part of our audit, we obtained a front-to-end understanding of the revenue recognition and financial reporting processes and identified the automated controls we planned to rely on and the corresponding key IT systems that support the processes.

Our audit procedures over the relevant IT systems and related controls included the following:

1. We have assessed the IT control environment, examined the IT governance framework and tested the IT general controls of the key IT systems that support the revenue recognition and financial reporting processes to evaluate whether the system functionality, data and controls could be relied on throughout the period. Our testing of IT general controls covered access to programs and data, program changes, computer operations and program development.
2. We have tested the identified automated application controls, which are critical to the revenue recognition and financial reporting processes. Our testing procedures included the testing of system logical access, system automated calculations and validations, testing of system generated information, system interfaces and reconciliations.
3. We have placed certain reliance on the work of HKEX's internal audit function over the testing of automated calculations and system interfaces. In order to rely on their work, we have evaluated the objectivity and competence of the internal audit function and determined the nature and extent of work that can be relied on by us. Additionally, we have independently performed audit procedures to evaluate the results of the work of the internal audit function.

Based on the above audit procedures, no material exceptions that would impact our level of reliance on the key IT systems and the related controls for the purpose of our audit were noted.

Other Information

The directors of the Company are responsible for the other information. The other information comprises the section Overview, Organisation, Management Discussion and Analysis, Governance, Shareholder Information and Glossary included in the annual report other than the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Directors for the Consolidated Financial Statements

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with HKFRSs issued by the HKICPA and the Hong Kong Companies Ordinance, and for such internal control as the directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

The Audit Committee of the Group assists the directors in discharging their responsibilities for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. We report our opinion solely to you, as a body, in accordance with Section 405 of the Hong Kong Companies Ordinance and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with HKSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements (Continued)

As part of an audit in accordance with HKSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.
- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Audit Committee with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Colin Stuart Shaftesley.

PricewaterhouseCoopers
Certified Public Accountants

Hong Kong, 24 February 2022

Consolidated Income Statement

For the year ended 31 December 2021

	Note	2021 $m	2020 $m
Trading fees and trading tariffs	5(a)	**7,931**	6,959
Clearing and settlement fees		**5,214**	4,355
Stock Exchange listing fees	5(b)	**2,185**	1,899
Depository, custody and nominee services fees		**1,543**	1,264
Market data fees		**1,034**	953
Other revenue	5(c)	**1,564**	1,405
Revenue	5	**19,471**	16,835
Investment income		**1,351**	2,577
Interest rebates to Participants		**(47)**	(349)
Net investment income	6	**1,304**	2,228
HKEX Foundation donation income	7	**139**	106
Sundry income	8	**36**	21
Revenue and other income		**20,950**	19,190
Less: Transaction-related expenses	9	**(152)**	(110)
Revenue and other income less transaction-related expenses		**20,798**	19,080
Operating expenses			
Staff costs and related expenses	10	**(2,948)**	(2,967)
Information technology and computer maintenance expenses	11	**(715)**	(635)
Premises expenses		**(117)**	(119)
Product marketing and promotion expenses		**(116)**	(81)
Professional fees		**(157)**	(151)
HKEX Foundation charitable donations		**(105)**	(112)
Other operating expenses	12	**(371)**	(374)
		(4,529)	(4,439)
EBITDA		**16,269**	14,641
Depreciation and amortisation		**(1,354)**	(1,197)
Operating profit	13	**14,915**	13,444
Finance costs	14	**(154)**	(181)
Share of profits less losses of joint ventures		**80**	69
Profit before taxation		**14,841**	13,332
Taxation	17	**(2,343)**	(1,845)
Profit for the year		**12,498**	11,487
Profit/(loss) attributable to:			
Shareholders of HKEX	46	**12,535**	11,505
Non-controlling interests	27(a)(i)	**(37)**	(18)
Profit for the year		**12,498**	11,487
Basic earnings per share	18(a)	**$9.91**	$9.11
Diluted earnings per share	18(b)	**$9.89**	$9.09

The notes on pages 131 to 214 are an integral part of these consolidated financial statements.

Details of dividends are set out in note 19 to the consolidated financial statements.

Consolidated Statement of Comprehensive Income

For the year ended 31 December 2021

	Note	2021 $m	2020 $m
Profit for the year		**12,498**	11,487
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss:			
Currency translation differences of foreign subsidiaries	2(e)(iii)	**104**	(29)
Cash flow hedges	44(a)	**(2)**	(6)
Changes in fair value of financial assets measured at fair value through other comprehensive income, net of tax	44(b)	**(8)**	28
Other comprehensive income/(loss)		**94**	(7)
Total comprehensive income		**12,592**	11,480
Total comprehensive income/(loss) attributable to:			
Shareholders of HKEX		**12,626**	11,490
Non-controlling interests		**(34)**	(10)
Total comprehensive income		**12,592**	11,480

The notes on pages 131 to 214 are an integral part of these consolidated financial statements.

Consolidated Statement of Financial Position

At 31 December 2021

	Note	At 31 Dec 2021 Current $m	At 31 Dec 2021 Non-current $m	At 31 Dec 2021 Total $m	At 31 Dec 2020 Current $m	At 31 Dec 2020 Non-current $m	At 31 Dec 2020 Total $m
Assets							
Cash and cash equivalents	20,21	181,361	–	181,361	157,996	–	157,996
Financial assets measured at fair value through profit or loss	20,22	99,915	946	100,861	100,081	516	100,597
Financial assets measured at fair value through other comprehensive income	20,23	9,755	–	9,755	7,942	–	7,942
Financial assets measured at amortised cost	20,24	51,302	526	51,828	62,589	99	62,688
Accounts receivable, prepayments and deposits	26	32,717	21	32,738	47,059	21	47,080
Tax recoverable		19	–	19	26	–	26
Interests in joint ventures	28	–	244	244	–	164	164
Goodwill and other intangible assets	29	–	18,972	18,972	–	18,737	18,737
Fixed assets	30	–	1,605	1,605	–	1,657	1,657
Right-of-use assets	31	–	1,896	1,896	–	2,193	2,193
Deferred tax assets	41(c)	–	25	25	–	26	26
Total assets		375,069	24,235	399,304	375,693	23,413	399,106
Liabilities and equity							
Liabilities							
Financial liabilities at fair value through profit or loss	32	91,424	–	91,424	92,884	–	92,884
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants	20,33	203,536	–	203,536	187,008	–	187,008
Accounts payable, accruals and other liabilities	34	28,335	–	28,335	42,974	–	42,974
Deferred revenue	35	1,100	354	1,454	1,049	371	1,420
Taxation payable		1,153	–	1,153	1,174	–	1,174
Other financial liabilities	36	513	–	513	48	–	48
Participants' contributions to Clearing House Funds	20,37	19,182	–	19,182	20,439	–	20,439
Lease liabilities	38	299	1,760	2,059	304	2,054	2,358
Borrowings	39	340	86	426	340	83	423
Provisions	40	82	98	180	114	98	212
Deferred tax liabilities	41(c)	–	1,132	1,132	–	930	930
Total liabilities		345,964	3,430	349,394	346,334	3,536	349,870
Equity							
Share capital	42			31,896			31,891
Shares held for Share Award Scheme	42			(901)			(485)
Employee share-based compensation reserve	43			306			232
Hedging and revaluation reserves	44			15			25
Exchange reserve	2(e)(iii)			(117)			(218)
Designated reserves	45			623			628
Reserve relating to written put options to non-controlling interests				(369)			(369)
Retained earnings	46			18,173			17,214
Equity attributable to shareholders of HKEX				49,626			48,918
Non-controlling interests	27(a)(i)			284			318
Total equity				49,910			49,236
Total liabilities and equity				399,304			399,106
Net current assets				29,105			29,359

The notes on pages 131 to 214 are an integral part of these consolidated financial statements.

Approved by the Board of Directors on 24 February 2022

Laura M CHA

Director

Alejandro Nicolas AGUZIN

Director

Consolidated Statement of Changes in Equity

For the year ended 31 December 2021

	Attributable to shareholders of HKEX									
	Share capital and shares held for Share Award Scheme (note 42) $m	Employee share-based compensation reserve (note 43) $m	Hedging and revaluation reserves (note 44) $m	Exchange reserve $m	Designated reserves (note 45) $m	Reserve relating to written put options to non-controlling interests $m	Retained earnings (note 46) $m	Total $m	Non-controlling interests $m	Total equity $m
At 1 Jan 2020	29,679	250	3	(181)	587	(369)	14,204	44,173	328	44,501
Profit for the year	–	–	–	–	–	–	11,505	11,505	(18)	11,487
Other comprehensive income	–	–	22	(37)	–	–	–	(15)	8	(7)
Total comprehensive income	–	–	22	(37)	–	–	11,505	11,490	(10)	11,480
Total transactions with shareholders of HKEX, recognised directly in equity:										
– 2019 second interim dividend at $2.99 per share	–	–	–	–	–	–	(3,761)	(3,761)	–	(3,761)
– 2020 first interim dividend at $3.71 per share	–	–	–	–	–	–	(4,692)	(4,692)	–	(4,692)
– Unclaimed HKEX dividends forfeited (note 34(a))	–	–	–	–	–	–	21	21	–	21
– Shares issued in lieu of cash dividends	1,428	–	–	–	–	–	–	1,428	–	1,428
– Shares purchased for Share Award Scheme	(31)	–	–	–	–	–	–	(31)	–	(31)
– Vesting of shares of Share Award Scheme	330	(299)	–	–	–	–	(31)	–	–	–
– Employee share-based compensation benefits	–	281	–	–	–	–	–	281	–	281
– UK tax relating to Share Award Scheme	–	–	–	–	–	–	9	9	–	9
– Transfer of reserves	–	–	–	–	41	–	(41)	–	–	–
	1,727	(18)	–	–	41	–	(8,495)	(6,745)	–	(6,745)
At 31 Dec 2020	31,406	232	25	(218)	628	(369)	17,214	48,918	318	49,236
At 1 Jan 2021	**31,406**	**232**	**25**	**(218)**	**628**	**(369)**	**17,214**	**48,918**	**318**	**49,236**
Profit for the year	**–**	**–**	**–**	**–**	**–**	**–**	**12,535**	**12,535**	**(37)**	**12,498**
Other comprehensive income	**–**	**–**	**(10)**	**101**	**–**	**–**	**–**	**91**	**3**	**94**
Total comprehensive income	**–**	**–**	**(10)**	**101**	**–**	**–**	**12,535**	**12,626**	**(34)**	**12,592**
Total transactions with shareholders of HKEX, recognised directly in equity:										
– 2020 second interim dividend at $4.46 per share	**–**	**–**	**–**	**–**	**–**	**–**	**(5,646)**	**(5,646)**	**–**	**(5,646)**
– 2021 first interim dividend at $4.69 per share	**–**	**–**	**–**	**–**	**–**	**–**	**(5,934)**	**(5,934)**	**–**	**(5,934)**
– Unclaimed HKEX dividends forfeited (note 34(a))	**–**	**–**	**–**	**–**	**–**	**–**	**12**	**12**	**–**	**12**
– Shares purchased for Share Award Scheme	**(681)**	**–**	**–**	**–**	**–**	**–**	**–**	**(681)**	**–**	**(681)**
– Vesting of shares of Share Award Scheme	**270**	**(250)**	**–**	**–**	**–**	**–**	**(20)**	**–**	**–**	**–**
– Employee share-based compensation benefits	**–**	**324**	**–**	**–**	**–**	**–**	**–**	**324**	**–**	**324**
– UK tax relating to Share Award Scheme	**–**	**–**	**–**	**–**	**–**	**–**	**7**	**7**	**–**	**7**
– Transfer of reserves	**–**	**–**	**–**	**–**	**(5)**	**–**	**5**	**–**	**–**	**–**
	(411)	**74**	**–**	**–**	**(5)**	**–**	**(11,576)**	**(11,918)**	**–**	**(11,918)**
At 31 Dec 2021	**30,995**	**306**	**15**	**(117)**	**623**	**(369)**	**18,173**	**49,626**	**284**	**49,910**

The notes on pages 131 to 214 are an integral part of these consolidated financial statements.

Consolidated Statement of Cash Flows

For the year ended 31 December 2021

	Note	2021 $m	2020 $m
Cash flows from principal operating activities			
Net cash inflow from principal operating activities	47(a)	**13,897**	11,956
Cash flows from other operating activities			
Net (payments to)/redemption from external fund managers for (purchases)/ sales of financial assets measured at fair value through profit or loss		**(1,557)**	2,813
Net cash inflow from operating activities		**12,340**	14,769
Cash flows from investing activities			
Payments for purchases of fixed assets and intangible assets		**(1,070)**	(1,351)
Net decrease/(increase) in financial assets of Corporate Funds:			
Decrease/(increase) in time deposits with original maturities more than three months		**3,276**	(5,850)
Proceeds received upon maturity of financial assets measured at amortised cost (excluding time deposits)		**810**	207
Payments for purchases of financial assets measured at amortised cost (excluding time deposits)		**(429)**	(384)
Payments for financial assets measured at fair value through profit or loss		**(349)**	(160)
Interest received from financial assets measured at fair value through other comprehensive income		**38**	56
Net cash inflow/(outflow) from investing activities		**2,276**	(7,482)
Cash flows from financing activities			
Purchases of shares for Share Award Scheme		**(681)**	(31)
Payments of other finance costs		**(72)**	(87)
Dividends paid to shareholders of HKEX		**(11,527)**	(6,983)
Lease payments	47(b), 47(c)		
– Capital elements		**(310)**	(284)
– Interest elements		**(79)**	(89)
Net cash outflow from financing activities		**(12,669)**	(7,474)
Net increase/(decrease) in cash and cash equivalents		**1,947**	(187)
Cash and cash equivalents at 1 Jan		**10,442**	10,603
Exchange differences on cash and cash equivalents		**9**	26
Cash and cash equivalents at 31 Dec		**12,398**	10,442
Analysis of cash and cash equivalents			
Cash on hand and balances and deposits with banks and short-term investments of Corporate Funds	21	**12,900**	10,753
Less: Cash reserved for supporting Skin-in-the-Game and default fund credits of clearing houses	21(b)	**(502)**	(311)
		12,398	10,442

The notes on pages 131 to 214 are an integral part of these consolidated financial statements.

(a) "Cash flows from principal operating activities" is a non-Hong Kong Financial Reporting Standard (non-HKFRS) measure used by management for monitoring cash flows of the Group (defined in note 1) and represents the cash flows generated from the trading and clearing operations of the four exchanges and five clearing houses and ancillary services of the Group. This non-HKFRS measure may not be comparable to similar measures presented by other companies. Cash flows from principal operating activities and cash flows from other operating activities together represent cash flows from operating activities as defined by Hong Kong Accounting Standard (HKAS) 7: Statement of Cash Flows.

Notes to the Consolidated Financial Statements

1. General Information

Hong Kong Exchanges and Clearing Limited (HKEX or the Company) and its subsidiaries (collectively, the Group) own and operate the only stock exchange and futures exchange in Hong Kong and their related clearing houses, a clearing house for clearing over-the-counter derivatives contracts in Hong Kong, an exchange and a clearing house for the trading and clearing of base, ferrous and precious metals futures and options contracts operating in the United Kingdom (UK), and a commodity trading platform in the Mainland.

HKEX is a limited company incorporated and domiciled in Hong Kong. The address of its registered office is 8th Floor, Two Exchange Square, 8 Connaught Place, Central, Hong Kong.

These consolidated financial statements were approved for issue by the Board of Directors (Board) on 24 February 2022.

2. Principal Accounting Policies

Apart from the accounting policies presented within the corresponding notes to the consolidated financial statements, other principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(a) Statement of compliance

These consolidated financial statements have been prepared in accordance with Hong Kong Financial Reporting Standards (HKFRSs) issued by the Hong Kong Institute of Certified Public Accountants (HKICPA), and accounting principles generally accepted in Hong Kong. These consolidated financial statements also comply with the applicable disclosure requirements of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (Main Board Listing Rules) and the applicable requirements of the Hong Kong Companies Ordinance (Chapter 622).

(b) Basis of preparation

These consolidated financial statements have been prepared under the historical cost convention, as modified by the revaluation of certain financial assets and financial liabilities measured at fair value.

The preparation of consolidated financial statements requires the use of certain critical accounting estimates, and requires management to exercise its judgement when applying the Group's accounting policies. Areas involving significant estimates and judgement are disclosed in note 3.

<u>Adoption of new/revised HKFRSs</u>

In 2021, the Group has adopted the following amendment to HKFRSs which is pertinent to the Group's operations:

Amendments to HKFRS 16	Leases: COVID-19-Related Rent Concessions[1]

[1] Effective for accounting periods beginning on or after 1 June 2020

The adoption of the amendment did not have any financial impact on the Group.

2. Principal Accounting Policies (continued)

(b) Basis of preparation (continued)

New/revised HKFRSs issued before 31 December 2021 but not yet effective and not early adopted

The Group has not applied the following amendments to HKFRSs which were issued before 31 December 2021 and are pertinent to its operations but not yet effective:

Amendments to HKAS 1	Presentation of Financial Statements: Classification of Liabilities as Current or Non-current[3]
Amendments to HKAS 1	Presentation of Financial Statements: Disclosure of Accounting Policies[3]
Amendments to HKAS 8	Accounting Policies, Changes in Accounting Estimates and Errors: Definition of Accounting Estimates[3]
Amendments to HKAS 12	Income Taxes: Deferred Tax related to Assets and Liabilities arising from a Single Transaction[3]
Amendments to HKAS 16	Property, Plant and Equipment: Proceeds before Intended Use[2]
Amendments to HKAS 37	Provisions, Contingent Liabilities and Contingent Assets: Onerous Contracts – Cost of Fulfilling a Contract[2]
Amendments to HKFRS 3	Business combinations: Reference to the Conceptual Framework[2]
Amendments to HKFRS 16	Leases: COVID-19-Related Rent Concessions beyond 30 June 2021[1]
Annual Improvements to HKFRSs 2018-2020:	
Amendments to HKFRS 9	Financial Instruments: Fees in the “10 per cent” Test for Derecognition of Financial Liabilities[2]
Amendments to Illustrative Examples accompanying HKFRS 16	Leases: Lease Incentives[2]

1 Effective for accounting periods beginning on or after 1 April 2021
2 Effective for accounting periods beginning on or after 1 January 2022
3 Effective for accounting periods beginning on or after 1 January 2023

The adoption of the amendments to HKFRSs would not have any financial impact on the Group.

There are no other new/revised HKFRSs not yet effective that are expected to have any financial impact on the Group.

(c) Basis of consolidation

Subsidiaries are entities (including structured entities) over which the Group has control. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases. All material intra-group transactions and balances have been eliminated on consolidation.

Accounting policies of subsidiaries have been aligned on consolidation to ensure consistency with the policies adopted by the Group.

2. Principal Accounting Policies (continued)

(d) Impairment of non-financial assets

Assets with an indefinite useful life, which include interests in joint ventures, goodwill and tradenames, are not subject to amortisation but are tested at least annually for impairment. Assets subject to amortisation are reviewed for impairment whenever there is any indication that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount (i.e., the higher of an asset's fair value less costs to sell and value-in-use). Such impairment losses are recognised in the consolidated income statement. An impairment loss other than goodwill is reversed if the circumstances and events leading to the impairment cease to exist.

(e) Foreign currency translation

(i) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The consolidated financial statements are presented in Hong Kong Dollar (HKD), which is the Company's functional and presentation currency.

(ii) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the consolidated income statement. They are deferred in hedging reserve under equity if they relate to qualifying cash flow hedges (note 44(a)).

Translation differences on non-monetary financial assets that are classified as financial assets measured at fair value through profit or loss are reported as part of the fair value gain or loss.

(iii) Group companies

The results and financial position of each of the Group's entities that have a non-HKD functional currency are translated into HKD as follows:

- assets and liabilities (including goodwill and fair value adjustments arising on the acquisition of foreign subsidiaries) for each statement of financial position presented are translated at the closing rate at the end of the reporting period;
- income and expenses for each income statement are translated at the exchange rates approximating the foreign exchange rates ruling at the dates of the transactions; and
- all resulting currency translation differences are recognised in other comprehensive income in the exchange reserve under equity.

3. Critical Accounting Estimates and Assumptions

The Group makes estimates and assumptions concerning the future when the consolidated financial statements are prepared. The resulting accounting estimates may differ from the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below:

(a) Goodwill and tradenames

The Group tests annually whether goodwill and tradenames have suffered any impairment in accordance with the accounting policy stated in note 29.

The recoverable amounts of relevant cash generating units (CGUs) and relevant group of CGUs have been determined based on value-in-use calculations, which are disclosed in note 29. These calculations require the use of estimates and significant judgement by management, including the future cash flows expected to arise from the CGUs, discount rates for calculating the present value and growth rates used to extrapolate cash flow projections beyond the financial forecasts approved by management.

Changes in facts and circumstances may result in revisions to estimates of recoverable amounts and to the conclusion as to whether an indication of impairment exists, which could affect the consolidated income statement in future years.

(b) Valuation of investments

The Group has a significant amount of investments that are not classified as Level 1 investments under HKFRS 13: Fair Value Measurement. Except for investments in minority stakes in unlisted companies (note 53(d)(i)), the valuations have been determined based on quotes from market makers, alternative pricing sources supported by observable inputs, latest transaction prices or redemption prices provided by fund administrators of collective investment schemes.

At 31 December 2021, the financial assets that were not classified as Level 1 investments (excluding the base, ferrous and precious metals futures and options contracts cleared through LME Clear Limited (LME Clear) that did not qualify for netting under the current accounting standards) under HKFRS 13 amounted to $9,762 million (31 December 2020: $9,085 million) which mainly comprised $7,063 million (31 December 2020: $6,362 million) of investments under collective investment schemes.

As the valuation of investments reflects movements in their estimated fair values, fair value gains or losses may fluctuate or reverse until the investments are sold, mature or are realised upon redemption. The potential impact of the fair value change of such investments on the Group's consolidated income statement is disclosed in note 53(a)(iv).

(c) Income taxes

The Group is subject to income taxes in the countries in which the Group operates. Judgement is required in determining the provision for income taxes and deferred taxes. There are transactions and calculations for which the ultimate tax determination is uncertain. The Group recognises liabilities for potential tax exposures based on its estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences would impact the income tax and deferred tax provisions in the year in which such determination is made.

If the actual taxation charge differs by 5 per cent from management's estimates, the Group's profit will be affected by $117 million (2020: $92 million).

4. Operating Segments

Accounting Policy

Operating segments are reported in a manner consistent with the internal management reports that are used to make strategic decisions provided to the chief operating decision-maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, is the Chief Executive Officer of HKEX. Information relating to segment assets and liabilities is not disclosed as such information is not regularly reported to the chief operating decision-maker.

The accounting policies of the reportable segments are the same as the Group's accounting policies. Taxation charge/credit is not allocated to reportable segments.

The Group has five reportable segments ("Corporate Items" is not a reportable segment). The segments are managed separately as each segment offers different products and services and requires different information technology systems and marketing strategies.

The operations in each of the Group's reportable segments are as follows:

The **Cash** segment covers all equity products traded on the Cash Market platforms of The Stock Exchange of Hong Kong Limited (Stock Exchange), the Shanghai Stock Exchange and the Shenzhen Stock Exchange through Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect (Stock Connect), sales of market data relating to these products and other related activities. The major sources of revenue of the segment are trading fees, trading tariffs, listing fees of equity products and market data fees.

The **Equity and Financial Derivatives** segment refers to derivatives products traded on the Stock Exchange and Hong Kong Futures Exchange Limited (Futures Exchange) and other related activities. These include the provision and maintenance of trading platforms for a range of equity and financial derivatives products, such as stock and equity index futures and options, derivative warrants (DWs), callable bull/bear contracts (CBBCs) and warrants, and sales of related market data. The major sources of revenue are trading fees, trading tariffs, listing fees of derivatives products and market data fees.

The **Commodities** segment refers to the operations of The London Metal Exchange (LME), which operates an exchange in the UK for the trading of base, ferrous and precious metals futures and options contracts, and the operations of Qianhai Mercantile Exchange Co., Ltd. (QME), the commodity trading platform in the Mainland. It also covers the commodities contracts traded on the Futures Exchange. The major sources of revenue of the segment are trading fees of commodity products, commodity market data fees and fees from ancillary operations.

The **Post Trade** segment refers to the operations of the five clearing houses, which are responsible for clearing, settlement and custodian activities of the exchanges of the Group and Northbound trades under Stock Connect, and clearing and settlement of over-the-counter derivatives contracts. Its principal sources of revenue are derived from providing clearing, settlement, depository, custody and nominee services and net investment income earned on the Margin Funds and Clearing House Funds.

The **Technology** segment refers to all services in connection with providing users with access to the platform and infrastructure of the Group, and services provided by BayConnect Technology Company Limited (BayConnect). Its major sources of revenue are network, terminal user, data line and software sub-license fees and hosting services fees.

4. Operating Segments (continued)

Central income (including net investment income of Corporate Funds and HKEX Foundation donation income) and central costs (including costs of central support functions that provide services to all operating segments, HKEX Foundation charitable donations and other costs not directly related to any operating segment) are included as "Corporate Items".

The chief operating decision-maker assesses the performance of the operating segments principally based on their EBITDA (defined below).

EBITDA is defined as earnings before interest expenses and other finance costs, taxation, depreciation and amortisation. It excludes the Group's share of results of the joint ventures and other non-recurring costs. EBITDA is a non-HKFRS measure used by management for monitoring business performance. It may not be comparable to similar measures presented by other companies.

An analysis by operating segment of the Group's EBITDA, profit before taxation and other selected financial information (including analysis of revenue by timing of revenue recognition) for the year, is set out as follows:

	2021						
	Cash $m	Equity and Financial Derivatives $m	Commodities $m	Post Trade $m	Technology $m	Corporate Items $m	Group $m
Timing of revenue recognition:							
Point in time	4,494	2,030	1,176	6,656	86	3	14,445
Over time	1,636	1,405	288	731	960	6	5,026
Revenue	6,130	3,435	1,464	7,387	1,046	9	19,471
Net investment income	–	–	–	596	–	708	1,304
HKEX Foundation donation income	–	–	–	–	–	139	139
Sundry income	1	1	14	12	4	4	36
Revenue and other income	6,131	3,436	1,478	7,995	1,050	860	20,950
Less: Transaction-related expenses	–	(126)	–	(26)	–	–	(152)
Revenue and other income less transaction-related expenses	6,131	3,310	1,478	7,969	1,050	860	20,798
Operating expenses	(614)	(665)	(695)	(844)	(305)	(1,406)	(4,529)
Reportable segment EBITDA	5,517	2,645	783	7,125	745	(546)	16,269
Depreciation and amortisation	(169)	(142)	(346)	(358)	(72)	(267)	(1,354)
Finance costs	(12)	(12)	(8)	(66)	(2)	(54)	(154)
Share of profits less losses of joint ventures	80	–	–	–	–	–	80
Reportable segment profit before taxation	5,416	2,491	429	6,701	671	(867)	14,841
Other segment information:							
Interest income	–	–	–	639	–	174	813
Interest rebates to Participants	–	–	–	(47)	–	–	(47)
Other material non-cash item:							
Employee share-based compensation expenses	(50)	(41)	(36)	(41)	(6)	(150)	(324)

4. Operating Segments (continued)

	2020						
	Cash $m	Equity and Financial Derivatives $m	Commodities $m	Post Trade $m	Technology $m	Corporate Items $m	Group $m
Timing of revenue recognition:							
Point in time	3,460	2,079	1,171	5,667	62	1	12,440
Over time	1,531	1,162	278	575	844	5	4,395
Revenue	4,991	3,241	1,449	6,242	906	6	16,835
Net investment income	–	–	–	1,386	–	842	2,228
HKEX Foundation donation income	–	–	–	–	–	106	106
Sundry income	–	–	5	9	4	3	21
Revenue and other income	4,991	3,241	1,454	7,637	910	957	19,190
Less: Transaction-related expenses	–	(85)	–	(25)	–	–	(110)
Revenue and other income less transaction-related expenses	4,991	3,156	1,454	7,612	910	957	19,080
Operating expenses	(595)	(607)	(692)	(860)	(304)	(1,381)	(4,439)
Reportable segment EBITDA	4,396	2,549	762	6,752	606	(424)	14,641
Depreciation and amortisation	(133)	(114)	(340)	(322)	(38)	(250)	(1,197)
Finance costs	(13)	(13)	(8)	(84)	(2)	(61)	(181)
Share of profits less losses of joint ventures	68	1	–	–	–	–	69
Reportable segment profit before taxation	4,318	2,423	414	6,346	566	(735)	13,332
Other segment information:							
Interest income	–	–	–	1,738	–	384	2,122
Interest rebates to Participants	–	–	–	(349)	–	–	(349)
Other material non-cash item:							
Employee share-based compensation expenses	(40)	(40)	(42)	(46)	(7)	(106)	(281)

(a) Geographical information

The Group's revenue is derived from its operations in Hong Kong, the UK and Mainland China. Such information and the Group's non-current assets (excluding financial assets and deferred tax assets) by geographical location are detailed below:

	Revenue		Non-current assets	
	2021 $m	2020 $m	**At 31 Dec 2021 $m**	At 31 Dec 2020 $m
Hong Kong (place of domicile)	**17,220**	14,641	**5,307**	5,374
United Kingdom	**2,179**	2,124	**17,137**	17,096
Mainland China	**72**	70	**294**	302
	19,471	16,835	**22,738**	22,772

(b) Information about major customers

In 2021 and 2020, the revenue from the Group's largest customer amounted to less than 10 per cent of the Group's total revenue.

5. Revenue

Accounting Policy

Revenue excludes value added tax or other sales tax, and is recognised in the consolidated income statement on the following basis:

Trading fees and trading tariffs are recognised on a trade date basis.

Stock Exchange listing fees mainly comprise annual listing fees and initial listing fees. Annual listing fees are recognised on a straight-line basis over the period covered. Initial listing fees are recognised over time when the services are transferred to the listed companies or issuers of warrants, CBBCs and other securities.

Clearing and settlement fees arising from trades between Participants transacted on the Stock Exchange are recognised on the day following the trade day upon acceptance of the trades. Fees for clearing and settlement of trades transacted on the Shanghai Stock Exchange and Shenzhen Stock Exchange through Stock Connect (A-shares) are recognised on the trade day upon acceptance of the trades. Fees for clearing and settlement of trades in respect of base, ferrous and precious metals futures and options contracts transacted on the LME are recognised on the trade match day. Fees for all other settlement transactions are recognised upon completion of the settlement.

Custody fees for securities held in the Central Clearing and Settlement System (CCASS) depository are calculated and accrued on a monthly basis. Portfolio fees for A-shares held or recorded in the CCASS depository and for Hong Kong securities held by China Depository and Clearing Corporation Limited (ChinaClear) are calculated and accrued on a daily basis.

Income on registration and transfer fees for nominee services are calculated and accrued on the book close dates of the relevant stocks during the financial year.

Market data fees and other fees are recognised when the related services are rendered.

(a) Trading Fees and Trading Tariffs

	2021 $m	2020 $m
Equity securities traded on the Stock Exchange and through Stock Connect	**4,468**	3,409
DWs, CBBCs and warrants traded on the Stock Exchange	**782**	699
Futures and options contracts traded on the Stock Exchange and the Futures Exchange	**1,613**	1,764
Base, ferrous and precious metals futures and options contracts traded on the LME and QME	**1,068**	1,087
	7,931	6,959

5. Revenue (continued)

(b) Stock Exchange Listing Fees

	2021				2020			
	Equity				Equity			
	Main Board	GEM	CBBCs, DWs & others	Total	Main Board	GEM	CBBCs, DWs & others	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Annual listing fees	**718**	**50**	**3**	**771**	713	52	3	768
Initial and subsequent issue listing fees	**168**	**11**	**1,229**	**1,408**	130	14	979	1,123
Other listing fees	**5**	**1**	**–**	**6**	7	1	–	8
	891	**62**	**1,232**	**2,185**	850	67	982	1,899

(c) Other Revenue

	2021 $m	2020 $m
Network, terminal user, data line and software sub-license fees	**720**	610
Hosting services fees	**257**	230
Commodities stock levies and warehouse listing fees	**78**	67
Participants' subscription and application fees	**87**	112
Accommodation income (note (i))	**201**	160
Sales of Trading Rights	**22**	24
LME financial over-the-counter booking fees	**53**	49
BayConnect sales and service revenue	**69**	66
Brokerage on IPO direct allotments	**5**	26
Miscellaneous revenue	**72**	61
	1,564	1,405

(i) Accommodation income mainly comprises income from Participants on securities deposited as alternatives to cash deposits of Margin Funds, or depositing currencies whose relevant bank deposit rates are negative, and interest shortfall collected from LME Clear Participants on cash collateral where the investment return on the collateral is below the benchmarked interest rates stipulated in the clearing rules of LME Clear.

(d) Revenue recognised in 2021 that was included in the deferred revenue balance at the beginning of the year amounted to $1,049 million (2020: $1,033 million).

6. Net Investment Income

Accounting Policy

Interest income on investments and interest rebates to Participants are recognised on a time apportionment basis using the effective interest method.

Gains and losses arising from changes in fair value of financial assets measured at fair value through profit or loss and financial liabilities at fair value through profit or loss are included under net investment income in the consolidated income statement.

	2021 $m	2020 $m
Gross interest income from financial assets measured at amortised cost	775	2,066
Gross interest income from financial assets measured at fair value through other comprehensive income	38	56
Interest rebates to Participants	(47)	(349)
Net interest income	766	1,773
Net gains on financial assets mandatorily measured at fair value through profit or loss and financial liabilities at fair value through profit or loss		
– collective investment schemes	364	487
– other investments	121	–
	485	487
Others	53	(32)
Net investment income	1,304	2,228

7. HKEX Foundation Donation Income

Accounting Policy

HKEX Foundation donation income is recognised when the right to receive such donation is established.

	2021 $m	2020 $m
Stock Code Balloting Scheme	138	105
Others	1	1
	139	106

8. Sundry Income

	2021 $m	2020 $m
Forfeiture of unclaimed dividends (note (a))	12	9
Others	24	12
	36	21

(a) In accordance with CCASS Rule 1109, the Group exercised its forfeiture right to appropriate cash dividends of $12 million (2020: $9 million) held by HKSCC Nominees Limited, which had remained unclaimed for a period of more than seven years and recognised these as sundry income. The Group has, however, undertaken to honour all forfeited claims amounting to $218 million at 31 December 2021 (31 December 2020: $206 million) if adequate proof of entitlement is provided by the beneficial owner claiming any dividends forfeited.

9. Transaction-related Expenses

Accounting Policy

Transaction-related expenses comprise of license fees, bank charges and other costs which directly vary with trading and clearing transactions. They are presented below Revenue and other income to reflect the nature of such direct costs. They are expensed in the period in which they are incurred.

10. Staff Costs and Related Expenses

	2021 $m	2020 $m
Salaries and other short-term employee benefits	2,425	2,487
Employee share-based compensation benefits of Share Award Scheme (note 43)	324	281
Termination benefits	20	20
Retirement benefit costs (note (a)):		
– ORSO Plan	137	142
– MPF Scheme	4	5
– LME Pension Scheme	29	28
– PRC Retirement Schemes	9	4
	2,948	2,967

(a) Retirement Benefit Costs

Accounting Policy

Contribution to the defined contribution plans are expensed as incurred.

The Group has sponsored a defined contribution provident fund scheme (ORSO Plan) which is registered under the Occupational Retirement Schemes Ordinance (ORSO) and a Mandatory Provident Fund scheme (MPF Scheme) for the benefits of its employees in Hong Kong. The Group contributes 12.5 per cent of the employee's basic salary to the ORSO Plan if an employee contributes 5 per cent. If the employee chooses not to contribute, the Group will contribute 10 per cent of the employee's salary to the ORSO Plan. Contributions to the MPF Scheme are in accordance with the statutory limits prescribed by the MPF Ordinance. Forfeited contributions of the ORSO Plan for employees who leave before the contributions are fully vested are not used to offset existing contributions but are credited to a reserve account of that Plan, and are available for distribution to the members of the Plan at the discretion of the trustees.

10. Staff Costs and Related Expenses (continued)

(a) Retirement Benefit Costs (continued)

For employees of LME and LME Clear, the Group has also sponsored a defined contribution pension scheme (LME Pension Scheme). For employees who joined LME and LME Clear before 1 May 2014, the Group contributes 15 per cent to 17 per cent of the employee's basic salary to the LME Pension Scheme. For employees who joined the LME and LME Clear on or after 1 May 2014, they are automatically enrolled into the LME Pension Scheme on a matched contribution basis and may choose a personal contribution level ranging from 3 per cent to 5 per cent of their basic salaries, which is matched by the Group's contribution ranging from 6 per cent to 10 per cent of their basic salaries. Staff may opt-out of the scheme if they wish. There are no forfeited contributions for the LME Pension Scheme as the contributions are fully vested to the employees upon payment to the scheme.

Pursuant to the relevant laws and regulations in the People's Republic of China (PRC), the Group has joined defined contribution retirement schemes for the employees arranged by local government labour and security authorities (PRC Retirement Schemes). The Group makes contributions to the retirement schemes at the applicable rates based on the amounts stipulated by the local government organisations. Upon retirement, the local government labour and security authorities are responsible for the payment of the retirement benefits to the retired employees.

Assets of the ORSO Plan, MPF Scheme, LME Pension Scheme and PRC Retirement Schemes are held separately from those of the Group and are independently administered and are not included in the consolidated statement of financial position.

11. Information Technology and Computer Maintenance Expenses

	2021 $m	2020 $m
Costs of services and goods:		
– consumed by the Group	634	551
– directly consumed by Participants	81	84
	715	635

12. Other Operating Expenses

	2021 $m	2020 $m
Bank charges	15	14
Communication expenses	11	13
Custodian and fund management related fees	37	28
Financial data subscription fees	52	49
Insurance	12	10
Non-executive directors' fees	22	21
Office demolition and relocation expenses	11	9
Provision for impairment losses of receivables	7	12
Repairs and maintenance expenses	62	69
Security expenses	21	23
Travel expenses	16	19
UK regulatory fees	22	18
Other miscellaneous expenses	83	89
	371	374

13. Operating Profit

	2021 $m	2020 $m
Operating profit is stated after charging/(crediting):		
Auditor's remuneration		
– audit fees	18	19
– other non-audit fees	2	3
Lease rentals for land and buildings (note (a))	1	4
Provision for impairment losses of receivables	7	12
Net foreign exchange (gains)/losses on financial assets and liabilities (excluding financial assets and financial liabilities measured at fair value through profit or loss)	(53)	32

(a) The amounts represent lease rentals relating to short-term leases under HKFRS 16.

14. Finance Costs

Accounting Policy

Interest expenses (other than interest on lease liabilities) are charged to the consolidated income statement and recognised on a time apportionment basis, taking into account the principal and the applicable interest rates using the effective interest method.

Interest on lease liabilities is charged to the consolidated income statement over the lease periods so as to produce a constant periodic rate of interest on the remaining balance of the lease liabilities (note 38) for each period.

Other finance costs, which represent banking facility commitment fees that relate to liquidity support provided to the Group's clearing houses, are recognised in the consolidated income statement in the period in which they are incurred.

	2021 $m	2020 $m
Interest on borrowings	3	5
Interest on lease liabilities (note 38)	79	89
Banking facility commitment fees	54	53
Negative interest on Euro and Japanese Yen deposits	18	34
	154	181

15. Directors' Emoluments and Interests of Directors

All Directors, including Executive Directors (HKEX's Chief Executive Officer and ex-HKEX's Interim Chief Executive), received emoluments during the years ended 31 December 2021 and 31 December 2020. The aggregate emoluments paid and payable to the Directors during the year were as follows:

	2021 $'000	2020 $'000
Executive Directors:		
Salaries and other short-term employee benefits	8,987	14,684
Performance cash incentive	19,438	80,700
Retirement benefit costs	1,100	1,333
	29,525	96,717
Employee share-based compensation benefits (note (a))	50,405	23,773
	79,930	120,490
Non-executive Directors:		
Fees	22,079	21,327
Other benefits	12	37
	22,091	21,364
	102,021	141,854

(a) Employee share-based compensation benefits represent the fair value of share awards granted under the Share Award Scheme (Awarded Shares) on grant date (note 43) recognised in the consolidated income statement during the year.

(b) The emoluments of all Directors, including HKEX's Chief Executive Officer and HKEX's ex-Interim Chief Executive who are ex-officio members, are set out below. The amounts represent emoluments paid or receivable in respect of their services as a director.

	2021							
Name of Director	Fees $'000	Salary $'000	Other benefits (note (i)) $'000	Performance cash incentive $'000	Retirement benefit costs (note (ii)) $'000	Sub-total $'000	Employee share-based compensation benefits $'000	Total $'000
Laura M Cha	4,949	–	12	–	–	4,961	–	4,961
Alejandro N Aguzin (note (iii))	–	6,048	157	16,500	756	23,461	47,762	71,223
Calvin C K Tai (note (iv))	–	2,750	32	2,938	344	6,064	2,643	8,707
Nicholas C Allen (note (v))	878	–	–	–	–	878	–	878
Apurv Bagri	1,130	–	–	–	–	1,130	–	1,130
T C Chan (note (vii))	356	–	–	–	–	356	–	356
C H Cheah	1,596	–	–	–	–	1,596	–	1,596
Anna M Cheung (note (v))	998	–	–	–	–	998	–	998
Susan M F Chow Woo	1,598	–	–	–	–	1,598	–	1,598
Anita Y M Fung (note (vii))	304	–	–	–	–	304	–	304
Rafael Gil-Tienda	1,970	–	–	–	–	1,970	–	1,970
Fred Z Hu (note (vii))	340	–	–	–	–	340	–	340
Benjamin P C Hung	1,170	–	–	–	–	1,170	–	1,170
Nisa B W Y Leung (note (vi))	878	–	–	–	–	878	–	878
Hugo P H Leung	1,577	–	–	–	–	1,577	–	1,577
John M Williamson (note (vii))	451	–	–	–	–	451	–	451
Stephen K W Yiu	3,006	–	–	–	–	3,006	–	3,006
Y Zhang (note (v))	878	–	–	–	–	878	–	878
Total	22,079	8,798	201	19,438	1,100	51,616	50,405	102,021

15. Directors' Emoluments and Interests of Directors (continued)

(b) (continued)

	2020							
Name of Director	Fees $'000	Salary $'000	Other benefits (note (i)) $'000	Performance cash incentive $'000	Retirement benefit costs (note (ii)) $'000	Sub-total $'000	Employee share-based compensation benefits $'000	Total $'000
Laura M Cha	4,894	–	37	–	–	4,931	–	4,931
Charles X Li (note (viii))	–	9,315	5,369	80,700	1,333	96,717	23,773	120,490
Apurv Bagri	1,010	–	–	–	–	1,010	–	1,010
T C Chan	1,354	–	–	–	–	1,354	–	1,354
C H Cheah	1,580	–	–	–	–	1,580	–	1,580
Susan M F Chow Woo (note (ix))	788	–	–	–	–	788	–	788
Anita Y M Fung	1,182	–	–	–	–	1,182	–	1,182
Rafael Gil-Tienda	1,945	–	–	–	–	1,945	–	1,945
Fred Z Hu	1,277	–	–	–	–	1,277	–	1,277
Benjamin P C Hung	1,125	–	–	–	–	1,125	–	1,125
Hugo P H Leung	1,536	–	–	–	–	1,536	–	1,536
John M Williamson	1,755	–	–	–	–	1,755	–	1,755
Stephen K W Yiu	2,881	–	–	–	–	2,881	–	2,881
Total	21,327	9,315	5,406	80,700	1,333	118,081	23,773	141,854

Notes:

(i) Other benefits included leave pay, insurance premium, club membership and relocation allowance.

(ii) Retirement benefit costs include employer's contributions to provident fund and long service payment. Employees who retire before normal retirement age are eligible for 18 per cent of the employer's contribution to the provident fund after completion of two years of service. The rate of vested benefit increases at an annual increment of 18 per cent thereafter reaching 100 per cent after completion of seven years of service.

(iii) Appointment effective 24 May 2021

(iv) Mr. Tai served as Interim Chief Executive and Executive Director of HKEX from 1 January 2021 to 23 May 2021, and continues in his roles as Chief Operating Officer and Co-President (up to 31 July 2021)/President (since 1 August 2021) of HKEX. The amounts disclosed above represent his remuneration from 1 January 2021 to 23 May 2021, which are calculated on a pro rata basis with reference to his actual remuneration for the year ended 31 December 2021.

(v) Elected on 28 April 2021

(vi) Appointment effective 28 April 2021

(vii) Retired on 28 April 2021

(viii) Mr. Li retired on 31 December 2020. His performance cash incentive in 2020 included a special cash incentive payment of $30 million approved by the Board.

(ix) Appointment effective 7 May 2020

(c) Directors' material interests in transactions, arrangement or contracts

No significant transactions, arrangements and contracts in relation to HKEX's business to which HKEX was a party and in which a director of HKEX had a material interest, whether directly or indirectly, subsisted at the end of the year or at any time during the year.

16. Five Top-paid Employees

One (2020: one) of the five top-paid employees was the Chief Executive Officer whose emoluments are disclosed in note 15. Details of the emoluments of the other four (2020: four) top-paid employees, which included the emoluments payable to HKEX's ex-Interim Chief Executive served as Executive Director (note 15) were as follows:

	2021 $'000	2020 $'000
Salaries and other short-term employee benefits	26,966	17,681
Inducement fees	3,614	–
Performance cash incentive	17,167	19,716
Retirement benefit costs	2,398	1,654
	50,145	39,051
Employee share-based compensation benefits (note (a))	27,844	21,554
	77,989	60,605

(a) Employee share-based compensation benefits represent the fair value of Awarded Shares on grant date (note 43) amortised to the consolidated income statement during the year.

(b) The emoluments of these four (2020: four) employees, including share-based compensation benefits, were within the following bands:

	2021 Number of employees	2020 Number of employees
$12,500,001-$13,000,000	–	1
$14,500,001-$15,000,000	–	1
$15,000,001-$15,500,000	1	1
$17,500,001-$18,000,000	1	1
$22,000,001-$22,500,000	1	–
$22,500,001-$23,000,000	1	–
	4	4

The above employees included senior executives who were also Directors of the subsidiaries during the years. No Directors of the subsidiaries waived any emoluments.

17. Taxation

Accounting Policy

Tax charge for the period comprises current and deferred tax. Tax is recognised in the consolidated income statement, except to the extent that it relates to items recognised directly in equity, in which case, the tax is also recognised directly in equity.

The current tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period in the countries where HKEX and its subsidiaries operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation and considers whether it is probable that a taxation authority will accept an uncertain tax treatment. Provisions are established where appropriate on the basis of amounts expected to be paid to tax authorities.

The Group's accounting policy for recognition of deferred tax is described in note 41.

(a) Taxation charge/(credit) in the consolidated income statement represented:

	2021 $m	2020 $m
Current tax - Hong Kong Profits Tax		
– Provision for the year	1,969	1,537
– Over provision in respect of prior years	–	(2)
	1,969	1,535
Current tax - Overseas Tax		
– Provision for the year	174	177
– Under provision in respect of prior years	2	1
	176	178
Total current tax (note (i))	2,145	1,713
Deferred tax		
– Provision for temporary differences	38	71
– Impact of changes in UK Corporate Tax rate (note (ii))	160	61
Total deferred tax (note 41(a))	198	132
Taxation charge	2,343	1,845

(i) Hong Kong Profits Tax has been provided at the rate of 16.5 per cent (2020: 16.5 per cent) on the estimated assessable profit for the year. Taxation on overseas profits has been calculated on the estimated assessable profit at the rates of taxation prevailing in the countries in which the Group operates, with the average corporation tax rate applicable to the subsidiaries in the UK being 19 per cent (2020: 19 per cent).

(ii) Through the enactment of the Finance Act 2021 in June 2021, the UK Corporate Tax rate would increase from 19 per cent to 25 per cent from 1 April 2023. As a result, a one-off deferred tax charge on acquired LME intangible assets of $160 million was recognised during the year ended 31 December 2021 (2020: $61 million deferred tax charge was recognised as the UK Corporate Tax rate remained at 19 per cent from 1 April 2020 instead of reducing to 17 per cent as previously enacted).

17. Taxation (continued)

(b) The taxation on the Group's profit before taxation differs from the theoretical amount that would arise using the weighted average tax rate applicable to profits of the consolidated entities as follows:

	2021 $m	2020 $m
Profit before taxation	**14,841**	13,332
Tax calculated at domestic tax rates applicable to profits in the respective countries (note (i))	**2,441**	2,188
Income not subject to taxation	**(410)**	(510)
Expenses not deductible for taxation purposes	**96**	59
Remeasurement of deferred tax assets and liabilities arising from changes in UK Corporate Tax rate	**160**	61
Change in deferred tax arising from unrecognised tax losses and other deferred tax adjustments	**54**	48
Under/(over) provision in respect of prior years	**2**	(1)
Taxation charge	**2,343**	1,845

(i) The weighted average applicable tax rate was 16.4 per cent (2020: 16.4 per cent).

18. Earnings Per Share

The calculation of the basic and diluted earnings per share is as follows:

(a) Basic earnings per share

	2021	2020
Profit attributable to shareholders ($m)	**12,535**	11,505
Weighted average number of shares in issue less shares held for Share Award Scheme (in '000)	**1,265,431**	1,262,746
Basic earnings per share ($)	**9.91**	9.11

(b) Diluted earnings per share

	2021	2020
Profit attributable to shareholders ($m)	**12,535**	11,505
Weighted average number of shares in issue less shares held for Share Award Scheme (in '000)	**1,265,431**	1,262,746
Effect of Awarded Shares (in '000)	**2,140**	3,057
Weighted average number of shares for the purpose of calculating diluted earnings per share (in '000)	**1,267,571**	1,265,803
Diluted earnings per share ($)	**9.89**	9.09

19. Dividends

Accounting Policy

Dividends declared are recognised as liabilities in the consolidated financial statements in the period in which the dividends are approved by shareholders or directors, where appropriate.

	2021 $m	2020 $m
First interim dividend paid:		
$4.69 (2020: $3.71) per share	5,946	4,704
Less: Dividend for shares held by Share Award Scheme (note (a))	(12)	(12)
	5,934	4,692
Second interim dividend declared (note (b)):		
$4.18 (2020: $4.46) per share based on issued share capital at 31 Dec	5,300	5,655
Less: Dividend for shares held by Share Award Scheme at 31 Dec (note (a))	(10)	(9)
	5,290	5,646
	11,224	10,338

(a) The results and net assets of The HKEX Employees' Share Award Scheme (Share Award Scheme) are included in HKEX's financial statements. Therefore, dividends for shares held by the Share Award Scheme were deducted from the total dividends.

(b) The second interim dividend declared after 31 December was not recognised as a liability at 31 December as it had not been approved by the Board.

20. Financial Assets

Accounting Policy

The Group classifies its financial assets in the following measurement categories:

- those measured at fair value (either through profit or loss (note 22) or through other comprehensive income (note 23)); and
- those measured at amortised cost (note 24).

The classification depends on the business model for managing the financial assets and the contractual terms of the cash flows.

The Group reclassifies debt investments when and only when its business model for managing those assets changes.

Financial assets of Clearing House Funds and Margin Funds are classified as current assets as they will be liquidated whenever liquid funds are required.

Other financial assets are classified as current assets unless they are expected to mature or be disposed of after twelve months from the end of the reporting period, in which case, they are included in non-current assets. For collective investment schemes which have no maturity date, they are included in current assets unless they cannot be redeemed within twelve months from the end of the reporting period.

Financial assets are derecognised when the rights to receive cash flows from the assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership of the assets.

21. Cash and Cash Equivalents

Accounting Policy

Cash and cash equivalents comprise cash on hand, bank balances and other short-term highly liquid investments that are readily convertible into known amounts of cash and are subject to an insignificant risk of changes in value (mainly reverse repurchase investments, time deposits and short-term debt securities), with original maturities of three months or less, or with remaining maturities of three months or less from the date of acquisition.

	At 31 Dec 2021				
	Cash for A-shares (notes (a) and (c)) $m	**Corporate Funds (notes (b) and 25) $m**	**Margin Funds (notes (c) and 33) $m**	**Clearing House Funds (notes (c) and 37) $m**	**Total $m**
Cash on hand and balances and deposits with banks	**7,372**	**11,443**	**54,546**	**6,884**	**80,245**
Unlisted debt securities	**–**	**–**	**–**	**75**	**75**
Reverse repurchase investments	**–**	**1,457**	**91,040**	**8,544**	**101,041**
	7,372	**12,900**	**145,586**	**15,503**	**181,361**

	At 31 Dec 2020				
	Cash for A-shares (notes (a) and (c)) $m	Corporate Funds (notes (b) and 25) $m	Margin Funds (notes (c) and 33) $m	Clearing House Funds (notes (c) and 37) $m	Total $m
Cash on hand and balances and deposits with banks	6,212	9,824	48,673	5,044	69,753
Unlisted debt securities	–	–	–	3,262	3,262
Reverse repurchase investments	–	929	73,511	10,541	84,981
	6,212	10,753	122,184	18,847	157,996

(a) Cash for A-shares includes:

(i) Renminbi (RMB) cash prepayments received by Hong Kong Securities Clearing Company Limited (HKSCC) from its Clearing Participants for releasing their allocated A-shares on the trade day. Such prepayments will be used to settle HKSCC's Continuous Net Settlement (CNS) obligations payable on the next business day; and

(ii) Hong Kong Dollar/United States Dollar cash collateral received by HKSCC from its Clearing Participants for releasing their allocated A-shares on the trade day. Such collateral will be refunded to the Clearing Participants when they settle their RMB CNS obligations on the next business day.

(b) At 31 December 2021, cash and cash equivalents of Corporate Funds of $502 million (31 December 2020: $311 million) (note 25(b)) were solely used to support Skin-in-the-Game and default fund credits of Clearing House Funds (note 37(a)).

(c) The cash and cash equivalents of Margin Funds, Clearing House Funds, Corporate Funds reserved for supporting Skin-in-the-Game and default fund credits of Clearing House Funds (note (b)), and Cash for A-shares are held for specific purposes and cannot be used by the Group to finance other activities. These balances are not included in cash and cash equivalents of the Group for cash flow purpose in the consolidated statement of cash flows.

22. Financial Assets Measured at Fair Value through Profit or Loss

Accounting Policy

Classification

Investments and other financial assets are classified under financial assets measured at fair value through profit or loss if they do not meet the conditions to be measured at fair value through other comprehensive income (note 23) or amortised cost (note 24). On initial recognition, the Group may irrevocably designate a financial asset as at fair value through profit or loss that otherwise meets the requirements to be measured at amortised cost or at fair value through other comprehensive income if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise. Derivative financial instruments (see below) are classified as financial assets measured at fair value through profit or loss when their fair values are positive.

Investments in equity instruments that are not held for trading are classified under financial assets measured at fair value through profit or loss unless the Group has made an irrevocable election at the time of initial recognition to account for the investment at fair value through other comprehensive income.

Recognition and measurement

Purchases and sales of financial assets measured at fair value through profit or loss are recognised on the trade date. They are initially recognised at fair value with transaction costs recognised as expenses in the consolidated income statement and subsequently carried at fair value. Gains and losses arising from changes in fair value are included in the consolidated income statement in the period in which they arise.

Interest income is included in net fair value gains/(losses) from these financial assets.

Fair values of quoted investments are based on the most representative prices within the bid-ask spreads which are currently considered as the bid-prices. The collective investment schemes are valued based on the latest available transaction price or redemption price for each fund, as determined by the fund administrator. For unlisted securities or financial assets without an active market, the Group establishes the fair value by using valuation techniques including the use of recent arm's length transactions, reference to other instruments that are substantially the same and discounted cash flow analysis.

Derivative financial instruments

Derivative financial instruments include outstanding derivatives contracts of LME Clear, which acts as a central counterparty to the base, ferrous and precious metals futures and options contracts traded on the LME, and forward foreign exchange contracts. Derivatives are initially recognised at fair value on trade date and subsequently remeasured at their fair values. Except where outstanding derivatives contracts are held in the capacity as a central counterparty, derivatives are categorised as held for trading with changes in fair value recognised in the consolidated income statement.

22. Financial Assets Measured at Fair Value through Profit or Loss (continued)

	At 31 Dec 2021		
	Corporate Funds (note 25) $m	Metals derivatives contracts (note (a)) $m	Total $m
Mandatorily measured at fair value			
Collective investment schemes:			
– listed outside Hong Kong	1,680	–	1,680
– unlisted	7,063	–	7,063
	8,743	–	8,743
Unlisted equity securities	694	–	694
Derivative financial instruments:			
– base, ferrous and precious metals futures and options contracts cleared through LME Clear (note (a))	–	91,424	91,424
	9,437	91,424	100,861
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months	8,491	91,424	99,915
More than twelve months	946	–	946
	9,437	91,424	100,861

	At 31 Dec 2020		
	Corporate Funds (note 25) $m	Metals derivatives contracts (note (a)) $m	Total $m
Mandatorily measured at fair value			
Collective investment schemes:			
– listed outside Hong Kong	1,131	–	1,131
– unlisted	6,362	–	6,362
	7,493	–	7,493
Unlisted equity securities	220	–	220
Derivative financial instruments:			
– base, ferrous and precious metals futures and options contracts cleared through LME Clear (note (a))	–	92,884	92,884
	7,713	92,884	100,597
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months	7,197	92,884	100,081
More than twelve months	516	–	516
	7,713	92,884	100,597

(a) Metals derivatives contracts represent the fair value of the outstanding base, ferrous and precious metals futures and options contracts cleared through LME Clear that do not qualify for netting under HKAS 32 – Financial Instruments: Presentation, where LME Clear is acting in its capacity as a central counterparty to the contracts traded on the LME. A corresponding amount has been recognised under financial liabilities at fair value through profit or loss (note 32).

23. Financial Assets Measured at Fair Value through Other Comprehensive Income

Accounting Policy

Classification

A debt investment is measured at fair value through other comprehensive income if it meets both of the following conditions and is not designated as at fair value through profit or loss:

- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The nature of any derivatives embedded in the debt instruments is considered in determining whether the cash flows are solely payment of principal and interest on the principal outstanding and are not accounted for separately. If the combined cash flows of the debt instruments and embedded derivatives are considered not satisfying the "solely payments of principal and interest" condition, the financial assets are classified as financial assets measured at fair value through profit or loss (note 22).

Recognition and measurement

At initial recognition, the Group measures a financial asset at its fair value plus transaction costs that are directly attributable to the acquisition of the financial asset.

Financial assets measured at fair value through other comprehensive income are subsequently measured at fair value. Interest income calculated using the effective interest method, foreign exchange gains and losses and impairment are recognised in the consolidated income statement. Other changes in carrying amounts are recognised in other comprehensive income. On derecognition, gains and losses accumulated in other comprehensive income are reclassified to the consolidated income statement.

Fair values of quoted investments or investments with an active market are based on the most representative prices within the bid-ask spreads which are currently considered as the bid-prices. For unlisted securities or financial assets without an active market, the Group establishes the fair value by using valuation techniques including the use of recent arm's length transactions and dealer quotes for similar investments.

Impairment

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments measured at fair value through other comprehensive income. Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all expected cash shortfalls (i.e., the difference between the cash flows due to the Group in accordance with the contract and the cash flows that the Group expects to receive).

In measuring expected credit losses, the Group takes into account reasonable and supportable information that is available without undue cost or effort. This includes information about past events, current conditions and forecasts of future economic conditions.

Expected credit losses are measured on either of the following bases:

- 12-month expected credit losses: these are losses that are expected to result from possible default events within the 12 months after the reporting date; and
- Lifetime expected credit losses: these are losses that are expected to result from all possible default events over the expected lives of the items to which the expected credit loss model applies.

23. Financial Assets Measured at Fair Value through Other Comprehensive Income (continued)

Accounting Policy (continued)

Impairment (continued)

For financial assets measured at fair value through other comprehensive income, the Group recognises a provision for impairment losses equal to 12-month expected credit losses unless there has been a significant increase in credit risk of the financial assets since initial recognition, in which case the provision for impairment losses is measured at an amount equal to lifetime expected credit losses.

Expected credit losses are measured at each reporting date to reflect changes in the financial asset's credit risk since initial recognition.

In assessing whether the credit risk of a financial asset has increased significantly since initial recognition, the Group compares the risk of default occurring on the financial asset assessed at the reporting date with that assessed at the date of initial recognition. In making this reassessment, the Group considers that a default event occurs when the financial asset is past due by 90 days or one or more credit impaired events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred.

The following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:

- failure to make payments of principal or interest on their contractually due dates;
- an actual or expected significant deterioration in a financial asset's external or internal credit rating (if available);
- an actual or expected significant deterioration in the operating results of the debtor; and
- existing or forecast changes in the technological, market, economic or legal environment that have a significant adverse effect on the debtor's ability to meet its obligation to the Group.

Depending on the nature of the financial instruments, the assessment of a significant increase in credit risk is performed on either an individual basis or a collective basis. When the assessment is performed on a collective basis, the financial assets are grouped based on shared credit risk characteristics, such as past due status and credit risk ratings.

Any change in the expected credit loss amount is recognised as an impairment loss or reversal of impairment loss in the consolidated income statement, with a corresponding adjustment to the other comprehensive income.

23. Financial Assets Measured at Fair Value through Other Comprehensive Income (continued)

	At 31 Dec 2021		
	Margin Funds (note 33) $m	Clearing House Funds (note 37) $m	Total $m
Listed debt securities (note (a))	467	–	467
Unlisted debt securities (note (a))	4,816	4,472	9,288
	5,283	4,472	9,755
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months (note (b))	5,283	4,472	9,755

	At 31 Dec 2020		
	Margin Funds (note 33) $m	Clearing House Funds (note 37) $m	Total $m
Unlisted debt securities (note (a))	5,538	2,404	7,942
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months (note (b))	5,538	2,404	7,942

(a) No provision for impairment loss was made at 31 December 2021 and 31 December 2020 as the financial assets were considered to be of low credit risk and the expected credit loss was minimal. The investments in debt securities held were of investment grade and had a weighted average credit rating of Aa2 (Moody) (31 December 2020: Aa2 (Moody)) with no history of default and there was no unfavourable current conditions and forecast of future economic conditions at the reporting dates.

(b) Includes financial assets maturing after twelve months of $3,879 million (31 December 2020: $3,435 million) attributable to Margin Funds that could readily be liquidated to meet liquidity requirements of the Fund (note 53(b)).

24. Financial Assets Measured at Amortised Cost

Accounting Policy

Classification

Investments are classified under financial assets measured at amortised cost if they satisfy both of the following conditions:

- the assets are held within a business model whose objective is to hold assets in order to collect contractual cash flows; and
- the contractual terms of the financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The nature of any derivatives embedded in the financial assets is considered in determining whether the cash flows are solely payment of principal and interest on the principal outstanding and are not accounted for separately. If the combined cash flows of the financial assets and embedded derivatives are considered not satisfying the "solely payments of principal and interest" condition, the financial assets are classified as financial assets measured at fair value through profit or loss (note 22).

Accounts receivable and other deposits are also classified under this category (note 26).

Recognition and Measurement

Financial assets measured at amortised cost are initially recognised at fair value plus transaction costs and subsequently carried at amortised cost using the effective interest method. The amortised cost is reduced by loss allowance for expected credit losses. Interest income, foreign exchange gains and losses and impairment are recognised in the consolidated income statement. Any gains and losses on derecognition is recognised in the consolidated income statement.

Impairment

The Group assesses on a forward-looking basis the expected credit loss associated with its financial assets measured at amortised cost.

For accounts receivable due from customers, the Group applies the simplified approach permitted by HKFRS 9 (2014): Financial Instruments, which requires expected lifetime losses (note 23) to be recognised from initial recognition of the receivables. Expected credit losses of receivables are estimated using a provision matrix based on the Group's historical credit loss experience, adjusted for factors that are specific to the debtors and an assessment of both the current and forecast general economic conditions at the reporting date.

For all other financial assets measured at amortised cost (including time deposits, debt instruments and other deposits), the Group recognises a provision for impairment losses equal to 12-month expected credit losses (refer to note 23 for details of assessment of credit risk) unless there has been a significant increase in credit risk of the financial assets since initial recognition, in which case the provision for impairment losses is measured at an amount equal to lifetime expected credit losses.

Expected credit losses are remeasured at each reporting date to reflect changes in the financial asset's credit risk since initial recognition (note 23). Any change in the expected credit loss amount is recognised as an impairment loss or reversal of impairment loss in the consolidated income statement, with a corresponding adjustment to the carrying amount through a loss allowance account.

The gross carrying amount of a financial asset is written off (either partially or in full) to the extent that there is no realistic prospect of recovery. This is generally the case when the Group determines that the debtor does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write-off.

Subsequent recoveries of an asset that has previously been written off are recognised as a reversal of impairment in the consolidated income statement in the period in which the recovery occurs.

24. Financial Assets Measured at Amortised Cost (continued)

	At 31 Dec 2021		
	Corporate Funds (notes (b) and 25) $m	Margin Funds (note 33) $m	Total $m
Debt securities	1,194	–	1,194
Time deposits with original maturities over three months	10,166	40,371	50,537
Other financial assets	97	–	97
	11,457	40,371	51,828
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months	10,931	40,371	51,302
More than twelve months	526	–	526
	11,457	40,371	51,828

	At 31 Dec 2020		
	Corporate Funds (notes (b) and 25) $m	Margin Funds (note 33) $m	Total $m
Debt securities	1,740	–	1,740
Time deposits with original maturities over three months	13,442	47,407	60,849
Other financial assets	99	–	99
	15,281	47,407	62,688
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months	15,182	47,407	62,589
More than twelve months	99	–	99
	15,281	47,407	62,688

(a) No provision for impairment loss for these financial assets was made at 31 December 2021 and 31 December 2020 as the financial assets were considered to be of low credit risk and the expected credit loss of these financial assets was minimal. Debt securities held were of investment grade and had a weighted average credit rating of Aa2 (Moody) (31 December 2020: Aa2 (Moody)). Deposits were placed with the investment grade banks, licensed banks and restricted licence banks regulated by the Hong Kong Monetary Authority, and banks regulated by local banking regulators in the countries where the Group's subsidiaries operate. All these financial assets had no history of default and there was no unfavourable current conditions and forecast of future economic conditions at the reporting dates.

(b) At 31 December 2021, debt securities of Corporate Funds of $765 million (31 December 2020: $930 million) (note 25(b)) were solely used to support Skin-in-the-Game and default fund credits of HKSCC Guarantee Fund (note 37(a)).

(c) The fair values of financial assets maturing after twelve months are disclosed in note 53(d)(ii).

25. Corporate Funds

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Corporate Funds comprised the following instruments:		
Cash and cash equivalents (notes (b) and 21)	**12,900**	10,753
Financial assets measured at fair value through profit or loss (note 22)	**9,437**	7,713
Financial assets measured at amortised cost (notes (b) and 24)	**11,457**	15,281
	33,794	33,747

(a) Financial assets held by the Group which are funded by share capital and funds generated from operations are classified as Corporate Funds (i.e., other than financial assets of Margin Funds, Clearing House Funds, Cash for A-shares, and base, ferrous and precious metals derivatives contracts).

(b) At 31 December 2021, cash and cash equivalents of Corporate Funds of $502 million (31 December 2020: $311 million) and financial assets measured at amortised cost of Corporate Funds of $765 million (31 December 2020: $930 million) were solely used to support Skin-in-the-Game and default fund credits of Clearing House Funds (note 37(a)).

26. Accounts Receivable, Prepayments and Deposits

Accounting Policy

Accounts receivable and other deposits are financial assets measured at amortised cost less impairment. The accounting policy for financial assets measured at amortised cost is described in note 24.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Receivable from ChinaClear, and Exchange and Clearing Participants:		
– CNS money obligations receivable (note (a))	**17,921**	32,910
– transaction levy, stamp duty and fees receivable	**950**	1,321
– Settlement Reserve Fund and Settlement Guarantee Fund held by ChinaClear (note 33)	**12,757**	11,862
– others	**23**	17
Receivables for collective investment schemes sold before 31 Dec	**98**	28
Payment in advance for collective investment schemes traded after 31 Dec	**97**	–
Other receivables, prepayments and deposits	**942**	984
Less: Provision for impairment losses of receivables (notes (b) and (c))	**(50)**	(42)
	32,738	47,080

26. Accounts Receivable, Prepayments and Deposits (continued)

(a) Upon acceptance of Stock Exchange trades for settlement in CCASS under the CNS basis, HKSCC interposes itself between the HKSCC Clearing Participants as the settlement counterparty to the trades through novation. The CNS money obligations due by/to HKSCC Clearing Participants on the Stock Exchange trades are recognised as receivables and payables (note 34) when they are confirmed and accepted on the day after the trade day.

For a trade in A-shares transacted for Stock Exchange Participants, the rights and obligations of the parties to the trade will be transferred to ChinaClear, and a market contract between HKSCC and the relevant HKSCC Clearing Participants is created through novation. The CNS money obligations due by/to HKSCC Clearing Participants and ChinaClear are recognised as receivables and payables (note 34) when the trades are confirmed on the trade day.

(b) Expected credit losses

For accounts receivable, the Group applies the simplified approach permitted by HKFRS 9 (2014), which requires expected lifetime losses to be recognised from initial recognition of the receivables.

The expected loss rates are based on the payment profiles of debtors and the corresponding historical credit losses experienced during the year. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables. On that basis, the loss allowance for accounts receivable as at 31 December 2021 and 31 December 2020 was determined as follows:

	At 31 Dec 2021			
	Current or within 30 days past due	**31 to 180 days past due**	**More than 180 days past due**	**Total**
Expected loss rate	**3%**	**10%**	**100%**	
Gross carrying amount – accounts receivable subject to expected credit loss provision ($m)	**545**	**21**	**29**	**595**
Loss allowance ($m)	**19**	**2**	**29**	**50**

	At 31 Dec 2020			
	Current or within 30 days past due	31 to 180 days past due	More than 180 days past due	Total
Expected loss rate	2%	9%	100%	
Gross carrying amount – accounts receivable subject to expected credit loss provision ($m)	581	53	26	660
Loss allowance ($m)	11	5	26	42

For the remaining receivables and other deposits (excluding prepayments) amounting to $31,964 million as of 31 December 2021 (31 December 2020: $46,266 million), the expected credit loss was minimal as these receivables were mainly due from Participants which are subject to the Group's stringent financial requirements and admission criteria, compliance monitoring and risk management measures, these receivables had no recent history of default, part of the receivables were subsequently settled, and there was no unfavourable current conditions and forecast future economic conditions at the reporting dates.

26. Accounts Receivable, Prepayments and Deposits (continued)

(c) The movements in provision for impairment losses of receivables were as follows:

	2021 $m	2020 $m
At 1 Jan	**42**	29
Provision for loss allowance for receivables under other operating expenses	**7**	12
Exchange differences	**1**	1
At 31 Dec	**50**	42

(d) CNS money obligations receivable mature within two days after the trade date. The balance of Settlement Reserve Fund and Settlement Guarantee Fund with ChinaClear is rebalanced on a monthly basis. Fees receivable are due immediately or up to 60 days depending on the type of services rendered. The majority of the remaining accounts receivable, prepayments and deposits were due within three months.

27. Principal Subsidiaries and Controlled Structured Entities

Accounting Policy

Subsidiaries are entities (including structured entities (note (b))) over which the Group has control. The Group controls an entity when the Group is exposed to, or has the rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate to administrative tasks only and the relevant activities are directed by means of contractual arrangements.

The Group considers all of its investments in collective investment schemes to be investments in unconsolidated structured entities, which are classified as financial assets measured at fair value through profit or loss (note 22).

27. Principal Subsidiaries and Controlled Structured Entities (continued)

(a) Principal subsidiaries

HKEX had direct or indirect interests in the following principal subsidiaries:

Company	Place of incorporation and operation	Issued and fully paid up share/ registered capital	Principal activities	Interest held by the Group At 31 Dec 2021	Interest held by the Group At 31 Dec 2020
Direct principal subsidiaries:					
The Stock Exchange of Hong Kong Limited	Hong Kong	929 ordinary shares ($929)	Operates the only Stock Exchange in Hong Kong	**100%**	100%
Hong Kong Futures Exchange Limited	Hong Kong	230 ordinary shares ($28,750,000)	Operates a futures and options exchange in Hong Kong	**100%**	100%
Hong Kong Securities Clearing Company Limited	Hong Kong	4 ordinary shares ($1,060,000,002)	Operates a clearing house for securities traded on the Stock Exchange in Hong Kong, Shanghai Stock Exchange and Shenzhen Stock Exchange in Mainland China through Stock Connect and the central securities depository, and provides custody and nominee services for eligible securities listed in Hong Kong and Mainland China	**100%**	100%
OTC Clearing Hong Kong Limited (OTC Clear) (note (i))	Hong Kong	11,187 ordinary shares ($921,206,421) 3,541 non-voting ordinary shares ($433,291,660)	Operates a clearing house for over-the-counter derivatives	**76%**	76%
HKFE Clearing Corporation Limited (HKCC)	Hong Kong	3,766,700 ordinary shares ($831,010,000)	Operates a clearing house for derivatives contracts traded on the Futures Exchange	**100%**	100%
The SEHK Options Clearing House Limited (SEOCH)	Hong Kong	4,000,000 ordinary shares ($271,000,000)	Operates a clearing house for stock options contracts traded on the Stock Exchange in Hong Kong	**100%**	100%
Indirect principal subsidiaries:					
The London Metal Exchange	United Kingdom	100 ordinary shares of £1 each	Operates an exchange for the trading of base, ferrous and precious metals futures and options contracts	**100%**	100%
LME Clear Limited	United Kingdom	107,500,001 ordinary shares of £1 each	Operates a clearing house for base, ferrous and precious metals futures and options contracts	**100%**	100%
Qianhai Mercantile Exchange Co., Ltd. (QME) (note (i))	Mainland China	RMB400,000,000	Operates a commodity trading platform in Mainland China	**90%**	90%

The above table lists the subsidiaries of the Group which, in the opinion of its directors, principally affect the results or assets of the Group.

27. Principal Subsidiaries and Controlled Structured Entities (continued)

(a) Principal subsidiaries (continued)

(i) Subsidiaries with non-controlling interests

At 31 December 2021, the Group held 76 per cent (31 December 2020: 76 per cent) interest in OTC Clear, while the remaining 24 per cent (31 December 2020: 24 per cent) interest was held by non-controlling interests. The non-controlling interests do not have voting rights at general meetings of OTC Clear.

QME is a limited company established in Mainland China. At 31 December 2021, the Group held 90 per cent (31 December 2020: 90 per cent) interest in QME, while the remaining 10 per cent (31 December 2020: 10 per cent) interest was held by non-controlling interests.

BayConnect is a limited company established in Mainland China. At 31 December 2021, the Group held 51 per cent (31 December 2020: 51 per cent) interest in BayConnect, while the remaining 49 per cent (31 December 2020: 49 per cent) interest was held by non-controlling interests.

Set out below is the financial information related to the non-controlling interests of each subsidiary:

	OTC Clear		QME		BayConnect	
	2021 $m	2020 $m	**2021 $m**	2020 $m	**2021 $m**	2020 $m
Amounts allocated to non-controlling interests:						
(Loss)/profit for the year	**(13)**	9	**(15)**	(13)	**(9)**	(14)
Other comprehensive (loss)/income	**–**	–	**(1)**	(2)	**4**	10
Total comprehensive (loss)/income	**(13)**	9	**(16)**	(15)	**(5)**	(4)
	At 31 Dec 2021 $m	At 31 Dec 2020 $m	**At 31 Dec 2021 $m**	At 31 Dec 2020 $m	**At 31 Dec 2021 $m**	At 31 Dec 2020 $m
Accumulated non-controlling interests	**182**	195	**(44)**	(28)	**146**	151

No summarised financial information of OTC Clear, QME and BayConnect is presented as the non-controlling interests are not material to the Group.

(ii) Significant restrictions

Cash and savings deposits are held by subsidiaries in Mainland China and are subject to exchange control restrictions. The carrying amount of these restricted assets in the consolidated statement of financial position at 31 December 2021 was $290 million (31 December 2020: $327 million).

(b) Controlled structured entities

HKEX controls two structured entities which operate in Hong Kong, particulars of which are as follows:

Structured entity	Principal activities
The HKEX Employees' Share Award Scheme (HKEX Employee Share Trust)	Purchases, administers and holds HKEX shares for the Share Award Scheme for the benefit of eligible HKEX employees (note 43)
HKEX Foundation Limited	Charitable foundation

HKEX has the power to direct the relevant activities of the HKEX Employee Share Trust and HKEX Foundation Limited and it has the ability to use its power over the entities to affect its exposure to returns. Therefore, they are considered as controlled structured entities of the Group.

28. Interests in Joint Ventures

Accounting Policy

Interests in joint ventures are accounted for in the consolidated financial statements under the equity method. The entire carrying amount of each investment is tested for impairment in accordance with the accounting policy stated in note 2(d).

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Share of net assets of joint ventures	**244**	164

(a) Details of the joint ventures were as follows:

Name	Place of business and country of incorporation	Principal activities	% of ownership interest At 31 Dec 2021	% of ownership interest At 31 Dec 2020
China Exchanges Services Company Limited (CESC)	Hong Kong	Development of index-linked and equity derivatives products	**33%**	33%
Bond Connect Company Limited (BCCL)	Hong Kong	Provision of support services related to Bond Connect	**40%**	40%

In 2012, HKEX, the Shanghai Stock Exchange and the Shenzhen Stock Exchange established a joint venture, CESC, with an aim of developing financial products and related services. CESC is a strategic investment for the Group. It is expected to enhance the competitiveness of Hong Kong, and it aims to promote the development of Mainland China's capital markets and the internationalisation of the Group.

In 2017, HKEX and China Foreign Exchange Trade System (CFETS) established a joint venture, BCCL, which provides support services related to Bond Connect. BCCL is a strategic investment of the Group as it provides services to facilitate the trading of Bond Connect, which enhances HKEX's position in the fixed income market and expands the mutual market programme from equity into bonds.

Set out below is the measurement method and the carrying amounts of the two joint ventures:

Name	Measurement method	Carrying amount At 31 Dec 2021 $m	Carrying amount At 31 Dec 2020 $m
CESC	Equity	**38**	38
BCCL	Equity	**206**	126
		244	164

The two joint ventures are private companies and no quoted market prices are available for their shares.

No summarised financial information of CESC and BCCL is presented as the joint ventures are not material to the Group.

29. Goodwill and Other Intangible Assets

Accounting Policy

Goodwill

Goodwill arising on the acquisition of subsidiaries is carried at cost as established at the date of acquisition less accumulated impairment losses, if any.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each CGU, or group of CGUs, that is expected to benefit from the synergies of the combination. Each CGU or group of CGUs to which the goodwill is allocated represents the lowest level within the entity at which the goodwill is monitored for internal management purposes (i.e., operating segment level).

Goodwill is not amortised but impairment reviews are undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. The carrying value of goodwill is compared to the recoverable amount, which is the higher of value-in-use and the fair value less costs to sell. Any impairment is recognised immediately in the consolidated income statement and is not subsequently reversed.

Tradenames

Tradenames acquired in a business combination are recognised at fair value at the acquisition date. The fair value is based on the discounted estimated royalty payments that are expected to be avoided as a result of the tradenames being owned.

Tradenames arising from the acquisition of LME entities have indefinite useful lives and are carried at cost less accumulated impairment losses, if any.

Tradenames are reviewed annually to determine whether events and circumstances continue to support the indefinite useful life assessment.

Customer relationships

Customer relationships acquired in a business combination are recognised initially at fair value at the acquisition date. The fair value is determined using the multi-period excess earnings method, whereby the asset is valued after deducting a fair return on all other assets that are part of creating the related cash flows. Subsequently, the customer relationships are carried at cost (i.e., the initial fair value) less accumulated amortisation and impairment losses, if any. Amortisation is calculated using the straight-line method over the expected lives of the customer relationships, which are determined to be 8 to 25 years.

29. Goodwill and Other Intangible Assets (continued)

Accounting Policy (continued)

Computer software systems

Development costs that are directly attributable to the design, building and testing of identifiable and unique software products controlled by the Group are recognised as intangible assets if the related software does not form an integral part of the hardware on which it operates (i.e., system software without which the related hardware can still operate) and when the following criteria are met:

- It is technically feasible to complete the software so that it will be available for use;
- Management intends to complete the software and use it;
- There is an ability to use the software;
- It can be demonstrated how the software will generate probable future economic benefits;
- Adequate technical, financial and other resources to complete the development and to use the software are available; and
- The expenditure attributable to the software during its development can be reliably measured.

Other development expenditures that do not meet these criteria are recognised in the consolidated income statement as incurred. Development costs previously recognised in the consolidated income statement are not recognised as an asset in a subsequent period.

Qualifying software system development expenditure and related directly attributable costs capitalised as intangible assets are amortised when they are available for use. They are amortised at rates sufficient to write off their costs net of residual values over their estimated useful lives of three to five years on a straight-line basis. The residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

Costs incurred in configuring or customising software in a cloud computing arrangement can only be recognised as intangible assets if the activities create an intangible asset that the Group controls and the intangible asset meets the recognition criteria. Those costs that do not result in intangible assets are expensed when service is delivered, unless they are incurred for customising the cloud-based software which the promises are not distinct to the cloud computing arrangement, where such costs are amortised over the contract terms of the cloud computing arrangement.

Costs associated with maintaining computer systems and software programmes are recognised in the consolidated income statement as incurred.

The Group's accounting policy for impairment is described in note 2(d).

29. Goodwill and Other Intangible Assets (continued)

	Goodwill $m	Other Intangible Assets: Tradenames $m	Other Intangible Assets: Customer relationships $m	Other Intangible Assets: Software systems $m	Total $m
Cost:					
At 1 Jan 2020	13,344	895	3,144	4,174	21,557
Exchange differences	(58)	(4)	(14)	3	(73)
Additions	–	–	–	1,073	1,073
Disposals	–	–	–	(45)	(45)
At 31 Dec 2020	13,286	891	3,130	5,205	22,512
At 1 Jan 2021	**13,286**	**891**	**3,130**	**5,205**	**22,512**
Exchange differences	**75**	**5**	**18**	**18**	**116**
Additions	**–**	**–**	**–**	**904**	**904**
Disposals	**–**	**–**	**–**	**(150)**	**(150)**
At 31 Dec 2021	**13,361**	**896**	**3,148**	**5,977**	**23,382**
Accumulated amortisation:					
At 1 Jan 2020	–	–	919	2,260	3,179
Exchange differences	–	–	(3)	–	(3)
Amortisation	–	–	131	513	644
Disposals	–	–	–	(45)	(45)
At 31 Dec 2020	–	–	1,047	2,728	3,775
At 1 Jan 2021	**–**	**–**	**1,047**	**2,728**	**3,775**
Exchange differences	**–**	**–**	**5**	**11**	**16**
Amortisation	**–**	**–**	**132**	**637**	**769**
Disposals	**–**	**–**	**–**	**(150)**	**(150)**
At 31 Dec 2021	**–**	**–**	**1,184**	**3,226**	**4,410**
Net book value:					
At 31 Dec 2021	**13,361**	**896**	**1,964**	**2,751**	**18,972**
At 31 Dec 2020	13,286	891	2,083	2,477	18,737
Cost of software systems under development included above:					
At 31 Dec 2021	**–**	**–**	**–**	**1,200**	**1,200**
At 31 Dec 2020	–	–	–	1,143	1,143

Amortisation of $769 million (2020: $644 million) is included in "depreciation and amortisation" in the consolidated income statement.

Tradenames are regarded as having indefinite useful lives and there is no foreseeable limit to the period over which they are expected to generate cash flows for the Group as it is expected that their values will not be reduced through usage and there are no legal or similar limits on the period for their use.

29. Goodwill and Other Intangible Assets (continued)

Impairment tests for CGUs containing goodwill and intangible assets with indefinite useful lives

Goodwill and tradenames that arose on the acquisition of subsidiaries are allocated to and monitored by management at the operating segment level, which comprises CGUs, or groups of CGUs that are expected to benefit from synergies of combination with the acquired businesses. A summary of the allocation of goodwill and tradenames to these operating segments is as follows:

	At 31 Dec 2021		At 31 Dec 2020	
	Goodwill $m	Tradenames $m	Goodwill $m	Tradenames $m
Commodities segment	10,368	702	10,310	698
Post Trade segment	2,873	194	2,858	193
Technology segment	120	–	118	–
	13,361	896	13,286	891

The Commodities segment comprises the commodities trading platform in the UK (LME commodities CGU) and the commodities trading platform in Mainland China (China commodities CGU). As the China commodities CGU is still considered at development stage, its valuation has not been taken into account in determining the recoverable amount of the Commodities segment at 31 December 2021.

The recoverable amount of each CGU is determined based on value-in-use calculations. These calculations use cash flow projections based on financial forecasts approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the estimated terminal growth rates stated below. The key assumptions, EBITDA margins, growth rates and discount rates used for value-in-use calculations are as follows:

	At 31 Dec 2021			At 31 Dec 2020		
	Commodities segment	Post Trade segment	Technology segment	Commodities segment	Post Trade segment	Technology segment
EBITDA margin (average of next five years)	61%	44%	30%	65%	49%	33%
Growth rate	3%	3%	3%	3%	3%	3%
Discount rate	8%	8%	13%	9%	9%	14%

Management determined the EBITDA margins based on past performance, expectations regarding market development, and the business model the entity undertakes. The growth rates do not exceed the long-term average growth rate for the business in the markets in which each of the CGUs currently operates. The discount rates used are pre-tax and reflect specific risks relating to each CGU.

The recoverable amounts of the operating segments based on the estimated value-in-use calculations were higher than their carrying amounts (including goodwill and tradenames) at 31 December 2021 and 31 December 2020. Accordingly, no provision for impairment loss for goodwill or tradenames is considered necessary.

If the LME trading fee in the forecast period was 17 per cent lower than forecast, or the discount rate increased to 10 per cent, the recoverable amount of the Commodities segment would be lower than its carrying amount. If LME Clear clearing fees in the forecast period was 14 per cent lower than forecast, or the discount rate increased to 10 per cent, the recoverable amount of LME Clear under the Post Trade segment would be lower than its carrying amount. Except for this, any reasonably possible changes in the key assumptions used in the value-in-use assessment would not affect management’s view on impairment at 31 December 2021.

30. Fixed Assets

Accounting Policy

Tangible fixed assets are stated at historical cost less accumulated depreciation and impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the assets.

Tangible fixed assets are depreciated when they are available for use. They are depreciated at rates sufficient to write off their costs net of expected residual values over their estimated useful lives on a straight-line basis. The residual values and useful lives are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

The useful lives of major categories of fixed assets are as follows:

Leasehold buildings	Up to 35 years or remaining lives of the leases if shorter
Leasehold improvements	Over the remaining lives of the leases but not exceeding 10 years
Computer trading and clearing systems – hardware and software	3 to 5 years
Other computer hardware and software	3 years
Furniture, equipment and motor vehicles	3 to 5 years
Data centre facilities and equipment	3 to 20 years

Expenditure incurred in the construction of leasehold buildings and other directly attributable costs are capitalised when it is probable that future economic benefits associated with the expenditure will flow to the Group and the costs can be measured reliably.

Qualifying software expenditure and related directly attributable costs are capitalised and recognised as a fixed asset if the software forms an integral part of the hardware on which it operates (i.e., operating system software without which the related hardware cannot operate).

Subsequent costs and qualifying development expenditure incurred after the completion of a system are included in the asset's carrying amount or recognised as a separate asset only when it is probable that future economic benefits associated with that item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance costs and other subsequent expenditure are charged to the consolidated income statement when incurred.

The Group's accounting policy for impairment is described in note 2(d).

30. Fixed Assets (continued)

	Leasehold buildings $m	Computer trading and clearing systems $m	Other computer hardware and software $m	Data centre facilities and equipment $m	Leasehold improvements, furniture, equipment and motor vehicles $m	Total $m
Cost:						
At 1 Jan 2020	708	1,100	631	440	1,107	3,986
Exchange differences	–	5	–	–	2	7
Additions	–	154	105	7	49	315
Disposals	–	(49)	(105)	–	(6)	(160)
At 31 Dec 2020	708	1,210	631	447	1,152	4,148
At 1 Jan 2021	**708**	**1,210**	**631**	**447**	**1,152**	**4,148**
Exchange differences	**–**	**2**	**2**	**–**	**2**	**6**
Additions	**–**	**43**	**62**	**64**	**54**	**223**
Disposals	**–**	**(92)**	**(20)**	**–**	**(9)**	**(121)**
At 31 Dec 2021	**708**	**1,163**	**675**	**511**	**1,199**	**4,256**
Accumulated depreciation:						
At 1 Jan 2020	206	912	430	196	653	2,397
Exchange differences	–	3	–	–	2	5
Depreciation	28	46	53	30	91	248
Disposals	–	(48)	(105)	–	(6)	(159)
At 31 Dec 2020	234	913	378	226	740	2,491
At 1 Jan 2021	**234**	**913**	**378**	**226**	**740**	**2,491**
Exchange differences	**–**	**2**	**2**	**–**	**2**	**6**
Depreciation	**28**	**59**	**63**	**30**	**95**	**275**
Disposals	**–**	**(92)**	**(20)**	**–**	**(9)**	**(121)**
At 31 Dec 2021	**262**	**882**	**423**	**256**	**828**	**2,651**
Net book value:						
At 31 Dec 2021	**446**	**281**	**252**	**255**	**371**	**1,605**
At 31 Dec 2020	474	297	253	221	412	1,657
Cost of fixed assets in the course of construction included above:						
At 31 Dec 2021	**–**	**19**	**72**	**46**	**50**	**187**
At 31 Dec 2020	–	150	91	–	102	343

Depreciation of $275 million (2020: $248 million) is included in “depreciation and amortisation” in the consolidated income statement.

31. Right-of-use Assets

Accounting Policy

A contract is, or contains, a lease if the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognises a right-of-use asset and a lease liability (note 38) at the lease commencement date.

For an asset leased by the Group, the right-of-use asset is initially measured at cost (which comprises the initial measurement of lease liabilities, initial direct costs, reinstatement costs, any payments made at or before the commencement date less any lease incentives received), and subsequently at cost less any accumulated depreciation and impairment losses. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

The Group has applied judgement to determine the lease term of some lease contracts which includes renewal options. The assessment of whether the Group is reasonably certain to exercise such options impacts the lease term, which significantly affects the amount of lease liabilities and right-of-use assets recognised.

Payments associated with short-term leases (i.e., leases with a lease term of 12 months or less) and low value leases are recognised on a straight-line basis as an expense in the consolidated income statement.

	Lease premium for land $m	Properties $m	Information technology facilities $m	Equipment and motor vehicles $m	Total $m
At 1 Jan 2020	19	2,304	28	15	2,366
Exchange differences	–	3	–	–	3
Additions of leases	–	60	69	–	129
Depreciation	(1)	(285)	(14)	(5)	(305)
At 31 Dec 2020	18	2,082	83	10	2,193
At 1 Jan 2021	**18**	**2,082**	**83**	**10**	**2,193**
Exchange differences	**–**	**2**	**–**	**–**	**2**
Additions and reassessment of leases	**–**	**10**	**–**	**1**	**11**
Depreciation	**(1)**	**(288)**	**(16)**	**(5)**	**(310)**
At 31 Dec 2021	**17**	**1,806**	**67**	**6**	**1,896**

(a) Lease premium for land represents prepaid lease payment for a medium-term lease in Hong Kong. In addition, the Group leases various properties, information technology facilities, office equipment and motor vehicles through lease contracts. These contracts are expected to expire within 9 years.

(b) Depreciation of $310 million (2020: $305 million) is included in "depreciation and amortisation" in the consolidated income statement.

32. Financial Liabilities at Fair Value through Profit or Loss

Accounting Policy

Financial liabilities at fair value through profit or loss are initially recognised at fair value on trade date and subsequently remeasured at their fair values. Changes in fair value of the liabilities are recognised in the consolidated income statement.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Held by LME Clear in its capacity as a central counterparty		
Derivative financial instruments:		
– base, ferrous and precious metals futures and options contracts cleared through LME Clear (note (a))	**91,424**	92,884
	91,424	92,884

(a) The amount represents the fair value of outstanding base, ferrous and precious metals futures and options contracts cleared through LME Clear that do not qualify for netting under HKAS 32: Financial Instruments-Presentation, where LME Clear is acting in its capacity as a central counterparty to the contracts traded on the LME.

33. Margin Deposits, Mainland Security and Settlement Deposits, and Cash Collateral from Clearing Participants

Accounting Policy

The obligation to refund the Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants is disclosed under current liabilities. Non-cash collateral received from Clearing Participants is not recognised on the consolidated statement of financial position.

Margin Funds are established by cash received or receivable from Clearing Participants in respect of margin deposits, Mainland security and settlement deposits, and cash collateral of the five clearing houses to cover their open positions. Part of the Mainland security and settlement deposits is used by HKSCC to satisfy its obligations as a clearing participant of ChinaClear in respect of trades transacted through Stock Connect. These funds are held in segregated accounts of the respective clearing houses for this specified purpose and cannot be used by the Group to finance any other activities.

33. Margin Deposits, Mainland Security and Settlement Deposits, and Cash Collateral from Clearing Participants (continued)

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants comprised:		
SEOCH Clearing Participants' margin deposits	**21,051**	16,873
HKCC Clearing Participants' margin deposits	**56,840**	59,422
HKSCC Clearing Participants' margin deposits, Mainland security and settlement deposits, and cash collateral	**24,353**	27,111
OTC Clear Clearing Participants' margin deposits	**7,211**	6,899
LME Clear Clearing Participants' margin deposits	**94,081**	76,703
	203,536	187,008
The margin deposits, Mainland security and settlement deposits, and cash collateral were invested in the following instruments for managing the obligations of the Margin Funds (note 20):		
Cash and cash equivalents (note 21)	**145,586**	122,184
Financial assets measured at fair value through other comprehensive income (note 23)	**5,283**	5,538
Financial assets measured at amortised cost (note 24)	**40,371**	47,407
Settlement Reserve Fund and Settlement Guarantee Fund held by ChinaClear (note 26)	**12,757**	11,862
Margin receivable from Clearing Participants	**7**	17
Less: Other financial liabilities of Margin Funds (notes (a) and 36)	**(468)**	–
	203,536	187,008

(a) Other financial liabilities of Margin Funds represent payable for debt securities traded before 31 December.

34. Accounts Payable, Accruals and Other Liabilities

Accounting Policy

Financial liabilities (other than financial liabilities at fair value through profit or loss (note 32) and financial guarantee contracts (note 36)) are initially recognised at fair value, which is then treated as their cost after initial recognition, and subsequently carried at amortised cost using the effective interest method.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Payable to ChinaClear and Exchange and Clearing Participants:		
– CNS money obligations payable (note 26(a))	**25,293**	39,120
– HKD/USD cash collateral for A-shares (note 21(a)(ii))	**–**	2
– others	**429**	553
Transaction levy payable to the SFC	**158**	185
Levies payable to the Financial Reporting Council	**32**	–
Unclaimed dividends (note (a))	**467**	376
Stamp duty payable to the Collector of Stamp Revenue	**509**	914
Payables for collective investment schemes traded before 31 Dec	**–**	504
Other payables, accruals and deposits received	**1,447**	1,320
	28,335	42,974

34. Accounts Payable, Accruals and Other Liabilities (continued)

(a) Unclaimed dividends represent dividends declared by listed companies, including HKEX, but not yet claimed by their shareholders. During the year, cash dividends of listed companies other than HKEX held by HKSCC Nominees Limited which had remained unclaimed for a period of more than seven years amounting to $12 million (2020: $9 million) were forfeited and recognised as sundry income (note 8) and dividends declared by HKEX which were unclaimed over a period of six years amounting to $12 million (2020: $21 million) were forfeited and transferred to retained earnings in accordance with HKEX's Articles of Association (note 46).

(b) CNS money obligations payable mature within two days after the trade date. The majority of the remaining accounts payable, accruals and other liabilities would mature within three months.

35. Deferred Revenue

Accounting Policy

Deferred revenue, or "contract liability" under HKFRS 15, is recognised when the Group receives consideration (or the amount is due) from the customers before the Group transfers goods or services to the customers.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Deferred revenue arising from unsatisfied performance obligations	1,454	1,420
Analysed as:		
Non-current liabilities	354	371
Current liabilities	1,100	1,049
	1,454	1,420

36. Other Financial Liabilities

Accounting Policy

A financial guarantee contract is a contract that requires the Group to make specified payments to reimburse the holder for a loss it incurs because a specified entity or person fails to make payment when due in accordance with the original or modified terms of an undertaking.

Financial guarantee contracts are initially recognised at fair value, and subsequently at the higher of the amount determined in accordance with the expected credit loss model 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.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Financial liabilities of Margin Funds (note 33)	468	–
Financial liabilities of Clearing House Funds (note 37)	25	28
Financial liabilities of Corporate Funds:		
Financial guarantee contract (note (a))	20	20
	513	48

(a) The amount represents the carrying value of a financial guarantee provided by the Group to the Collector of Stamp Revenue, details of which are disclosed in note 49(b).

37. Clearing House Funds

Accounting Policy

Clearing Participants' cash contributions to Clearing House Funds are included under current liabilities. Non-cash collateral received from Clearing Participants is not recognised on the consolidated statement of financial position.

Clearing House Funds, or default funds, are established under the Clearing House Rules. Assets contributed by the Clearing Participants and the Group are held by the respective clearing houses (together with the accumulated income less related expenses for the clearing houses in Hong Kong) expressly for the purpose of ensuring that the respective clearing houses are able to fulfil their counterparty obligations in the event that one or more of the Clearing Participants fail to meet their obligations to the clearing houses. The HKSCC Guarantee Fund also provides resources to enable HKSCC to discharge its liabilities and obligations if defaulting Clearing Participants deposit defective securities into CCASS. The amounts earmarked for contribution to the Rates and FX Guarantee Resources of OTC Clear and its accumulated investment income was also included in Clearing House Funds for presentation purpose. These funds are held in segregated accounts of the respective clearing houses for this specified purpose and cannot be used by the Group to finance any other activities. Contributions by HKSCC, HKCC and SEOCH to their respective default funds (Skin-in-the-Game) are set at 10 per cent of the size of the respective funds, and such contributions, together with default fund credits granted to HKSCC and HKCC Participants, are included in Corporate Funds.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
The Clearing House Funds comprised:		
Clearing Participants' cash contributions	**19,182**	20,439
Contribution to OTC Clear Rates and FX Guarantee Resources	**156**	156
Clearing House Funds reserves (note 45)	**612**	628
	19,950	21,223
The Clearing House Funds were invested in the following instruments for managing the obligations of the Funds (note 20):		
Cash and cash equivalents (note 21)	**15,503**	18,847
Financial assets measured at fair value through other comprehensive income (note 23)	**4,472**	2,404
Less: Other financial liabilities of Clearing House Funds (note 36)	**(25)**	(28)
	19,950	21,223
The Clearing House Funds comprised the following Funds:		
HKSCC Guarantee Fund	**4,552**	5,667
SEOCH Reserve Fund	**1,851**	909
HKCC Reserve Fund	**2,055**	1,205
OTC Clear Rates and FX Guarantee Fund	**2,778**	2,730
OTC Clear Rates and FX Guarantee Resources	**171**	171
LME Clear Default Fund	**8,543**	10,541
	19,950	21,223

(a) At 31 December 2021, the Skin-in-the-Game, together with default fund credits granted to HKSCC and HKCC Participants (note 53(c)), amounted to $1,267 million (31 December 2020: $1,241 million), and were included in Corporate Funds (note 25(b)).

38. Lease Liabilities

Accounting Policy

A contract is, or contains, a lease if the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognises a right-of-use asset (note 31) and a lease liability at the lease commencement date.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the lessee's incremental borrowing rate is used. Generally, the lessee uses its incremental borrowing rate as the discount rate. The lease liability subsequently increases by the interest cost on the lease liability and is reduced by lease payments made. Each lease payment is allocated between the principal and interest expense.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Total lease liabilities	**2,059**	2,358
Analysed as:		
Non-current liabilities	**1,760**	2,054
Current liabilities	**299**	304
	2,059	2,358

Some lease contracts include an option to renew for an additional period after the end of the initial contract term. Where practicable, the Group seeks to include in all leases such extension options exercisable by the Group to provide operational flexibility. The Group assesses at the lease commencement date the likelihood of exercising the extension options, and only include those reasonably certain to be exercised in the measurement of lease liabilities.

39. Borrowings

Accounting Policy

The potential cash payments related to put options issued by HKEX for the non-voting ordinary shares of a subsidiary held by non-controlling interests are accounted for as financial liabilities under borrowings, which are initially recognised at present value of amount payable by HKEX to acquire the shares held by non-controlling interests with a corresponding charge directly to equity under "reserve relating to written put options to non-controlling interests".

The written put option financial liabilities are subsequently measured at amortised cost (i.e., the initial fair value plus cumulative amortisation of the difference between the initial fair value and the cash payments related to the put options using the effective interest method). The interest charge arising is recorded under finance costs in the consolidated income statement.

The written put options liabilities are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least twelve months after the end of the reporting period.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Written put options to non-controlling interests	426	423
Analysed as:		
Non-current liabilities	86	83
Current liabilities	340	340
	426	423

The amounts were repayable as follows:

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Within one year	340	340
After one year but within two years	86	–
After two years but within five years	–	83
	426	423

At 31 December 2021, OTC Clear has issued 3,541 non-voting ordinary shares to certain third party shareholders at a total consideration of $433 million. As part of the arrangement, put options were written by HKEX to the non-controlling interests to sell part or all of their non-voting ordinary shares in OTC Clear to HKEX at the initial subscription prices less accumulated dividends received by the non-controlling interests. The put options are exercisable by the non-controlling interests at any time following the date falling five years after the shares were issued if the non-controlling interests can demonstrate to HKEX that they have used reasonable endeavours for at least three months to find a suitable purchaser for their shares at a price equal to or more than their fair market values. The carrying amount of written put options represents the present value of the amount payable by HKEX to acquire the shares held by non-controlling interests at the date at which the written put options first become exercisable.

At 31 December 2021, $340 million of the written put options were exercisable (31 December 2020: $340 million) and the remaining $86 million of the options will become exercisable in October 2023. During the year ended 31 December 2021, none of the written put options was exercised (2020: none).

The effective interest rate of the options before they are exercisable was 3.0 per cent (2020: 3.0 per cent) per annum.

40. Provisions

Accounting Policy

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made. The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period.

	Reinstatement costs $m	Employee benefit costs $m	Total $m
At 1 Jan 2021	106	106	212
Provision for the year	–	112	112
Amount used during the year	–	(121)	(121)
Amount paid during the year	(5)	(18)	(23)
At 31 Dec 2021	101	79	180
Analysed as:			
Non-current liabilities	98	–	98
Current liabilities	3	79	82
	101	79	180

(a) The provision for reinstatement costs represents the estimated costs of restoring the leased office premises to their original state upon the expiry of the leases. The leases are expected to expire within 9 years.

(b) The provision for employee benefit costs represents unused annual leave that has been accumulated at the end of the reporting period. It is expected to be fully utilised in the coming twelve months.

41. Deferred Taxation

Accounting Policy

Deferred tax is recognised, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements, except that deferred tax liabilities are not recognised if they arise from the initial recognition of goodwill. Deferred tax is determined using tax rates that have been enacted or substantively enacted by the end of the reporting period and are expected to apply when the related deferred tax asset is realised or the deferred tax liability is settled.

Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences or the current tax losses can be utilised.

(a) The movements on the net deferred tax liabilities/(assets) were as follows:

	Accelerated tax depreciation		Intangible assets[1]		Tax losses		Employee benefits		Leases		Financial assets		Total	
	2021 $m	2020 $m	2021 $m	2020 $m	2021 $m	2020 $m	2021 $m	2020 $m	2021 $m	2020 $m	2021 $m	2020 $m	2021 $m	2020 $m
At 1 Jan	382	305	566	533	(19)	(22)	(29)	(21)	(1)	(20)	5	–	904	775
Exchange differences	–	–	4	(3)	–	–	–	–	–	–	–	–	4	(3)
Charged/(credited) to the consolidated income statement (note 17(a))	25	77	135	36	6	3	4	(3)	–	19	28	–	198	132
(Credited)/charged to the consolidated statement of comprehensive income	–	–	–	–	–	–	–	–	–	–	(1)	5	(1)	5
Charged/(credited) directly to retained earnings	–	–	–	–	–	–	2	(5)	–	–	–	–	2	(5)
At 31 Dec	407	382	705	566	(13)	(19)	(23)	(29)	(1)	(1)	32	5	1,107	904

1 Intangible assets include customer relationships and tradenames.

(b) The Group had unrecognised tax losses of $1,810 million at 31 December 2021 (31 December 2020: $1,623 million) that may be carried forward for offsetting against future taxable income. Tax losses of PRC entities amounting to $772 million (31 December 2020: $662 million) will expire 5 years after the losses were incurred, and the remaining tax losses have no expiry date and can be carried forward indefinitely.

41. Deferred Taxation (continued)

(c) Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when the deferred taxes relate to tax levied by the same taxation authority on the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis. The following amounts, determined after appropriate offsetting, are shown in the consolidated statement of financial position:

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Deferred tax assets	(25)	(26)
Deferred tax liabilities	1,132	930
	1,107	904

(d) The analysis of deferred tax (assets)/liabilities is as follows:

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Deferred tax assets		
Amounts to be recovered after more than 12 months	(23)	(25)
Amounts to be recovered within 12 months	(2)	(1)
	(25)	(26)
Deferred tax liabilities		
Amounts to be settled after more than 12 months	1,114	921
Amounts to be settled within 12 months	18	9
	1,132	930
Net deferred tax liabilities	1,107	904

42. Share Capital and Shares Held for Share Award Scheme

Accounting Policy

Shares

Ordinary shares are classified as equity.

Shares held for Share Award Scheme

Where HKEX shares are acquired by the Share Award Scheme from the market or by electing for scrip in lieu of cash dividends, the total consideration of shares acquired from the market (including any directly attributable incremental costs) or under the scrip dividend scheme is presented as Shares held for Share Award Scheme and deducted from total equity.

Upon vesting, the related costs of the vested Awarded Shares purchased from the market and shares acquired from reinvesting dividends or received under the scrip dividend scheme (dividend shares) are credited to Shares held for Share Award Scheme, with a corresponding decrease in employee share-based compensation reserve for Awarded Shares, and decrease in retained earnings for dividend shares.

Issued and fully paid – ordinary shares with no par:

	Number of shares '000	Number of shares held for Share Award Scheme[1] '000	Share capital $m	Shares held for Share Award Scheme $m	Total $m
At 1 Jan 2020	1,261,201	(3,274)	30,449	(770)	29,679
Shares issued in lieu of cash dividends (note (a))	6,636	(45)	1,438	(10)	1,428
Shares purchased for Share Award Scheme (note (b))	–	(84)	–	(31)	(31)
Vesting of shares of Share Award Scheme (note (c))	–	1,420	4	326	330
At 31 Dec 2020	1,267,837	(1,983)	31,891	(485)	31,406
At 1 Jan 2021	**1,267,837**	**(1,983)**	**31,891**	**(485)**	**31,406**
Shares purchased for Share Award Scheme (note (b))	**–**	**(1,455)**	**–**	**(681)**	**(681)**
Vesting of shares of Share Award Scheme (note (c))	**–**	**1,067**	**5**	**265**	**270**
At 31 Dec 2021	**1,267,837**	**(2,371)**	**31,896**	**(901)**	**30,995**

1 Excluding shares vested but not yet transferred to awardees of 33,763 shares at 31 December 2021 (31 December 2020: 307,960 shares)

42. Share Capital and Shares Held for Share Award Scheme (continued)

(a) During the year ended 31 December 2020, the following shares were issued to shareholders who elected to receive HKEX shares in lieu of cash dividends pursuant to the scrip dividend scheme:

	2020				
	Number of shares	Scrip price $	Share capital $m	Shares held for Share Award Scheme $m	Total $m
Issued as 2019 second interim scrip dividends:					
– total	6,635,576	216.70	1,438	–	1,438
– to Share Award Scheme	(45,127)	216.70	–	(10)	(10)
	6,590,449		1,438	(10)	1,428

Following the suspension of the scrip dividend scheme from August 2020, no HKEX shares were issued during the year ended 31 December 2021.

(b) During the year, the Share Award Scheme (note 43) acquired 1,454,300 HKEX shares (2020: 84,000 shares) through purchases on the open market. The total amount paid to acquire the shares during the year was $681 million (2020: $31 million).

(c) During the year, a total of 1,066,959 HKEX shares (2020: 1,419,931 shares) were vested. The total cost of the vested shares was $265 million (2020: $326 million). In 2021, $5 million (2020: $4 million) was credited to share capital in respect of vesting of certain shares whose fair values were higher than the costs.

43. Employee Share-based Arrangements

Accounting Policy

The Group operates the Share Award Scheme (the Scheme), which is an equity-settled share-based compensation plan under which Awarded Shares are granted to employees of the Group (including the Executive Director) as part of their remuneration package.

The amount to be expensed as share-based compensation expenses is determined by reference to the fair value of the Awarded Shares granted, taking into account all non-vesting conditions associated with the grants on grant date. The total expense is recognised over the relevant vesting periods (or on the grant date if the shares vest immediately), with a corresponding credit to an employee share-based compensation reserve under equity.

For those Awarded Shares which are amortised over the vesting periods, the Group revises its estimates of the number of Awarded Shares that are expected to ultimately vest based on the vesting conditions at the end of each reporting period. Any resulting adjustment to the cumulative amount recognised in prior years is charged/credited to employee share-based compensation expense in the current year, with a corresponding adjustment to the employee share-based compensation reserve.

The movements of employee share-based compensation reserve were as follows:

	2021 $m	2020 $m
At 1 Jan	232	250
Employee share-based compensation benefits (note 10)	324	281
Vesting of shares of Share Award Scheme	(250)	(299)
At 31 Dec	306	232

The Scheme allows shares to be granted to employees of the Group, including the Executive Director (Employee Share Awards).

The awarded amounts for the purchase of shares (Awarded Shares) to eligible employees and/or selected senior executives (Awarded Sum) are approved by the Board. The Awarded Shares are either purchased from the market or are awarded by regranting the forfeited or unallocated shares held by the Scheme. Before vesting, the Awarded Shares are held in a trust set up by the Scheme.

Further shares are derived from dividends payable on the Awarded Shares held in the Scheme from reinvesting dividends or scrip shares received under the scrip dividend scheme (dividend shares), and are allocated to the awardees on a pro rata basis and have the same vesting periods as the related Awarded Shares.

43. Employee Share-based Arrangements (continued)

(a) Employee Share Awards

Employee Share Awards vest progressively over the vesting period after the awards are granted, provided that the relevant awardee (i) remains employed by the Group (ii) is made redundant or (iii) is deemed to be a "good leaver", and Employee Share Awards vest immediately if the relevant awardee retires on reaching normal retirement age or suffers from permanent disability. Unless otherwise determined by the Board, the Remuneration Committee or the Chief Executive Officer, the vesting period of Employee Share Awards granted is three years, and the shares will be vested in two equal tranches from the second to the third year after the shares are granted.

For awardees who do not meet the vesting criteria, the unvested shares are forfeited. The forfeited shares are held by the trustee of the Scheme who may award such shares to the other awardees, taking into consideration recommendations of the Board.

Details of Awarded Shares awarded during 2020 and 2021

Date of award	Number of Awarded Shares awarded	Average fair value per share $	Vesting period
22 Jun 2020	9,700	307.10	17 Jun 2022 – 17 Jun 2023
4 Dec 2020	42,500	389.08	8 Feb 2021 – 8 Feb 2024
13 May 2021	600	442.39	31 Mar 2022 – 31 Mar 2023
13 May 2021	727,088[1]	439.26	9 Dec 2022 – 9 Dec 2023
2 Jun 2021	211,756[2]	484.20	24 May 2022 – 24 May 2023
6 Sep 2021	5,300	493.22	6 Feb 2022 – 11 Feb 2024
29 Sep 2021	6,100	474.48	13 Jan 2022 – 13 Jan 2024
30 Sep 2021	200	478.82	11 Feb 2022 – 11 Feb 2024
30 Sep 2021	400	479.36	13 Jan 2022 – 13 Jan 2024
12 Nov 2021	900	466.12	27 Mar 2022 – 24 Mar 2024
30 Nov 2021	21,200	435.15	30 Nov 2023 – 30 Nov 2024

1 261,516 shares were awarded by re-granting the forfeited or unallocated shares held by the Scheme

2 The shares were awarded to HKEX's Chief Executive Officer.

In addition to the above, total Awarded Sum amounting to $377 million were also granted to selected employees in 2021. At 31 December 2021, the shares had not yet been awarded to the employees.

Details of Awarded Shares (excluding dividend shares) vested during 2020 and 2021

During the year, 1,011,400 HKEX shares (2020: 1,112,075 shares) were vested at an aggregate fair value of $250 million (2020: $257 million), of which none of shares were for the HKEX's Chief Executive Officer (2020: 146,156 shares were for the then HKEX's Chief Executive).

43. Employee Share-based Arrangements (continued)

(b) Summary of Awarded Shares awarded and dividend shares

Movements in number of Awarded Shares awarded and dividend shares

	2021	2020
Number of Awarded Shares and dividend shares:		
Outstanding at 1 Jan	1,722,044	3,272,042
Awarded[3]	973,544	52,200
Forfeited	(155,227)	(246,576)
Vested	(1,011,400)	(1,339,766)
Dividend shares:		
– allocated to awardees	37,818	73,046
– allocated to awardees but subsequently forfeited	(5,009)	(8,737)
– vested[4]	(55,559)	(80,165)
Outstanding at 31 Dec	1,506,211	1,722,044

3 Average fair value per share was $449.51 (2020: $373.85).

4 In 2021, 55,559 dividend shares (2020: 80,165 shares), of which none of shares were for the HKEX's Chief Executive Officer (2020: 21,065 shares were for the then HKEX's Chief Executive), at a cost of $20 million (2020: $21 million) were vested.

Remaining vesting periods or performance period of Awarded Shares awarded and dividend shares outstanding at 31 December

	At 31 Dec 2021		At 31 Dec 2020	
	Remaining vesting or performance period	Number of Awarded Shares and dividend shares outstanding	Remaining vesting or performance period	Number of Awarded Shares and dividend shares outstanding
Shares awarded in				
2018	0.05 year	117	0.05 year to 1.05 years	523,567
2019	0.19 year to 0.95 year	497,700	0.11 year to 1.95 years	1,093,163
2020	0.11 year to 2.11 years	38,600	0.11 year to 3.11 years	52,200
2021	0.04 year to 2.92 years	939,430	–	–
Dividend shares	0.05 year to 2.11 years	30,364	0.05 year to 2.46 years	53,114
		1,506,211		1,722,044

(c) Total number of shares held by Share Award Scheme

	At 31 Dec 2021	At 31 Dec 2020
Number of Awarded Shares and dividend shares (note (b))	1,506,211	1,722,044
Forfeited or unallocated shares[5]	864,690	261,516
Number of shares held by Share Award Scheme[6] (note 42)	2,370,901	1,983,560

5 The shares will be granted to eligible employees in future.

6 Excluding shares vested but not yet transferred to awardees of 33,763 shares at 31 December 2021 (31 December 2020: 307,960 shares).

44. Hedging and Revaluation Reserves

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Hedging reserve (note (a))	**(2)**	–
Revaluation reserve (note (b))	**17**	25
	15	25

(a) Hedging reserve

Accounting Policy

The Group designates certain bank balances as hedges of foreign exchange risks associated with the cash flows of highly probable forecast transactions (cash flow hedges).

The Group documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategies for undertaking various hedge transactions. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the hedging instruments have been and will continue to be highly effective in offsetting changes in cash flows of hedged items.

The changes in the fair value relating to the effective portion of hedging instruments that are designated and qualified as cash flow hedges is recognised in other comprehensive income and accumulated in hedging reserve in equity. The gains or losses relating to the ineffective portion are recognised immediately in the consolidated income statement.

Amounts accumulated in hedging reserve are reclassified to the consolidated income statement in the periods when the hedged item is recognised in the consolidated income statement. Where the hedged item subsequently results in the recognition of a non-financial asset (such as fixed assets), the amounts accumulated in hedging reserve are reclassified and included in the initial measurement of the cost of the asset.

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 existing in hedging reserve at that time remains in hedging reserve and is recognised when the forecast transaction is ultimately recognised in the consolidated income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that is retained in hedging reserve is immediately reclassified to the consolidated income statement.

44. Hedging and Revaluation Reserves (continued)

(a) Hedging reserve (continued)

The movements of hedging reserve were as follows:

	2021 $m	2020 $m
At 1 Jan	–	6
Cash flow hedges:		
– net fair value (losses)/gains of hedging instruments	(7)	10
– reclassified to the consolidated income statement as staff costs and related expenses (note (i))	3	(15)
– reclassified to the consolidated income statement as information technology and computer maintenance expenses (note (i))	–	(1)
– reclassified to intangible assets (note (i))	2	–
At 31 Dec	(2)	–
Fair value of hedging instruments at 31 Dec	341	–

(i) The functional currencies of LME and LME Clear are United States Dollars (USD). To hedge the foreign currency exposure of their operating expenses, these entities have designated certain bank balances of pound sterling (GBP) as cash flow hedges for hedging the foreign exchange risk of their staff costs and related expenses, information technology and computer maintenance expenses and intangible assets. At 31 December 2021, GBP32.3 million of the bank balances was outstanding (31 December 2020: GBP Nil).

(ii) The total amounts arising from ineffective cash flow hedges recognised in the consolidated income statement of the Group during the year amounted to $Nil (2020: $Nil).

(b) Revaluation reserve

	2021 $m	2020 $m
At 1 Jan	25	(3)
Changes in fair value of financial assets measured at fair value through other comprehensive income	(9)	33
Deferred tax on financial assets measured at fair value through other comprehensive income	1	(5)
At 31 Dec	17	25

45. Designated Reserves

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Clearing House Funds reserves (notes (a) and 37)	612	628
PRC statutory reserve (note (b))	11	–
At 31 Dec	623	628

(a) Clearing House Funds reserves

	HKSCC Guarantee Fund reserve $m	SEOCH Reserve Fund reserve $m	HKCC Reserve Fund reserve $m	OTC Clear Rates and FX Guarantee Fund reserve $m	OTC Clear Rates and FX Guarantee Resources reserve $m	Total $m
At 1 Jan 2020	174	111	239	51	12	587
Surplus of net investment income net of expenses of Clearing House Funds transfer from retained earnings (note 46)	11	2	5	20	3	41
At 31 Dec 2020	185	113	244	71	15	628
At 1 Jan 2021	185	113	244	71	15	628
(Deficit)/surplus of net investment income net of expenses of Clearing House Funds transfer (to)/from retained earnings (note 46)	(20)	1	–	3	–	(16)
At 31 Dec 2021	165	114	244	74	15	612

(b) PRC statutory reserve

	2021 $m	2020 $m
At 1 Jan	–	–
Transfer from retained earnings (note 46)	11	–
At 31 Dec	11	–

Upon relevant PRC laws, each of the subsidiaries in Mainland China is required to appropriate 10 per cent of its net profit to a non-distributable statutory reserve until such reserve reaches 50 per cent of the subsidiary's registered capital. The statutory reserve can be utilised, upon approval by the shareholders of the subsidiary, to offset accumulated losses or to increase the paid-in capital of the subsidiary, provided that the balance of the reserve after transfer to paid-up capital is not less than 25 per cent of the subsidiary's registered capital.

46. Retained Earnings

	2021 $m	2020 $m
At 1 Jan	**17,214**	14,204
Profit attributable to shareholders	**12,535**	11,505
Transfer from/(to) Clearing House Funds reserves (note 45(a))	**16**	(41)
Transfer to PRC statutory reserve (note 45(b))	**(11)**	–
Dividends:		
2020/2019 second interim dividend	**(5,646)**	(3,761)
2021/2020 first interim dividend	**(5,934)**	(4,692)
Unclaimed HKEX dividends forfeited (note 34(a))	**12**	21
Vesting of shares of Share Award Scheme	**(20)**	(31)
UK tax relating to Share Award Scheme	**7**	9
At 31 Dec	**18,173**	17,214

47. Notes to the Consolidated Statement of Cash Flows

(a) Reconciliation of profit before taxation to net cash inflow from principal operating activities

	2021 $m	2020 $m
Profit before taxation	**14,841**	13,332
Adjustments for:		
Net interest income	**(766)**	(1,773)
Net fair value gains on financial assets mandatorily measured at fair value through profit or loss and financial liabilities at fair value through profit or loss	**(485)**	(487)
Finance costs	**154**	181
Depreciation and amortisation	**1,354**	1,197
Employee share-based compensation benefits	**324**	281
Provision for impairment losses of receivables	**7**	12
Share of profits less losses of joint ventures	**(80)**	(69)
Other non-cash adjustments	**(43)**	12
Net increase in financial assets of Margin Funds	**(17,005)**	(44,439)
Net increase in financial liabilities of Margin Funds	**16,996**	44,472
Net decrease/(increase) in Clearing House Fund financial assets	**1,276**	(6,075)
Net (decrease)/increase in Clearing House Fund financial liabilities	**(1,260)**	6,034
Increase in cash prepayments and collateral for A-shares	**(1,160)**	(4,752)
Increase in Corporate Funds used for supporting Skin-in-the-Game and default fund credits	**(26)**	(423)
Decrease/(increase) in accounts receivable, prepayments and deposits	**15,389**	(14,901)
(Decrease)/increase in other liabilities	**(14,197)**	19,957
Net cash inflow from principal operations	**15,319**	12,559
Interest received from financial assets measured at amortised cost and cash and cash equivalents	**775**	2,066
Interest paid to Participants	**(47)**	(349)
Income tax paid	**(2,150)**	(2,320)
Net cash inflow from principal operating activities	**13,897**	11,956

47. Notes to the Consolidated Statement of Cash Flows (continued)

(b) Reconciliation of liabilities arising from financing activities

	Borrowings $m	Lease liabilities $m
At 1 Jan 2020	418	2,506
Additions of leases	–	127
Interest on borrowings (note 14)	5	–
Interest on lease liabilities (note 14)	–	89
Cash flows		
– Payments of capital elements of lease liabilities	–	(284)
– Payments of interest elements of lease liabilities	–	(89)
Exchange differences	–	9
At 31 Dec 2020	423	2,358
At 1 Jan 2021	**423**	**2,358**
Additions and reassessment of leases	**–**	**10**
Interest on borrowings (note 14)	**3**	**–**
Interest on lease liabilities (note 14)	**–**	**79**
Cash flows		
– Payments of capital elements of lease liabilities	**–**	**(310)**
– Payments of interest elements of lease liabilities	**–**	**(79)**
Exchange differences	**–**	**1**
At 31 Dec 2021	**426**	**2,059**

(c) Cash outflow for leases

Amounts for leases included in the consolidated statement of cash flow comprise the following:

	2021 $m	2020 $m
Within operating cash flows	**(1)**	(4)
Within financing cash flows	**(389)**	(373)
Total lease rental paid	**(390)**	(377)

48. Commitments

Commitments in respect of capital expenditures

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Contracted but not provided for:		
– fixed assets	21	15
– intangible assets	175	146
Authorised but not contracted for:		
– fixed assets	361	260
– intangible assets	258	469
	815	890

49. Contingent Liabilities

Accounting Policy

A contingent liability is a possible obligation that arises from past events and whose existence will only be confirmed by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. It can also be a present obligation arising from past events that is not recognised because it is not probable that outflow of economic resources will be required or the amount of obligation cannot be measured reliably.

A contingent liability is not recognised but is disclosed in the consolidated financial statements. When a change in the probability of an outflow occurs so that outflow is probable or when the amount of obligation becomes reliably measurable, it will then be recognised as a provision.

At 31 December 2021, the Group's material contingent liabilities were as follows:

(a) The Group had a contingent liability in respect of potential calls to be made by the SFC to replenish all or part of compensation less recoveries paid by the Unified Exchange Compensation Fund established under the repealed Securities Ordinance up to an amount not exceeding $71 million (31 December 2020: $71 million). Up to 31 December 2021, no calls had been made by the SFC in this connection.

(b) The Group had undertaken to indemnify the Collector of Stamp Revenue against any underpayment of stamp duty by its Participants of up to $200,000 for each Participant (note 36(a)). In the unlikely event that all of its 638 trading Participants (31 December 2020: 635) covered by the indemnity at 31 December 2021 defaulted, the maximum contingent liability of the Group under the indemnity would amount to $128 million (31 December 2020: $127 million).

(c) HKEX had given an undertaking in favour of HKSCC to contribute up to $50 million in the event of HKSCC being wound up while it is a wholly-owned subsidiary of HKEX or within one year after HKSCC ceases to be a wholly-owned subsidiary of HKEX, for payment of the liabilities of HKSCC contracted before HKSCC ceases to be a wholly-owned subsidiary of HKEX, and for the costs of winding up.

50. Connected Transactions and Material Related Party Transactions

(a) Connected transactions and related party transactions

Certain Directors of HKEX may be directors and/or shareholders of (i) Exchange Participants of the Stock Exchange, Futures Exchange, the LME and QME (Exchange Participants) and Clearing Participants of HKSCC, HKCC, SEOCH, LME Clear and OTC Clear (Clearing Participants); (ii) companies listed on the Stock Exchange; and (iii) Exchange Participants for buying shares on behalf of HKSCC. Securities and derivatives contracts traded by, and fees levied on, these Exchange Participants and Clearing Participants, fees levied on these listed companies and fees paid to these Exchange Participants for buying shares on behalf of HKSCC are all undertaken in the ordinary course of business of the Group on the standard terms and conditions applicable to all other Exchange Participants, Clearing Participants, listed companies and Exchange Participants for buying shares on behalf of HKSCC.

(b) Material related party transactions

In addition to the above and those disclosed elsewhere in these consolidated financial statements, the Group entered into the following material related party transactions:

(i) Key management personnel compensation

	2021 $m	2020 $m
Salaries and other short-term employee benefits	**173**	233
Employee share-based compensation benefits	**104**	68
Retirement benefit costs	**7**	8
	284	309

(ii) Post-retirement benefit plans

The Group has sponsored an ORSO Plan and the LME Pension Scheme as its post-retirement benefit plans (note 10(a)).

(iii) Save as aforesaid, the Group has entered into other transactions in the ordinary course of business with companies that are related parties but the amounts were immaterial.

51. Pledges of Assets

LME Clear receives securities and gold bullion as non-cash collateral for margins posted by its Clearing Participants. The total fair value of this non-cash collateral was US$971 million (HK$7,570 million) at 31 December 2021 (31 December 2020: US$2,241 million (HK$17,376 million)). LME Clear is obliged to return this non-cash collateral upon request when the Clearing Participants' collateral obligations have been substituted with cash collateral or otherwise discharged. LME Clear is permitted to sell or pledge such collateral in the event of the default of a Clearing Participant. Any non-cash collateral lodged at central securities depositories or custodians is subject to a lien or pledge for the services they provide in respect of the collateral held.

LME Clear also holds securities as collateral in respect of its investments in overnight triparty reverse repurchase agreements under which it is obliged to return equivalent securities to the counterparties at maturity of the reverse repurchase agreements. The fair value of this collateral was US$13,513 million (HK$105,351 million) at 31 December 2021 (31 December 2020: US$11,486 million (HK$89,061 million)). Such non-cash collateral, together with certain financial assets amounting to US$400 million (HK$3,117 million) at 31 December 2021 (31 December 2020: US$496 million (HK$3,845 million)), have been pledged to LME Clear's investment agent and custodian banks under security arrangements for the settlement and depository services they provide in respect of the collateral and investments held.

Non-cash collateral is not recorded on the consolidated statement of financial position of the Group.

52. Capital Management

The Group's objectives when managing capital are:

- To safeguard the Group's ability to continue as a going concern, so that it continues to provide returns for shareholders and benefits for other stakeholders;
- To support the Group's stability and growth;
- To provide capital for the purpose of strengthening the Group's risk management capability; and
- To ensure that the Group's regulated entities comply with their respective regulatory capital requirements.

The Group actively and regularly reviews and manages its capital structure to ensure an optimal capital structure and shareholder returns. The Group takes into consideration the expected capital requirements and capital efficiency, regulatory capital requirements of its regulated entities, prevailing and projected profitability, projected operating cash flows, projected capital expenditures and projected strategic investment opportunities.

The Group has a number of regulated entities that are subject to regulatory capital requirements set by the respective regulators. The regulatory capital requirements of the Group's subsidiaries at 31 December 2021 are summarised as follows:

Subsidiaries	Regulatory authority	Regulatory capital requirements
Stock Exchange, Futures Exchange	SFC, Hong Kong	Maintain at all times net current assets funded by equity sufficient to cover each subsidiary's projected total operating expenses for at least the following six months (approximately $1,674 million), and net current assets funded by equity or long-term loans from HKEX sufficient to cover its projected total operating expenses for at least the following twelve months (approximately $3,348 million).
HKSCC, HKCC, SEOCH, OTC Clear	SFC, Hong Kong	Maintain at all times liquid net assets funded by equity (i.e., liquid assets of Corporate Funds (excluding those solely used to support Skin-in-the-Game and default fund credits of Clearing House Funds) minus non-current liabilities) sufficient to cover each subsidiary's projected total operating expenses for at least the following six months (approximately $809 million), and net current assets funded by equity or long-term loans from HKEX (excluding those solely used to support Skin-in-the-Game and default fund credits of Clearing House Funds) sufficient to cover its projected total operating expenses for at least the following twelve months (approximately $1,618 million).
LME	The Financial Conduct Authority, UK	Maintain at all times net capital and liquid financial resources of at least the costs of orderly closure plus a risk based capital charge, amounting to US$81.5 million (approximately HK$635 million).
LME Clear	Bank of England, UK	Maintain cash or highly liquid financial instruments with minimal market and credit risk, amounting to US$98.5 million (HK$768 million), plus 10 per cent minimum reporting threshold of US$9.9 million (HK$77 million) and US$24.6 million (HK$192 million) financial resources available to set off losses in the event of default. Capital resources must be in the form of share capital, retained earnings and reserves, reduced by intangible assets and retained losses.

At 31 December 2021, the Group had set aside $4,000 million (31 December 2020: $4,000 million) of shareholders' funds for the purpose of supporting the risk management regime of the clearing houses in their roles as central counterparties, of which $2,160 million (31 December 2020: $2,160 million) had been injected into HKSCC, HKCC and SEOCH as share capital.

52. Capital Management (continued)

All regulated entities of the Group had adequate capital to meet their regulatory requirements at 31 December 2021 and 31 December 2020.

The Group adopts a dividend policy of providing shareholders with regular dividends with a normal target payout ratio of 90 per cent of the Group's profit of the year (excluding the financial results of HKEX Foundation Limited) and it may also offer a scrip dividend alternative to shareholders if considered appropriate. The consideration of share capital issued under the scrip dividend scheme (if any), together with the 10 per cent of the profit not declared as dividends, are retained as capital of the Group for future use.

The Group monitors capital on the basis of its gross gearing ratio (i.e., gross debt divided by adjusted capital) and net gearing ratio (i.e., net debt divided by adjusted capital). For this purpose, the Group defines gross debt as the total borrowings (excluding lease liabilities), net debt as gross debt less cash and cash equivalents of Corporate Funds (excluding those reserved for supporting Skin-in-the-Game and default fund credits of Clearing House Funds), and adjusted capital as all components of equity attributable to shareholders of HKEX other than designated reserves. The Group's strategy is to maintain the ratios at less than 50 per cent.

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Borrowings (note 39)	426	423
Less:		
Cash and cash equivalents of Corporate Funds (note 21)	12,900	10,753
Less: Amounts reserved for supporting Skin-in-the-Game and default fund credits of Clearing House Funds (note 21(b))	(502)	(311)
	(12,398)	(10,442)
Net debt (note (a))	–	–
Equity attributable to shareholders of HKEX	49,626	48,918
Less: Designated reserves (note 45)	(623)	(628)
Adjusted capital	49,003	48,290
Gross gearing ratio	1%	1%
Net gearing ratio	0%	0%

(a) Net debt is zero when the amount of cash and cash equivalents of Corporate Funds (excluding those reserved for supporting Skin-in-the-Game and default fund credits of Clearing House Funds) is higher than gross debt.

53. Financial Risk Management

The Group's activities expose it to a variety of financial risks: market risk (including foreign exchange risk, price risk and interest rate risk), liquidity risk and credit risk. The Group's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the Group's performance.

(a) Market risk

Nature of risk

Market risk is the risk of loss arising from movements in observable market variables such as foreign exchange rates, equity prices and interest rates. The Group is exposed to market risk primarily through its financial assets and financial liabilities (including borrowings and lease liabilities). The Group is also exposed to credit-contingent market risk arising from the default of Clearing Participants, which is further elaborated under credit risk (note (c)).

Risk management

The Group's investment policy is to prudently invest all funds managed by the Group in a manner which will satisfy liquidity requirements, safeguard financial assets and manage risks while optimising return on investments.

Investment and fund management by HKEX and the Group's subsidiaries is governed by the HKEX Group Investment Guidelines, which are approved by the Board and reviewed regularly. Investment restrictions and guidelines set out in the Investment Guidelines form an integral part of risk control. Fund-specific restrictions and guidelines are set according to the investment objectives of each fund (i.e., Corporate Funds, Clearing House Funds, Margin Funds and Cash for A-shares). Specific limits are set for each fund to control risks (e.g., permissible asset type, asset allocation, liquidity, credit requirement, counterparty concentration, maturity, foreign exchange exposures, interest rate risks and stress loss limits under extreme but plausible conditions) of the investments.

A portion of the Corporate Funds is invested in collective investment schemes (External Portfolio) under the External Investment Guidelines. The guidelines include an asset allocation policy which aims to preserve and enhance the return of the External Portfolio by investing in a diverse mix of asset classes whose returns are not highly correlated to each other over time to mitigate portfolio volatility and asset class concentration risk. The guidelines also define the risk-return parameters for the External Portfolio and restrictions to be observed, and the governance structure on selection and monitoring of fund managers. The fund managers of the collective investment schemes are selected based on their performance track records and areas of expertise, and each should be financially strong and stable, and their selections are approved by the Investment Committee as delegated by the Board. Specific risk management limits are set for the External Portfolio (e.g., permissible asset type, asset allocation, liquidity, foreign exchange exposures and stress loss limits under extreme but plausible conditions).

The Investment Committee, comprised of Non-executive Directors of HKEX, advises the Board on portfolio management and monitors the risk and performance of HKEX's investments. A Treasury team in the Finance Division is dedicated to the day-to-day management and investment of the internally-managed funds, and monitor the performance of the External Portfolio.

53. Financial Risk Management (continued)

(a) Market risk (continued)

(i) Foreign exchange risk

Nature of risk

Foreign exchange risk is the risk that the value or cash flows of an asset, liability or forecast transaction denominated in foreign currency (i.e., a currency other than the functional currency of the entity to which the transactions relate) will fluctuate because of changes in foreign exchange rates. The functional currency of the Hong Kong and PRC entities are either HKD or Renminbi (RMB) and the functional currency of the LME entities is USD. Foreign exchange risks arise mainly from the Group's investments and bank deposits in currencies other than HKD and USD and its GBP expenditure for the LME entities.

Risk management

The Group manages its foreign exchange rate risks by setting limits of net foreign currency unhedged positions held from single currency and on an aggregated basis.

Forward foreign exchange contracts and foreign currency bank deposits may be used to hedge the currency exposure of the Group's non-HKD and non-USD assets and liabilities and highly probable forecast transactions to mitigate risks arising from fluctuations in exchange rates. In particular, the LME entities may designate certain GBP bank balances and forward foreign exchange contracts as cash flow hedges for hedging the foreign exchange risk of certain operating expenses.

Under the Investment Guidelines, investment in non-HKD financial instruments is subject to the following restrictions:

- For the External Portfolio, at least 50 per cent of the External Portfolio must be invested in HKD or USD investments or investments hedged back to HKD or USD, except that a further HK$500 million can be invested in RMB investments.
- For internally-managed Corporate Funds, Clearing House Funds, Margin Funds and Cash for A-shares, unhedged investments in currencies other than HKD or USD must fully match the respective liabilities or forecast payments for the funds. Unhedged investments in USD may not exceed 20 per cent of the respective funds and unhedged investments in RMB for internally-managed Corporate Funds may not exceed RMB1 billion.

For LME Clear, investments of the Margin Fund and Default Fund will generally be in the currency in which cash was received.

53. Financial Risk Management (continued)

(a) Market risk (continued)

(i) Foreign exchange risk (continued)

Exposure

The following table details the Group's financial assets and financial liabilities denominated in a currency other than the functional currency of the entity to which they relate and the net open foreign currency positions (i.e., gross positions less forward foreign exchange contracts and other offsetting exposures (hedges)), at 31 December presented in HKD equivalents.

		At 31 Dec 2021			At 31 Dec 2020		
	Foreign currency	Gross open position $m	Hedges $m	Net open position $m	Gross open position $m	Hedges $m	Net open position $m
Financial assets[1]	EUR	**4,476**	**(4,471)**	**5**	3,902	(3,897)	5
	GBP	**13,111**	**(12,837)[3]**	**274**	5,499	(5,193)	306
	JPY	**829**	**(828)**	**1**	4,908	(4,906)	2
	RMB	**26,462**	**(25,921)**	**541**	25,951	(25,602)	349
	USD	**11,282**	**(8,745)**	**2,537**	7,285	(4,353)	2,932
	Others	**4**	**(2)**	**2**	6	(1)	5
Financial liabilities[2]	EUR	**(4,471)**	**4,471**	**–**	(3,897)	3,897	–
	GBP	**(12,770)**	**12,496**	**(274)**	(5,469)	5,193	(276)
	JPY	**(828)**	**828**	**–**	(4,906)	4,906	–
	RMB	**(25,924)**	**25,921**	**(3)**	(25,606)	25,602	(4)
	USD	**(9,303)**	**8,745**	**(558)**	(4,918)	4,354	(564)
	Others	**(3)**	**2**	**(1)**	(6)	1	(5)
Total net open positions for the Group	EUR			**5**			5
	GBP			**–**			30
	JPY			**1**			2
	RMB			**538**			345
	USD			**1,979**			2,368
	Others			**1**			–
				2,524			2,750

1 Financial assets comprised cash and cash equivalents, financial assets measured at fair value through profit or loss (excluding collective investment schemes), financial assets measured at fair value through other comprehensive income, financial assets measured at amortised cost, and accounts receivable and deposits.

2 Financial liabilities comprised margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants, Participants' contributions to Clearing House Funds, financial liabilities at fair value through profit or loss, borrowings, lease liabilities, and accounts payable and other liabilities.

3 Includes $341 million of bank deposits designated as cash flow hedges (note 44(a))

53. Financial Risk Management (continued)

(a) Market risk (continued)

(ii) Equity and commodity price risk

Nature of risk

The Group is exposed to equity price risk from equity investments in collective investment schemes held as part of the External Portfolio. The Group is also exposed to equity price risk on the investments in minority stakes in unlisted companies (note 53(d)(i)).

The movements of fair value of base, ferrous and precious metals futures and options contracts cleared through LME Clear would not have any financial impact on the Group's results as the assets and liabilities will move by the same amount and fully offset each other.

Risk management

The Group sets prudent investment limits and restrictions to control investments in collective investment schemes and a stress loss limit is set to limit its exposures. The Group selects fund managers after an extensive assessment of the underlying funds, their strategy and the overall quality of the fund managers, and the performance of the funds is monitored on a monthly basis, or on an ad hoc basis during adverse market conditions.

(iii) Interest rate risk

Nature of risk

There are two types of interest rate risk:

- Fair value interest rate risk – the risk that the value of a financial instrument will fluctuate because of changes in market interest rates; and
- Cash flow interest rate risk – the risk that the future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

The Group is exposed to both fair value and cash flow interest rate risks as the Group has significant assets and liabilities (including borrowings) which are interest-bearing.

Risk management

The Group manages its interest rate risks by setting a stress loss limit to limit its exposure. Limits are also set for maturity of the investments under the internally managed funds.

Exposure

The following tables present the carrying value and highest and lowest contractual interest rates of the financial assets held by the Group (excluding investments in collective investment schemes, zero-coupon Exchange Fund Bills, and bank deposits held at savings and current accounts) at 31 December:

	Fixed rate financial assets		Floating rate financial assets	
	At 31 Dec 2021	At 31 Dec 2020	**At 31 Dec 2021**	At 31 Dec 2020
Carrying value ($m)	**88,992**	84,696	**103,998**	89,503
Highest contractual interest rates	**3.50%**	3.25%	**1.21%**	1.33%
Lowest contractual interest rates[1]	**0.07%**	0.03%	**-3.54%**	-2.00%

1 The contractual interest rates for certain reverse repurchase investments denominated in Euro held by LME Clear were below 0 per cent.

53. Financial Risk Management (continued)

(a) Market risk (continued)

(iv) Sensitivity analysis

Investments other than collective investment schemes

The Group also uses Value at Risk (VaR) and portfolio stress testing to identify and measure foreign exchange risk and interest rate risks of the Group's investments other than collective investment schemes.

VaR measures the expected maximum loss over a given time interval (a holding period of 10 trading days is used by the Group) at a given confidence level (95 per cent confidence interval is adopted by the Group) based on historical data (one year is used by the Group).

VaR is a statistical measure of risks and has limitations associated with the assumptions employed. The calculation is based on historical simulation and therefore vulnerable to sudden changes in market behaviour. The use of a 10-day holding period may be insufficient at times of severe illiquidity. Also, VaR does not necessarily reflect all aspects of risks that affect the price of financial instruments and may underestimate real market risk exposure. In addition, VaR does not factor in the possibility of catastrophic risks but the use of stress testing for abnormal market conditions can mitigate this limitation.

The VaR for each risk factor and the total VaR of the investments other than collective investment schemes and related hedges of the Group at 31 December were as follows:

	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Foreign exchange risk	19	16
Interest rate risk	16	18
Total VaR	25	19

VaR for each risk factor is the independently derived largest potential loss due to fluctuations solely in that risk factor. The individual VaRs did not add up to the total VaR as there was diversification effect due to correlation amongst the risk factors.

53. Financial Risk Management (continued)

(a) Market risk (continued)

(iv) Sensitivity analysis (continued)

Collective investment schemes

At 31 December, the fair value of the Group's collective investment schemes (Funds) by strategy employed was as follows:

Strategy	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Public Equities	**1,774**	1,684
Diversifiers[1]	**4,949**	4,130
Government Bonds and Mortgage-backed Securities	**2,020**	1,679
Total	**8,743**	7,493
Number of Funds	**34**	25

1 Diversifiers comprise Absolute Return and Multi-Sector Fixed Income asset classes.

The Group monitors the market value sensitivity of the Funds through a high-level simulation of the Funds' 1-year Value at Risk (simplified 1-year VaR) using the Funds' returns and volatilities. The simplified 1-year VaR helps to determine the potential changes in the market values of the Funds over a 1-year period. At 31 December 2021, the simplified 1-year VaR calculated at a 95 per cent confidence interval was 1.0 per cent (31 December 2020: 1.5 per cent), implying that the market value of the Group's Funds could potentially change by approximately $87 million (2020: $112 million).

The simplified 1-year VaR is computed using historical monthly returns of the Funds with the following steps:

1. Compute blended monthly returns of the Group's Funds using monthly historical returns of the respective Funds for the past 36 months, and their corresponding portfolio weights as of the latest month;
2. Compute the average monthly return and standard deviation of the Funds' returns and derive the annualised amounts; and
3. Compute the simplified 1-year VaR, at a 95 per cent confidence interval, by subtracting 1.65 times of the annualised standard deviation from the annualised average return.

The simplified 1-year VaR is a statistical measure of the historical risks and has limitations associated with the assumptions employed. Historical simulation assumes that actual observed historical changes in the respective Funds' monthly performance reflect possible future changes. This implies that the approach is vulnerable to sudden changes in market behaviour. In addition, it does not cover stressed market events, nor does it represent the Group's forecast of the Funds' future returns.

53. Financial Risk Management (continued)

(b) Liquidity risk

Nature of risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset, and it results from amount and maturity mismatches of assets and liabilities.

Risk management

The Group employs projected cash flow analysis to manage liquidity risk by forecasting the amount of cash required and monitoring the working capital of the Group to ensure that all liabilities due and known funding requirements could be met.

Investments are kept sufficiently liquid to meet operational needs and regulatory requirements, and possible liquidity requirements of the Clearing House Funds and Margin Funds. The Group sets minimum levels of highly liquid assets for Corporate Funds, Clearing House Funds and Margin Funds. In particular, Corporate Funds solely used for supporting the Skin-in-the Game and default fund credits of Clearing House Funds are invested in overnight deposits or Exchange Fund Bills issued by the Hong Kong Monetary Authority and monitored on a daily basis.

As recognised clearing houses, the Group's clearing houses have to observe the liquidity requirements laid down in Principles for Financial Market Infrastructures (PFMI requirements) issued by the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO). In particular, HKSCC, HKCC and SEOCH conduct daily liquidity stress testing that covers a number of potential stress scenarios, and sufficient liquidity has to be set aside to cover such stress testing.

Banking facilities have been put in place for contingency purposes. At 31 December 2021, the Group's total available banking facilities for its daily operations amounted to $21,249 million (31 December 2020: $21,223 million), which included $14,748 million (31 December 2020: $14,722 million) of committed banking facilities and $6,500 million (31 December 2020: $6,500 million) of repurchase facilities.

The Group also put in place foreign exchange facilities for its daily clearing operations and for the RMB Equity Trading Support Facility to support the trading of RMB stocks listed on the Stock Exchange. At 31 December 2021, the total amount of such facilities was $31,041 million (31 December 2020: $30,244 million).

In addition, the Group has arranged contingency banking facilities amounting to RMB13,000 million (HK$15,938 million) (31 December 2020: RMB13,000 million (HK$15,516 million)) for settling payment obligations to ChinaClear should there be events that disrupt normal settlement arrangements for Stock Connect.

53. Financial Risk Management (continued)

(b) Liquidity risk (continued)

Exposure

The Group is not exposed to liquidity risk on the outstanding base, ferrous and precious metals futures and options contracts cleared through LME Clear. Accordingly, they are not included in the analyses for financial assets and financial liabilities in the tables below.

The tables below analyse the Group's financial assets into the relevant maturity buckets based on the following criteria:

- investments held under the collective investment schemes are allocated taking into account the redemption notice periods, lock-up periods and redemption restrictions;
- the expected amounts, subject to costs to liquidate that are expected to be immaterial, that could be realised from the investments (other than collective investment schemes), bank deposits and cash and cash equivalents within one month to meet cash outflows on financial liabilities if required are allocated to the up to 1-month bucket;
- investments in minority stakes in unlisted companies are allocated to the >5 years bucket; and
- other financial assets are allocated based on their contractual maturity dates or the expected dates of disposal.

	At 31 Dec 2021					
	Up to 1 month $m	>1 month to 3 months $m	>3 months to 1 year $m	>1 year to 5 years $m	>5 years $m	Total $m
Cash and cash equivalents	181,361	–	–	–	–	181,361
Financial assets measured at fair value through profit or loss	4,772	2,287	1,432	252	694	9,437
Financial assets measured at fair value through other comprehensive income	9,755	–	–	–	–	9,755
Financial assets measured at amortised cost	51,731	–	–	89	8	51,828
Accounts receivable and deposits[1]	32,502	7	–	–	–	32,509
	280,121	2,294	1,432	341	702	284,890

	At 31 Dec 2020					
	Up to 1 month $m	>1 month to 3 months $m	>3 months to 1 year $m	>1 year to 5 years $m	>5 years $m	Total $m
Cash and cash equivalents	157,996	–	–	–	–	157,996
Financial assets measured at fair value through profit or loss	4,264	1,818	1,115	296	220	7,713
Financial assets measured at fair value through other comprehensive income	7,942	–	–	–	–	7,942
Financial assets measured at amortised cost	62,589	–	–	91	8	62,688
Accounts receivable and deposits[1]	46,858	24	2	–	–	46,884
	279,649	1,842	1,117	387	228	283,223

1 Amounts exclude prepayments of $229 million (31 December 2020: $196 million).

53. Financial Risk Management (continued)

(b) Liquidity risk (continued)

Exposure (continued)

The table below analyses the Group's financial liabilities at 31 December into relevant maturity buckets based on their contractual maturity dates. The amounts disclosed in the tables are the contractual undiscounted cash flows.

	At 31 Dec 2021					
	Up to 1 month $m	>1 month to 3 months $m	>3 months to 1 year $m	>1 year to 5 years $m	>5 years $m	Total $m
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants	203,536	–	–	–	–	203,536
Accounts payable, accruals and other liabilities	28,193	18	124	–	–	28,335
Other financial liabilities:						
Other financial liabilities of Margin Funds	468	–	–	–	–	468
Other financial liabilities of Clearing House Funds	24	–	1	–	–	25
Other financial liabilities of Corporate Funds:						
Financial guarantee contract (maximum amount guaranteed) (note 49(b))	128	–	–	–	–	128
Participants' contributions to Clearing House Funds	18,645	485	52	–	–	19,182
Borrowings:						
Written put options to non-controlling interests	–	–	340	93	–	433
Lease liabilities	36	58	281	1,143	842	2,360
Total	251,030	561	798	1,236	842	254,467

	At 31 Dec 2020					
	Up to 1 month $m	>1 month to 3 months $m	>3 months to 1 year $m	>1 year to 5 years $m	>5 years $m	Total $m
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants	187,008	–	–	–	–	187,008
Accounts payable, accruals and other liabilities	42,834	13	127	–	–	42,974
Other financial liabilities:						
Other financial liabilities of Clearing House Funds	28	–	–	–	–	28
Other financial liabilities of Corporate Funds:						
Financial guarantee contract (maximum amount guaranteed) (note 49(b))	127	–	–	–	–	127
Participants' contributions to Clearing House Funds	19,916	471	52	–	–	20,439
Borrowings:						
Written put options to non-controlling interests	–	–	340	93	–	433
Lease liabilities	38	60	288	1,248	1,101	2,735
Total	249,951	544	807	1,341	1,101	253,744

53. Financial Risk Management (continued)

(c) Credit risk

Nature of risk

The Group is exposed to credit risk, which is the risk that a counterparty will be unable to pay amounts in full when due. It arises primarily from the Group's investments and accounts receivable. Impairment provisions are made against the Group's investments and accounts receivable based on the accounting policy set out in notes 23 and 24.

The Group is also exposed to clearing and settlement risk, as the clearing houses of the Group act as the counterparties to eligible trades concluded on the Stock Exchange, the Futures Exchange, the over-the-counter market, and the LME through the novation of the obligations of the buyers and sellers. HKSCC is also responsible for the good title to the securities deposited and accepted in the CCASS depository. As a result, the Group has considerable market risk and credit risk since the Participants' ability to honour their obligations in respect of their trades and securities deposited may be adversely impacted by economic conditions. If the Participants default on their obligations on settlement or there are defects in the title of securities deposited and accepted in the CCASS depository, the Group could be exposed to potential risks not otherwise accounted for in these consolidated financial statements.

Risk management – Investment and accounts receivable risk

The Group limits its exposure to credit risk by rigorously selecting the counterparties (i.e., deposit-takers, bond issuers, debtors and fund managers) and by diversification. All investments (excluding those held by the collective investment schemes) were governed by the Group Credit Limit for Settlement and Investments framework. Under the framework, specific limits are set on an investment portfolio level and on single counterparty level. The investment portfolio is subject to a maximum portfolio expected loss limit, each investment counterparty is subject to a minimum investment grade rating, and each investment is also subject to maximum concentration limit per counterparty. Fund managers of collective investment schemes are financially strong and stable, and their selections are approved by the Investment Committee as delegated by the Board.

At 31 December 2021, the investments in debt securities held by the Group (excluding those held by the collective investment schemes) were of investment grade and had a weighted average credit rating of Aa2 (Moody) (31 December 2020: Aa2 (Moody)). Deposits are placed only with the investment grade banks, licensed banks and restricted licence banks regulated by the Hong Kong Monetary Authority, and banks regulated by local banking regulators in the countries where the Group's subsidiaries operate. LME entities invest a significant portion of cash in reverse repurchase investments, where high quality assets are held against such investments as collateral.

The Group mitigates its exposure to risks relating to accounts receivable from its Participants by requiring the Participants to meet the Group's established financial requirements and criteria for admission as Participants.

53. **Financial Risk Management** (continued)

(c) Credit risk (continued)

Risk management – Clearing and settlement risk

The Group mitigates its exposure to clearing and settlement-related risks by requiring the Participants to meet the Group's established financial requirements and criteria for admission as Participants, monitoring compliance with risk management measures such as imposing position limits and requiring Clearing Participants to deposit margins, Mainland security and settlement deposits, and cash collateral and contribute to the Clearing House Funds set up by the Group's five clearing houses. HKSCC also retains recourse against those Participants whose securities are deposited and accepted in the CCASS depository.

Under the Margin Fund and Guarantee Fund arrangements, each HKSCC Clearing Participant is granted by HKSCC a Margin Credit of $5 million and a Dynamic Contribution Credit of $1 million, and each HKCC Clearing Participant is granted a Dynamic Contribution Credit of HKCC Reserve Fund of $1 million. If a HKSCC or HKCC Clearing Participant defaults and any loss arises, HKSCC will absorb the default loss up to the Margin Credit and Dynamic Contribution Credit utilised by the defaulting HKSCC Clearing Participant, after deducting its collateral and Guarantee Fund contribution maintained with HKSCC, and HKCC will absorb the default loss up to the Dynamic Contribution Credit utilised by the defaulting HKCC Clearing Participant, after deducting its collateral and Reserve Fund contribution maintained with HKCC. After the initial losses, HKSCC is required to absorb further losses after the HKSCC Guarantee Fund reserve and the Guarantee Fund contribution (excluding the Dynamic Contribution portion) of non-defaulting HKSCC Clearing Participants are depleted, and HKCC is required to absorb further losses after the HKCC Reserve Fund reserve and the Reserve Fund contribution (excluding the Dynamic Contribution portion) of non-defaulting HKCC Clearing Participants are depleted. The amount of losses borne by HKSCC and HKCC will be calculated on a pro rata basis with reference to the non-defaulting HKSCC and HKCC Clearing Participants' Dynamic Contributions and Dynamic Contribution Credits granted by HKSCC and HKCC respectively.

At 31 December 2021, HKSCC had 642 Clearing Participants (31 December 2020: 643) and the total amounts of Margin Credit and Dynamic Contribution Credit utilised by HKSCC Clearing Participants amounted to $903 million (31 December 2020: $1,212 million), while HKCC had 166 Clearing Participants (31 December 2020: 166) and the total amount of Dynamic Contribution Credit utilised by HKCC Clearing Participants amounted to $65 million (31 December 2020: $58 million).

The HKSCC Margin Credit and Dynamic Contribution Credit and the HKCC Dynamic Contribution Credit are supported by the $4,000 million of shareholders' funds set aside by the HKEX Group for risk management purpose, of which $1,060 million and $830 million were injected into HKSCC and HKCC respectively.

53. Financial Risk Management (continued)

(c) Credit risk (continued)

Exposure

At 31 December, the maximum exposure to credit risk of the financial assets of the Group was equal to their carrying amounts. The maximum exposure to credit risk of the financial guarantee contract issued by the Group was as follows:

	At 31 Dec 2021		At 31 Dec 2020	
	Carrying amount in consolidated statement of financial position $m	Maximum exposure to credit risk $m	Carrying amount in consolidated statement of financial position $m	Maximum exposure to credit risk $m
Financial guarantee contract				
Undertaking to indemnify the Collector of Stamp Revenue (note 49(b))	(20)	128	(20)	127

Collateral held for mitigating credit risk

Certain securities, cash deposits and non-cash collateral are being held by the Group to mitigate the Group's exposure to credit risk. The financial effect of the collateral, which is capped by the amount receivable from each counterparty, was as follows:

	At 31 Dec 2021		At 31 Dec 2020	
	Carrying amount in consolidated statement of financial position $m	Collateral held for mitigating credit risk $m	Carrying amount in consolidated statement of financial position $m	Collateral held for mitigating credit risk $m
Accounts receivable and deposits[1]	32,509	13,037	46,884	11,953
Fair value of base, ferrous and precious metals futures and options contracts cleared through LME Clear	91,424	91,424	92,884	92,884
Reverse repurchase investments	101,041	101,041	84,981	84,981

1 Amounts exclude prepayments of $229 million (31 December 2020: $196 million).

53. Financial Risk Management (continued)

(d) Fair values of financial assets and financial liabilities

(i) Financial assets and financial liabilities carried at fair value

At 31 December 2021 and 31 December 2020, no non-financial assets or liabilities were carried at fair values.

The following tables present the carrying value of financial assets and financial liabilities measured at fair value according to the levels of the fair value hierarchy defined in HKFRS 13: Fair Value Measurement, with the fair value of each financial asset and financial liability categorised based on the lowest level of input that is significant to that fair value measurement. The levels are defined as follows:

- Level 1: fair values measured using quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: fair values measured using valuation techniques in which all significant inputs other than quoted prices included within Level 1 are directly or indirectly based on observable market data.
- Level 3: fair values measured using valuation techniques in which any significant input is not based on observable market data.

	At 31 Dec 2021				At 31 Dec 2020			
Recurring fair value measurements:	**Level 1 $m**	**Level 2 $m**	**Level 3 $m**	**Total $m**	Level 1 $m	Level 2 $m	Level 3 $m	Total $m
Financial assets								
Financial assets measured at fair value through profit or loss:								
– collective investment schemes	1,680	7,063	–	8,743	1,131	6,362	–	7,493
– equity securities	–	–	694	694	–	–	220	220
– base, ferrous, and precious metals futures and options contracts cleared through LME Clear	–	91,424	–	91,424	–	92,884	–	92,884
Financial assets measured at fair value through other comprehensive income:								
– debt securities	7,750	2,005	–	9,755	5,439	2,503	–	7,942
	9,430	100,492	694	110,616	6,570	101,749	220	108,539
Financial liabilities								
Financial liabilities at fair value through profit or loss:								
– base, ferrous, and precious metals futures and options contracts cleared through LME Clear	–	91,424	–	91,424	–	92,884	–	92,884

53. Financial Risk Management (continued)

(d) Fair values of financial assets and financial liabilities (continued)

(i) Financial assets and financial liabilities carried at fair value (continued)

During 2021 and 2020, there were no transfers of instruments between Level 1 and Level 2 or transfer into or out of Level 3.

Level 2 fair values of collective investment schemes, debt securities, base, ferrous and precious metals futures and options contracts have been determined based on quotes from market makers, funds administrators or alternative pricing sources supported by observable inputs. The most significant input are market interest rates, market prices of metals, net asset values and latest redemption prices or transaction prices of the respective collective investment schemes.

The Group's policy is to recognise transfers into and out of fair value hierarchy levels as of the date of the event or change in circumstances that caused the transfer.

Fair value measurements using significant unobservable inputs (Level 3)

	2021 $m	2020 $m
At 1 Jan	220	50
Investment in minority stakes in unlisted companies	349	160
Gains recognised in profit or loss	121	–
Gains recognised in other comprehensive income	4	10
At 31 Dec	694	220
Total gains or losses recognised in the consolidated income statement for assets held at 31 Dec	121	–

Level 3 valuations are prepared on bi-annually basis, at each interim and annual reporting date. The assumptions and inputs to the valuation model, the valuation techniques and the valuation results are reviewed and approved by management.

The following table summarises the basis of valuation used in level 3 fair value measurements:

	Fair value				
Description	At 31 Dec 2021 $m	At 31 Dec 2020 $m	Valuation technique	Unobservable inputs	Range
Minority stake in Fusion Bank Limited	200	100	Market approach[1]	N/A	N/A
Minority stake in Huakong TsingJiao Information Science (Beijing) Limited	236	120	Market approach[1]	N/A	N/A
Minority stake in Guangzhou Futures Exchange	258	–	Market approach[1]	N/A	N/A
Total	694	220			

1 Based on recent transactions

Fusion Bank Limited has a virtual banking license granted by the Hong Kong Monetary Authority. The investment is not traded in an active market. The company launched its virtual banking platform in 2020, offering a variety of banking services including savings, time deposits, local fund transfers and foreign exchange. At 31 December 2021, the latest fair value was based on recent market transactions.

53. Financial Risk Management (continued)

(d) Fair values of financial assets and financial liabilities (continued)

(i) Financial assets and financial liabilities carried at fair value (continued)

Huakong TsingJiao Information Science (Beijing) Limited is a data technology company, which specialises in the research and development of multi-party computation technologies, allowing collaborative data analysis without revealing private data during the computation and analysis process. The investment is not traded in an active market. At 31 December 2021, the latest fair value was based on recent market transactions.

Guangzhou Futures Exchange was officially launched in April 2021, and it seeks to become an innovative and market-oriented exchange with international influence, focusing on serving the real economy and green development initiatives. At 31 December 2021, the latest fair value was based on recent market transactions.

(ii) Fair values of financial assets and financial liabilities not reported at fair values

Summarised in the following table are the carrying amounts and fair values of long-term financial assets and financial liabilities not presented in the consolidated statement of financial position at their fair values, except for lease liabilities where disclosure of fair values is not required. These assets and liabilities were classified under Level 2 in the fair value hierarchy.

	At 31 Dec 2021		At 31 Dec 2020	
	Carrying amount in consolidated statement of financial position $m	Fair value $m	Carrying amount in consolidated statement of financial position $m	Fair value $m
Assets				
Financial assets measured at amortised cost:				
– debt securities maturing over one year[1]	429	429	–	–
– other financial assets maturing over one year[2]	97	87	99	94
Liabilities				
Borrowings:				
– written put options to non-controlling interests[3]	426	430	423	430
Financial guarantee to the Collector of Stamp Revenue[4]	20	56	20	76

1 The fair values are provided by a reputable independent financial institution.

2 The fair values are based on cash flows discounted using Hong Kong Government bond rates of a tenor similar to the contractual maturity of the respective assets, adjusted by an estimated credit spread. The discount rates used ranged from 0.41 per cent to 1.45 per cent at 31 December 2021 (31 December 2020: 0.12 per cent to 0.60 per cent).

3 The fair values are based on cash flows discounted using the prevailing market interest rates for loans with similar credit rating and similar tenor of the respective loans. The discount rate used was 1.70 per cent at 31 December 2021 (31 December 2020: 1.19 per cent).

4 The fair values are based on the fees charged by financial institutions for granting such guarantees discounted to perpetuity using a ten-year Hong Kong Government bond rate, adjusted by an estimated credit spread, but capped at the maximum exposure of the financial guarantee. The discount rate used was 2.84 per cent at 31 December 2021 (31 December 2020: 2.10 per cent).

The carrying amounts of short-term financial assets and receivables (e.g., accounts receivable, financial assets measured at amortised cost and cash and cash equivalents) and short-term payables (e.g., accounts payable and other liabilities) approximated their fair values, and accordingly no disclosure of the fair values of these items is presented.

53. Financial Risk Management (continued)

(e) Offsetting financial assets and financial liabilities

Accounting Policy

Financial assets and liabilities are offset and the net amount reported in the consolidated statement of financial position 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 legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the company or the counterparty.

For base, ferrous and precious metals futures and options contracts cleared through LME Clear, the asset and liability positions of LME Clear arising through its activities as a central counterparty are matched. Therefore, the same amounts are recorded for both assets and liabilities with the fair value gains and losses recognised, but offset, in the consolidated income statement.

The disclosures set out in the tables below include financial assets and financial liabilities that:

- are offset in the Group's consolidated statement of financial position; or
- are subject to an enforceable master netting arrangement or similar agreement that covers similar financial instruments, irrespective of whether they are offset in the consolidated statement of financial position.

(i) Financial assets and financial liabilities subject to offsetting, enforceable master netting arrangements or similar agreements

	At 31 Dec 2021					
				Related amounts not offset in the consolidated statement of financial position		
Type of financial instruments	Gross amounts $m	Gross amounts set off in the consolidated statement of financial position $m	Net amounts presented in the consolidated statement of financial position[3] $m	Amounts subject to master netting arrangements $m	Cash collateral $m	Net amounts $m
Financial assets:						
CNS money obligations receivable[1]	330,705	(312,784)	17,921	(3,101)	(10,472)	4,348
Base, ferrous and precious metals futures and options contracts cleared through LME Clear[2]	1,512,980	(1,421,556)	91,424	(39,489)	(51,935)	-
Other accounts receivable from Participants, ChinaClear, information vendors and hosting services customers, net of provision for impairment losses	13,311	-	13,311	(5,607)	(113)	7,591
Total	1,856,996	(1,734,340)	122,656	(48,197)	(62,520)	11,939
Financial liabilities:						
CNS money obligations payable[1]	338,077	(312,784)	25,293	(8,708)	-	16,585
Base, ferrous and precious metals futures and options contracts cleared through LME Clear[2]	1,512,980	(1,421,556)	91,424	(39,489)	-	51,935
Total	1,851,057	(1,734,340)	116,717	(48,197)	-	68,520

53. Financial Risk Management (continued)

(e) Offsetting financial assets and financial liabilities (continued)

(i) Financial assets and financial liabilities subject to offsetting, enforceable master netting arrangements or similar agreements (continued)

	At 31 Dec 2020					
				Related amounts not offset in the consolidated statement of financial position		
Type of financial instruments	Gross amounts $m	Gross amounts set off in the consolidated statement of financial position $m	Net amounts presented in the consolidated statement of financial position[3] $m	Amounts subject to master netting arrangements $m	Cash collateral $m	Net amounts $m
Financial assets:						
CNS money obligations receivable[1]	489,300	(456,390)	32,910	(10,134)	(8,009)	14,767
Base, ferrous and precious metals futures and options contracts cleared through LME Clear[2]	1,556,627	(1,463,743)	92,884	(38,673)	(54,211)	–
Other accounts receivable from Participants, ChinaClear, information vendors and hosting services customers, net of provision for impairment losses	878	–	878	–	(140)	738
Total	2,046,805	(1,920,133)	126,672	(48,807)	(62,360)	15,505
Financial liabilities:						
CNS money obligations payable[1]	495,510	(456,390)	39,120	(10,134)	–	28,986
Base, ferrous and precious metals futures and options contracts cleared through LME Clear[2]	1,556,627	(1,463,743)	92,884	(38,673)	–	54,211
Total	2,052,137	(1,920,133)	132,004	(48,807)	–	83,197

1 HKSCC currently has a legally enforceable right to set off certain CNS money obligations receivable and payable relating to the same Clearing Participant and it intends to settle on a net basis.

2 LME Clear has a legally enforceable right to set off open positions of certain contracts within an individual member's account for those contracts settling on the same date and it intends to settle on a net basis.

3 For the net amounts of CNS money obligations receivable or payable and net fair value of base, ferrous and precious metals futures and options contracts (i.e., after set-off) and other accounts receivable due from customers, they do not meet the criteria for offsetting in the consolidated statement of financial position since the right of set-off of the recognised amounts is only enforceable following an event of default of the customers. In addition, the Group does not intend to settle the balances on a net basis.

53. Financial Risk Management (continued)

(e) Offsetting financial assets and financial liabilities (continued)

(ii) The tables below reconcile the "net amounts of financial assets and financial liabilities presented in the consolidated statement of financial position", as set out above, to the "accounts receivable, prepayments and deposits", "accounts payable, accruals and other liabilities", "financial assets measured at fair value through profit or loss" and "financial liabilities at fair value through profit or loss" presented in the consolidated statement of financial position.

	Accounts receivable, prepayments and deposits		Financial assets measured at fair value through profit or loss	
	At 31 Dec 2021 $m	At 31 Dec 2020 $m	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Net amount of financial assets after offsetting as stated above:				
– CNS money obligations receivable	17,921	32,910	–	–
– Other accounts receivable from Participants, ChinaClear, information vendors and hosting services customers, net of provision for impairment losses	13,311	878	–	–
– Base, ferrous and precious metals futures and options contracts cleared through LME Clear	–	–	91,424	92,884
Financial assets not in scope of offsetting disclosures	1,277	13,096	9,437	7,713
Prepayments	229	196	–	–
Amounts presented in the consolidated statement of financial position	32,738	47,080	100,861	100,597

	Accounts payable, accruals and other liabilities		Financial liabilities at fair value through profit or loss	
	At 31 Dec 2021 $m	At 31 Dec 2020 $m	At 31 Dec 2021 $m	At 31 Dec 2020 $m
Net amount of financial liabilities after offsetting as stated above:				
– CNS money obligations payable	25,293	39,120	–	–
– Base, ferrous and precious metals futures and options contracts cleared through LME Clear	–	–	91,424	92,884
Financial liabilities not in scope of offsetting disclosures	3,042	3,854	–	–
Amounts presented in the consolidated statement of financial position	28,335	42,974	91,424	92,884

54. Statement of Financial Position and Reserve Movements of HKEX

Accounting Policy

In HKEX's statement of financial position, investments in subsidiaries are stated at cost less impairment losses, if necessary. The results of subsidiaries are accounted for by HKEX on the basis of dividends received and receivable.

Investment in a subsidiary is tested for impairment upon receiving a dividend from that subsidiary if the dividend exceeds the total comprehensive income of the subsidiary concerned in the period the dividend is declared or if the carrying amount of the subsidiary in HKEX's statement of financial position exceeds the carrying amount of the subsidiary's net assets.

The financial statements of the controlled special purpose entity, The HKEX Employees' Share Award Scheme, are included in HKEX's financial statements.

Written put options to non-controlling interests initially recognised at fair value are accounted for as an investment in subsidiaries with a corresponding credit to financial liabilities at fair value through profit or loss. Subsequent changes in fair value of the financial liabilities are recognised in HKEX's income statement. Written put options to non-controlling interests are included under financial liabilities at fair value through profit or loss on the statement of financial position.

54. Statement of Financial Position and Reserve Movements of HKEX (continued)

Statement of Financial Position of HKEX

	At 31 Dec 2021			At 31 Dec 2020		
	Current $m	Non-current $m	Total $m	Current $m	Non-current $m	Total $m
Assets						
Cash and cash equivalents	3,808	–	3,808	4,057	–	4,057
Financial assets measured at fair value through profit or loss	8,491	510	9,001	7,197	296	7,493
Financial assets measured at amortised cost	5,264	197	5,461	7,263	74	7,337
Accounts receivable, prepayments and deposits	315	21	336	96	21	117
Amounts due from subsidiaries	808	11,594	12,402	1,008	11,581	12,589
Interests in joint ventures	–	114	114	–	114	114
Intangible assets	–	464	464	–	457	457
Fixed assets	–	404	404	–	434	434
Right-of-use assets	–	1,656	1,656	–	1,867	1,867
Investments in subsidiaries	–	15,694	15,694	–	15,451	15,451
Total assets	18,686	30,654	49,340	19,621	30,295	49,916
Liabilities and equity						
Liabilities						
Financial liabilities at fair value through profit or loss	333	–	333	347	–	347
Accounts payable, accruals and other liabilities	673	–	673	994	–	994
Amounts due to subsidiaries	159	–	159	345	–	345
Taxation payable	325	–	325	299	–	299
Other financial liabilities	11	–	11	11	–	11
Lease liabilities	209	1,543	1,752	211	1,745	1,956
Provisions	73	63	136	103	63	166
Deferred tax liabilities	–	95	95	–	90	90
Total liabilities	1,783	1,701	3,484	2,310	1,898	4,208
Equity						
Share capital			31,896			31,891
Shares held for Share Award Scheme			(901)			(485)
Employee share-based compensation reserve			306			232
Merger reserve			694			694
Retained earnings			13,861			13,376
Equity attributable to shareholders of HKEX			45,856			45,708
Total liabilities and equity			49,340			49,916
Net current assets			16,903			17,311

Approved by the Board of Directors on 24 February 2022

Laura M CHA
Director

Alejandro Nicolas AGUZIN
Director

54. Statement of Financial Position and Reserve Movements of HKEX (continued)

(a) Reserve movements of HKEX

	Employee share-based compensation reserve $m	Merger reserve $m	Retained earnings $m
At 1 Jan 2020	250	694	12,060
Profit attributable to shareholders	–	–	9,779
2019 second interim dividend at $2.99 per share	–	–	(3,761)
2020 first interim dividend at $3.71 per share	–	–	(4,692)
Unclaimed HKEX dividends forfeited	–	–	21
Vesting of shares of Share Award Scheme	(299)	–	(31)
Employee share-based compensation benefits	281	–	–
At 31 Dec 2020	232	694	13,376
At 1 Jan 2021	**232**	**694**	**13,376**
Profit attributable to shareholders	**–**	**–**	**12,073**
2020 second interim dividend at $4.46 per share	**–**	**–**	**(5,646)**
2021 first interim dividend at $4.69 per share	**–**	**–**	**(5,934)**
Unclaimed HKEX dividends forfeited	**–**	**–**	**12**
Vesting of shares of Share Award Scheme	**(250)**	**–**	**(20)**
Employee share-based compensation benefits	**324**	**–**	**–**
At 31 Dec 2021	**306**	**694**	**13,861**

APPENDIX II

REPRODUCTION OF THE PRESS RELEASE DATED 10 FEBRUARY 2022 CONTAINING THE GUARANTOR'S CONSOLIDATED FINANCIAL RESULTS FOR THE FOURTH QUARTER ENDED 31 DECEMBER 2021

The information set out below is a reproduction of the press release dated 10 February 2022 containing the Guarantor's consolidated financial results for the fourth quarter ended 31 December 2021.

SOCIETE GENERALE

RESULTS AT DECEMBER 31ST 2021

Press release
Paris, February 10th 2022

2021, RECORD GROUP NET INCOME

Substantial increase in underlying revenues of +16.1%(1) vs. 2020 (+17.2%(1)*), with a historically high level of Financing & Advisory and Financial Services activities, very solid Global Markets activities throughout the year, and a healthy momentum in Retail Banking

Underlying gross operating income of EUR 8.5 billion(1), up 51.0%(1) vs. 2020, with a significant positive jaws effect and costs under control, up +4.3%(1)

Still low cost of risk at 13 basis points

Underlying Group net income of EUR 5.3 billion(1) (EUR 5.6 billion on a reported basis)

Underlying profitability (ROTE) of 10.2%(1) (11.7% on a reported basis)

In Q4 21, underlying gross operating income of EUR 1.9 billion(1), +24.1% vs. Q4 20

Underlying Group net income of EUR 1.2 billion(1), +94.4% vs. Q4 20 (EUR 1.8 billion on a reported basis)

Underlying profitability (ROTE) of 9.2%(1) (16.6% on a reported basis)

ATTRACTIVE SHAREHOLDER DISTRIBUTION

Distribution equivalent to EUR 2.75 per share, or:

- **a dividend in cash,** proposed to the General Meeting, **of EUR 1.65 per share**
- **a share buyback programme,** for around EUR 915 million, **equivalent to EUR 1.1 per share**

Solid CET 1 ratio of 13.7%(2) at end-2021, around 470 basis points above the regulatory requirement

ACCELERATION IN STRATEGIC AND BUSINESS DEVELOPMENTS

Strengthening of our competitive position on mobility, announcement of the planned acquisition of LeasePlan by ALD with a view to creating a mobility leader

Client onboarding by Boursorama one year ahead of schedule, announcement of entry into exclusive discussions with the ING group with a view to offering ING's customers in France the best alternative banking solution

Good momentum of the retail banking networks in France in the context of **preparations for the merger**

Continued digitalisation initiatives and improvement of operational efficiency in International Retail Banking

Solid performance by Global Markets throughout the year, with the successful repositioning of structured products and a reduction in the risk profile

Record performance by Financing & Advisory, driven by strong market momentum and an increase in allocated capital

Fréderic Oudéa, the Group's Chief Executive Officer, commented:

"2021 marks a milestone for the Societe Generale Group, which achieved the best financial results in its history, enabling it to generate a good level of profitability and offer its shareholders an attractive return. All the businesses have contributed to this excellent performance. The Group also had a very robust balance sheet at the end of the year, with a very good quality loan portfolio and high capital ratios. In addition, the Group was able, firstly, to successfully continue advancing on major projects such as the merger of the two retail banking networks Societe Generale and Crédit du Nord and secondly, achieve two strategic transactions strengthening two differentiating assets, with the entry into exclusive discussions for the acquisition of Leaseplan by ALD and with ING concerning its retail banking activities in France. The Group is therefore entering 2022 with confidence, with the priority objective of the disciplined execution of this high value-creating roadmap and the finalisation of its outlines by accelerating the transformations around ESG issues and new technologies."

---

(1) Underlying data (see methodology note section 10.5 for the transition from accounting data to underlying data)
(2) Phased-in ratio (fully-loaded ratio of 13.6%) after distribution provision
*The footnote * in this document corresponds to data adjusted for changes in Group Structure and at constant exchange rates*

1. GROUP CONSOLIDATED RESULTS

In EURm	Q4 21	Q4 20	Change		2021	2020	Change	
Net banking income	6,620	5,838	+13.4%	+11.7%*	25,798	22,113	+16.7%	+17.7%*
Underlying net banking income(1)	6,503	5,838	+11.4%	+9.8%*	25,681	22,113	+4.3%	+17.2%*
Operating expenses	(4,565)	(4,351)	+4.9%	+3.6%*	(17,590)	(16,714)	+5.2%	+5.8%*
Underlying operating expenses(1)	*(4,617)*	*(4,318)*	*+6.9%*	*+5.6%**	*(17,211)*	*(16,504)*	*+4.3%*	*+4.9%**
Gross operating income	2,055	1,487	+38.2%	+35.3%*	8,208	5,399	+52.0%	+55.1%*
Underlying gross operating income(1)	*1,886*	*1,520*	*+24.1%*	*+21.4%**	*8,470*	*5,609*	*+51.0%*	*+53.9%**
Net cost of risk	(86)	(689)	-87.5%	-87.7%*	(700)	(3,306)	-78.8%	-78.6%*
Operating income	1,969	798	x 2.5	x 2.4	7,508	2,093	x 3.6	x 3.7*
Underlying operating income(1)	*1,800*	*851*	*x 2.1*	*x 2.1*	*7,770*	*2,323*	*x 3.3*	*x 3.4**
Net profits or losses from other assets	449	(94)	n/s	n/s	635	(12)	n/s	n/s*
Impairment losses on goodwill	(114)	0	n/s	n/s	(114)	(684)	n/s	n/s
Income tax	(311)	(125)	x 2.5	x 2.4	(1,697)	(1,204)	+41.0%	+43.2%*
Net income	1,995	582	x 3.4	x 3.3	6,338	196	x 32.3	x 43.8
O.w. non-controlling interests	208	112	+85.7%	+81.2%*	697	454	+53.5%	+53.6%*
Reported Group net income	1,787	470	x 3.8	x 3.7	5,641	(258)	n/s	n/s
Underlying Group net income(1)	*1,226*	*631*	*+94.4%*	*+90.4%**	*5,264*	*1,435*	*x 3.7*	*x 3.8**
ROE	12.1%	2.4%			9.6%	-1.7%		
ROTE	16.6%	2.7%			11.7%	-0.4%		
Underlying ROTE(1)	*9.2%*	*4.1%*			*10.2%*	*1.7%*		

(1) Adjusted for exceptional items and linearisation of IFRIC 21

Societe Generale’s Board of Directors, which met on February 9th, 2022 under the chairmanship of Lorenzo Bini Smaghi, examined the Societe Generale Group’s results for Q4 and full-year 2021.

The various restatements enabling the transition from underlying data to published data are presented in the methodology notes (section 10.5).

Net banking income

Net banking income was substantially higher in 2021, up +16.7% (+17.7%*) vs. 2020, and +16.1% (+17.2%*) vs. 2020 on an underlying basis, with a very strong momentum in all the businesses.

French Retail Banking posted a solid performance in 2021. As a result, net banking income (excluding PEL/CEL provision) increased by +4.8% vs. 2020, driven by the recovery in net interest income and buoyant commissions, particularly financial commissions.

International Retail Banking & Financial Services enjoyed strong revenue growth (+9.9%* vs. 2020), underpinned by the excellent momentum in Financial Services to Corporates (+32.0%* vs. 2020) and Insurance (+8.6%* vs. 2020). International Retail Banking benefited from a rebound in its activities (+2.8%* vs. 2020).

Global Banking & Investor Solutions delivered a remarkable performance, with revenues up +25.2% (+26.1%*) vs. 2020. Financing & Advisory enjoyed a record performance, with growth of +14.8% (+15.8%*) vs. 2020, while the revenues of Global Markets & Investor Services were substantially higher (+35.6%, +36.9%*) than in 2020.

In Q4 21, the Group continued to enjoy a strong revenue growth momentum (+13.4%, +11.7%*) vs. Q4 20, with a positive and evenly balanced contribution from all the businesses.

Operating expenses

In 2021, operating expenses totalled EUR 17,590 million on a reported basis and EUR 17,211 million on an underlying basis (restated for transformation costs), an increase of +4.3% vs. 2020.
This increase can be explained primarily by the rise in variable costs linked to the growth in revenues (EUR +701 million) and the increase in the contribution to the Single Resolution Fund (EUR +116 million). The other operating expenses declined by EUR 70 million, excluding structure effect.

Driven by a very positive jaws effect, underlying gross operating income grew substantially (+51.0%) to EUR 8,470 million and the underlying cost to income ratio improved by nearly 8 points (67.0% vs. 74.6% in 2020).

In **Q4 21**, operating expenses totalled EUR 4,565 million on a reported basis and EUR 4,617 million on an underlying basis (restated for the linearisation of IFRIC 21 and transformation costs), representing an increase of +6.9% vs. Q4 20.

Excluding the contribution to the Single Resolution Fund, the underlying cost to income ratio is expected to be between 66% and 68% in 2022 and improving onwards. This aggregate, excluding the contribution to the SRF, amounts to 64.7% in 2021, it being specified that the contribution to the Single Resolution Fund is EUR 586 million in 2021.

There is expected to be an increase in the contribution to the Single Resolution Fund until 2023 included.

The Group's radical transformations as announced in 2021 have led to changes in 2023 cost outlook. The various initiatives in progress will contribute to a decline in the Group's underlying cost to income ratio beyond 2022 excluding the contribution to the Single Resolution Fund year after year.

Cost of risk

In 2021, the cost of risk stood at a low level of 13 basis points, lower than in 2020 (64 basis points), or EUR 700 million (vs. EUR 3,306 million in 2020). It breaks down into a provision on non-performing loans of EUR 949 million and a provision write-back on performing loans of EUR 249 million.

The Group's provisions on performing loans amounted to EUR 3,355 million at end-2021.

In Q4 21, the cost of risk stood at 6 basis points, lower than in Q4 20 (54 basis points), or EUR 86 million and lower than in Q3 21 (15 basis points). It breaks down into a provision on non-performing loans of EUR 218 million and a provision write-back on performing loans of EUR 132 million.

In order to support its customers during the crisis, the Group granted State Guaranteed Loans. At December 31st 2021, the residual amount of State Guaranteed Loans represented around EUR 17 billion. In France, the total amount of State Guaranteed Loans ("PGE") amounts to around EUR 14 billion and net exposure is around EUR 1.5 billion.

The gross doubtful outstandings ratio amounted to 2.9%[1] at December 31st 2021, lower than at end-September 2021 (3.1%). The Group's gross coverage ratio for doubtful outstandings amounted to 51%[2] at December 31st 2021.

The cost of risk is expected to be below 30 basis points in 2022.

---

(1) *NPL ratio calculated according to the EBA methodology published on July 16th, 2019*

(2) *Ratio between the amount of provisions on doubtful outstandings and the amount of these same outstandings*

Group net income

In EURm	Q4 21	Q4 20	2021	2020
Reported Group net income	1,787	470	5,641	(258)
Underlying Group net income (1)	1,226	631	5,264	1,435

In EURm	Q4 21	Q4 20	2021	2020
Reported Group net income	16.6%	2.7%	11.7%	-0.4%
Underlying Group net income (1)	9.2%	4.1%	10.2%	1.7%

(1) Adjusted for exceptional items and linearisation of IFRIC21

Earnings per share amounts to EUR 5.97 in 2021 (EUR -1.02 in 2020). Underlying earnings per share amounts to EUR 5.52 over the same period (EUR 0.97 in 2020).

Distribution to shareholders

The Board of Directors has established its distribution policy at 50% of underlying Group net income[2], which is equivalent to EUR 2.75 per share.

A dividend in cash of EUR 1.65 per share will therefore be proposed to the Combined General Meeting of Shareholders on May 17th 2022. The dividend will be detached on May 25th 2022 and paid on May 27th 2022.

Furthermore, the Group plans to launch a share buyback programme for a total amount of around EUR 915 million, or the equivalent of EUR 1.1 per share. This programme is subject to the customary authorisation of the ECB and the General Meeting for its implementation.

[2] *After deducting interest on deeply subordinated notes and undated subordinated notes*

2. THE GROUP'S FINANCIAL STRUCTURE

Group shareholders' equity totalled EUR 65.1 billion at December 31st, 2021 (EUR 61.7 billion at December 31st, 2020). Net asset value per share was EUR 68.7 and tangible net asset value per share was EUR 61.1.

The consolidated balance sheet totalled EUR 1,464 billion at December 31st, 2021 (EUR 1,444 billion(1) at December 31st, 2020). The net amount of customer loan outstandings at December 31st, 2021, including lease financing, was EUR 488 billion (EUR 440 billion at December 31st, 2020) – excluding assets and securities purchased under resale agreements. At the same time, customer deposits amounted to EUR 502 billion, vs. EUR 451 billion at December 31st, 2020 (excluding assets and securities sold under repurchase agreements).

At December 31st, 2021, the parent company had issued EUR 35.3 billion of medium/long-term debt, having an average maturity of 5.1 years and an average spread of 33 basis points (vs. the 6-month mid-swap, excluding subordinated debt). The subsidiaries had issued EUR 3.8 billion. In total, the Group had issued EUR 39.1 billion of medium/long-term debt.

The LCR (Liquidity Coverage Ratio) was well above regulatory requirements at 129% at end-December 2021 (131% on average in Q4), vs. 149% at end-December 2020. At the same time, the NSFR (Net Stable Funding Ratio) was at a level of 110% at end-December 2021.

The Group's **risk-weighted assets** (RWA) amounted to EUR 363.4 billion at December 31st, 2021 (vs. EUR 351.9 billion at end-December 2020) according to CRR2/CRD5 rules. Risk-weighted assets in respect of credit risk represent 83.9% of the total, at EUR 304.9 billion, up 6.1% vs. December 31st, 2020.

At December 31st, 2021, the Group's **Common Equity Tier 1** ratio stood at 13.7%, or around 470 basis points above the regulatory requirement. The CET1 ratio at December 31st, 2021 includes an effect of +16 basis points for phasing of the IFRS 9 impact. Excluding this effect, the fully-loaded ratio amounts to 13.6%. The Tier 1 ratio stood at 15.9% at end-December 2021 (16% at end-December 2020) and the total capital ratio amounted to 18.8% (19.2% at end-December 2020).

The Group is aiming for a CET1 ratio between 200-250 basis points minimum above the regulatory requirement including after the entry into force of the regulation finalising the Basel III reform.

The **leverage ratio** stood at 4.9% at December 31st, 2021 (4.8% at end-December 2020).

With a level of 31.1% of RWA and 9.5% of leverage exposure at end-December 2021, the Group's TLAC ratio is above the Financial Stability Board's requirements for 2021 and 2022. At December 31st, 2021, the Group was also above its 2022 MREL requirements of 25.2% of RWA and 5.91% of leverage exposure.

The Group is rated by four rating agencies: (i) Fitch Ratings - long-term rating "A-", stable rating, senior preferred debt rating "A", short-term rating "F1" (ii) Moody's - long-term rating (senior preferred debt) "A1", stable outlook, short-term rating "P-1" (iii) R&I - long-term rating (senior preferred debt) "A", stable outlook; and (iv) S&P Global Ratings - long-term rating (senior preferred debt) "A", stable outlook, short-term rating "A-1".

(1) *Amounts restated compared with the financial statements published in 2020 (See Note1.7 of financial statements)*

3. FRENCH RETAIL BANKING

In EURm	Q4 21	Q4 20	Change	2021	2020	Change
Net banking income	2,048	1,845	+11.0%	7,777	7,315	+6.3%
Net banking income excl. PEL/CEL	*2,027*	*1,870*	*+8.4%*	*7,738*	*7,381*	*+4.8%*
Operating expenses	(1,534)	(1,443)	+6.3%	(5,635)	(5,418)	+4.0%
Underlying operating expenses(1)	*(1,573)*	*(1,476)*	*+6.6%*	*(5,635)*	*(5,418)*	*+4.0%*
Gross operating income	514	402	+27.9%	2,142	1,897	+12.9%
Underlying gross operating income(1)	*454*	*394*	*+15.3%*	*2,103*	*1,963*	*+7.1%*
Net cost of risk	20	(276)	n/s	(104)	(1,097)	-90.5%
Operating income	534	126	x 4.2	2,038	800	x 2.5
Net profits or losses from other assets	22	19	+15.8%	24	158	-84.8%
Reported Group net income	400	104	x 3.8	1,492	666	x 2.2
Underlying Group net income(1)	*356*	*99*	*x 3.6*	*1,463*	*712*	*x 2.1*
RONE	14.6%	3.7%		13.4%	5.8%	
Underlying RONE(1)	*13.0%*	*3.5%*		*13.1%*	*6.2%*	

(1) Adjusted for the linearisation of IFRIC 21 and PEL/CEL provision

Societe Generale and Crédit du Nord networks

Average loan outstandings were -1% lower than in Q4 20 at EUR 210 billion. They were 9% higher than in Q4 19. Average outstanding loans to individuals were up +2%, bolstered by the growth in home loan production (+33% vs. Q4 20). The production of medium/long-term loans to corporate and professional customers climbed +45% excluding State Guaranteed Loans vs. Q4 20.

Average outstanding balance sheet deposits increased by +7% vs. Q4 20 to EUR 241 billion (+22% vs. Q4 19), still driven by sight deposits.

As a result, the average loan/deposit ratio stood at 87% in Q4 21 vs. 94% in Q4 20.

Insurance assets under management totalled EUR 93 billion at end-December 2021, up +6% year-on-year. Gross life insurance inflow amounted to EUR 1.9 billion in Q4 21, with the unit-linked share accounting for 36%.

Private Banking's assets under management totalled EUR 78 billion at end-December 2021. Net inflow was buoyant at EUR 4.1 billion in 2021, an increase of 68% vs. 2020.

Property/casualty insurance premiums were up +5% vs. Q4 20, while personal protection insurance premiums were up +4% vs. Q4 20. The penetration rate for our customer base has improved both for property/casualty insurance and personal protection insurance.

Boursorama

The bank consolidated its position as the leading online bank in France, with more than 3.3 million clients at end-December 2021, thanks to the onboarding of 266,000 new clients in Q4 21 (+38% vs. Q4 20). Boursorama is aiming to have more than 4 million clients at end-2022, one year ahead of schedule relative to its plan.

This quarter, Boursorama distinguished itself by obtaining the highest NPS score among French banks in 2021 in the classification established by Bain & Company in December 2021. Moreover, Boursorama was ranked No. 1 in the classification best bank for Customer Experience Excellence in France in 2021 awarded by KPMG in November 2021. The bank also obtained the highest rating scores for its App among French banks with 4.8 on iOS (App Store) and 4.9 on Android (Google Play Store). In addition, Boursorama was voted the least expensive bank for the 14th consecutive year by Le Monde and Meilleurebanque.com in December 2021.

Average outstanding loans rose +28% vs. Q4 20 to EUR 14 billion. Home loan outstandings were up +30% vs. Q4 20.

Average outstanding savings including deposits and financial savings were 25% higher than in Q4 20 at EUR 35 billion, while outstanding deposits were up +25% vs. Q4 20. Life insurance outstandings were 13% higher than in Q4 20 while assets under management in UCITS increased by +16% vs. Q4 20. Brokerage volumes were stable in 2021 compared to 2020 at a record level (x3 compared to 2019).

Net banking income excluding PEL/CEL

2021: revenues (excluding PEL/CEL) totalled EUR 7,738 million, up +4.8% vs. 2020. Net interest income (excluding PEL/CEL) was up +2.1% vs. 2020, underpinned by catch-up effects related to the TLTRO allowance and to State Guaranteed Loans. Commissions enjoyed a healthy momentum (+5.1% vs. 2020) against the backdrop of a recovery in activity following the lockdowns in 2020.

Q4 21: revenues (excluding PEL/CEL) totalled EUR 2,027 million, up +8.4% vs. Q4 20. Net interest income (excluding PEL/CEL) was up +6.7% vs. Q4 20. Commissions were 5.0% higher than in Q4 20.

Operating expenses

2021: operating expenses totalled EUR 5,635 million (+4.0% vs. 2020). The cost to income ratio (restated for the PEL/CEL provision) stood at 72.8%, an improvement of 0.6 points vs. 2020.

Q4 21: operating expenses amounted to EUR 1,534 million (+6.3% vs. Q4 20) and EUR 1,573 million on an underlying basis. The cost to income ratio (after linearisation of the IFRIC 21 charge and restated for the PEL/CEL provision) stood at 77.6%, an improvement of 1.3 points vs. Q4 20.

Cost of risk

2021: the cost of risk amounted to EUR 104 million or 5 basis points, a substantial decline compared to 2020 (52 basis points) which was marked by an environment of uncertainty linked to the pandemic.

Q4 21: the cost of risk represented a write-back of EUR 20 million or -4 basis points, a significant improvement vs. Q4 20 (50 basis points) and Q3 21 (write-back of 1 basis point).

Contribution to Group net income

2021: the contribution to Group net income was EUR 1,492 million (x2.2 vs. 2020 impacted by the pandemic). RONE (restated for the PEL/CEL provision) stood at 13.1% in 2021 (6.2% in 2020) and 14.4% excluding Boursorama.

Q4 21: the contribution to Group net income was EUR 400 million vs. EUR 104 million in Q4 20. RONE (after linearisation of the IFRIC 21 charge and restated for the PEL/CEL provision) stood at 13.0% in Q4 21 (3.5% in Q4 20).

4. INTERNATIONAL RETAIL BANKING & FINANCIAL SERVICES

In EURm	Q4 21	Q4 20	Change		2021	2020	Change	
Net banking income	2,159	1,919	*+12.5%*	*+10.3%**	8,117	7,524	*+7.9%*	*+9.9%**
Operating expenses	(1,088)	(1,018)	*+6.9%*	*+4.2%**	(4,203)	(4,142)	*+1.5%*	*+3.1%**
Underlying operating expenses(1)	(1,112)	(1,042)	*+6.7%*	*+4.1%**	(4,203)	(4,142)	*+1.5%*	*+3.1%**
Gross operating income	1,071	901	*+18.9%*	*+17.3%**	3,914	3,382	*+15.7%*	*+18.3%**
Underlying gross operating income(1)	1,047	877	*+19.4%*	*+17.8%**	3,914	3,382	*+15.7%*	*+18.3%**
Net cost of risk	(96)	(287)	*-66.6%*	*-67.2%**	(504)	(1,265)	*-60.2%*	*-59.4%**
Operating income	975	614	*+58.8%*	*+57.5%**	3,410	2,117	*+61.1%*	*+65.2%**
Net profits or losses from other assets	8	6	*+33.3%*	*+36.6%**	18	15	*+20.0%*	*+21.2%**
Reported Group net income	584	376	*+55.3%*	*+54.9%**	2,082	1,304	*+59.7%*	*+64.4%**
Underlying Group net income(1)	570	362	*+57.5%*	*+57.1%**	2,082	1,304	*+59.7%*	*+64.4%**
RONE	22.2%	14.9%			20.3%	12.4%		
Underlying RONE(1)	*21.7%*	*14.3%*			*20.3%*	*12.4%*		

(1) Adjusted for the linearisation of IFRIC 21

International Retail Banking's loan and deposit production provided confirmation in Q4 of its rebound in all geographical regions. Outstanding loans totalled EUR 93.6 billion. They rose +6.0%* vs. end-December 2020. Outstanding deposits were 8.5%* higher than in December 2020, at EUR 89.5 billion.

For the Europe scope, outstanding loans were up +6.6%* vs. December 2020 at EUR 59.9 billion, driven by all the regions: +6.5%* in the Czech Republic, +11.1%* in Romania, and +5.4%* in Western Europe. Outstanding deposits increased by +6.0%* to EUR 50.8 billion.

In Russia, outstanding loans rose +13.3%* vs. end-December 2020, with a robust commercial performance particularly in home loans (+15%* year-on-year) and in the corporate customers segment (+22%* year-on-year). There was a significant increase in outstanding deposits (+20.8%*).

In Africa, Mediterranean Basin and French Overseas Territories, outstanding loans rose +1.6%* year-on-year. Outstanding deposits continued to enjoy a healthy momentum, up +7.7%*.

In the Insurance business, the life insurance savings business saw outstandings increase +7%* at end-December 2021 vs. end-December 2020 to EUR 135 billion. The share of unit-linked products in outstandings was 37%, an increase of +4 points vs. December 2020.

Financial Services to Corporates also enjoyed a healthy momentum. Operational Vehicle Leasing and Fleet Management had 1.7 million contracts, including 1.4 million financed vehicles, an increase of +4.0% vs. end-December 2020. Equipment Finance's new leasing business was up +12.1%* vs. 2020, while outstanding loans rose +1.1% vs. end-December 2020, to EUR 14.7 billion (excluding factoring).

Net banking income

Net banking income amounted to EUR 8,117 million in 2021, up +9.9%* vs. 2020. Revenues amounted to EUR 2,159 million in Q4 21, up +10.3%* vs. Q4 20.

International Retail Banking's net banking income totalled EUR 5,000 million in 2021, an increase of +2.8%* vs. 2020. It was up +3.5%* in Q4 21 at EUR 1,311 million.

Thanks to a rise in interest rates, a healthy commercial momentum and an increase in commissions (+16%* vs. Q4 20), revenues in Europe were 10.7%* higher than in Q4 20. Activity in the individual customers segment remained particularly robust in specialised consumer finance, with revenues up +9%* vs. Q4 20.

In 2021, the revenues of SG Russia[1] were down -2.8%* (-7.0%* vs. Q4 20), adversely affected firstly, by a temporary squeeze on individual customer margins (part of the rise in rates not being passed on to individual customers) and secondly, by a non-recurring item affecting the recognition of commissions.

The Africa, Mediterranean Basin and French Overseas Territories scope posted revenues up +4.6%* vs. 2020 at EUR 1,770 million. Despite persistent supply chain pressures and the sharp decline in tourism, activity proved resilient in Q4 21, with a gradual improvement in the commercial momentum. As a result, revenues were slightly lower (-1.2%) at EUR 453 million, with strong growth in certain key countries of Sub-Saharan Africa (Cote d'Ivoire, Senegal and Madagascar) particularly in the corporate customers segment.

The Insurance business posted net banking income up +8.6%* vs. 2020, at EUR 963 million in 2021. The gross premiums of the life insurance savings business were 25%* higher in Q4 21 than in Q4 20, with an attractive share of unit-linked products (44%). Protection insurance saw an increase of +5%* vs. December 2020. Property/casualty premiums rose +9%* in Q4 21 (including +7%* in France and +10%* internationally) and +8%* in 2021, as did personal protection insurance (+3%* vs. 2020). The Insurance business' net banking income was 8.1%* higher in Q4 21 than in Q4 20 at EUR 243 million.

Financial Services to Corporates' net banking income was substantially higher (+32.0%*) than in 2020, at EUR 2,154 million. This performance was driven primarily by the activities of ALD which posted strong growth in its fleet and the used car sale result (EUR 1,422 per vehicle in 2021). Financial Services to Corporates' net banking income totalled EUR 605 million in Q4 21, up +30.6%* vs. Q4 20.

Operating expenses

Operating expenses totalled EUR 4,203 million, an increase of +3.1%* on a reported and underlying basis vs. 2020. Operating expenses amounted to EUR 1,088 million in Q4 21, up +4.2%* vs. Q4 20, in conjunction with the growth in revenue. As a result, the quarter generated a positive jaws effect. The cost to income ratio stood at 51.8% in 2021.

In International Retail Banking, operating expenses were slightly higher (+2.5%*) than in 2020. Operating expenses were 4.0%* higher than in Q4 20.

In the **Insurance** business, operating expenses were in line with the expansion ambitions and rose +4.8%* vs. 2020 and +6.6%* vs. Q4 20.

In **Financial Services to Corporates,** operating expenses increased by +4.4%* vs. 2020 and +4.7%* vs. Q4 20.

Cost of risk

Q4 21: the cost of risk amounted to 28 basis points (EUR 96 million), vs. 43 basis points in Q3 21 and 89 basis points in Q4 20.

2021: the cost of risk amounted to 38 basis points (EUR 504 million). It was 96 basis points in 2020.

Contribution to Group net income

The contribution to Group net income totalled EUR 2,082 million in 2021 (+64.4%* vs. 2020) and EUR 584 million in Q4 21 (+54.9%* vs. Q4 20).

Underlying RONE stood at 20.3% in 2021 (vs. 12.4% in 2020) and 21.7% in Q4 21 (14.3% in Q4 20), with RONE of 16% in International Retail Banking and 26% in Financial Services.

---

[1] *SG Russia encompasses the entities Rosbank, Rosbank Insurance, ALD Automotive and their consolidated subsidiaries*

5. GLOBAL BANKING & INVESTOR SOLUTIONS

In EURm	Q4 21	Q4 20	Variation		2021	2020	Variation	
Net banking income	2,320	2,072	+12.0%	+9.7%*	9,530	7,613	+25.2%	+26.1%*
Operating expenses	(1,556)	(1,688)	-7.8%	-9.3%*	(6,863)	(6,713)	+2.2%	+2.7%*
Underlying operating expenses(1)	*(1,681)*	*(1,638)*	*+2.6%*	*+0.9%**	*(6,863)*	*(6,556)*	*+4.7%*	*+5.1%**
Gross operating income	764	384	+99.0%	+91.5%*	2,667	900	x 3.0	x 3.0*
Underlying gross operating income(1)	*639*	*434*	*+47.3%*	*+42.4%**	*2,667*	*1,057*	*x 2.5*	*x 2.6*
Net cost of risk	(3)	(104)	-97.1%	-97.2%*	(86)	(922)	-90.7%	-90.5%*
Operating income	761	280	x 2.7	x 2.6	2,581	(22)	n/s	n/s
Reported Group net income	635	280	x 2.3	x 2.2	2,076	57	x 36.4	x 40.8
Underlying Group net income(1)	*539*	*320*	*+68.4%*	*+64.1%**	*2,076*	*183*	*x 11.4*	*x 11.8*
RONE	16.3%	7.8%			13.9%	0.4%		
Underlying RONE(1)	*13.8%*	*9.0%*			*13.9%*	*1.3%*		

(1) Adjusted for the linearisation of IFRIC 21

Net banking income

In 2021, Global Banking & Investor Solutions posted substantially higher revenues (+25.2%) than in 2020 at EUR 9,530 million, driven by a very strong momentum in all the businesses. Revenues rose +9.5% compared to 2019. This solid financial performance reflects the successful execution of the strategic plan presented in May 2021.
In Q4 21, revenues rose +12.0% vs. Q4 20, to EUR 2,320 million.

In Global Markets & Investor Services, net banking income totalled EUR 5,648 million in 2021 (+35.6% vs. 2020). It amounted to EUR 1,260 million in Q4 21 (+8.6% vs. Q4 20).

Global Markets turned in a very strong performance in 2021 (EUR 5,001 million), with an increase of +40.2% compared to 2020 which was heavily impacted by the health crisis. Market conditions were favourable in the Equity market and more complex in the fixed income markets in 2021. The reduction in the risk profile of structured products was completed in the first half of the year, ahead of schedule.
Q4 21 also delivered a solid performance (EUR 1,103 million), with an increase of +9.5% vs. Q4 20. The fourth quarter was marked by very buoyant commercial activity in most client segments.

The Equity activity enjoyed its best year since 2009 (EUR 3,150 million vs. EUR 1,275 million in 2020 and EUR 2,502 million in 2019), driven by good market conditions and the successful repositioning of the Investment Solutions product offering.
In Q4 21, the business was able to take advantage of still favourable market conditions on all products, and posted revenues of EUR 727 million, up +22.6% vs. Q4 20.

Fixed Income & Currency activities posted revenues of EUR 1,851 million in 2021, down -19.2% compared to 2020 which was marked by exceptional market conditions in the first half of the year.
Q4 21 delivered a resilient performance (-9.2% vs. Q4 20) in a more complex market, with higher revenues in emerging markets and financing.

There was a significant increase in Securities Services' revenues in 2021, with revenues up +8.4% vs. 2020, at EUR 647 million. They were 2.6% higher in Q4 21 than in Q4 20, at EUR 157 million.
Securities Services' assets under custody and assets under administration amounted to EUR 4,586 billion and EUR 697 billion respectively, up +6.3% and +9.2% in 2021.

Financing & Advisory delivered the best historical annual performance, with revenues of EUR 2,924 million, up +14.8% vs. 2020. Firstly, the business capitalised on the good market momentum, particularly in Investment Banking, by playing key roles in our clients' major transactions and secondly, it benefited from an additional capital allocation.

In Q4 21, the business again enjoyed record revenues of EUR 814 million, substantially higher (+19.5%) than in Q4 20.
Investment Banking enjoyed an excellent quarter, driven by the strong momentum of M&A, Leveraged Buyout and equity capital market activities. Revenues from Asset Finance, Natural Resources and Infrastructure activities and the Asset-Backed Products platform also showed a substantial increase.
Global Transaction and Payment Services continued to experience strong growth, up +25.2% vs. Q4 20.

Asset and Wealth Management's net banking income totalled EUR 958 million in 2021 (+6.1% vs. 2020). It was 6.5% higher in Q4 21 vs. Q4 20.

In 2021, Private Banking posted an increase in revenues of +3.1% vs. 2020, to EUR 699 million (when restated for an exceptional impact of EUR +29 million related to an insurance payout received in 2020, revenues are up +7.7%). The business benefited from strong commercial activity in all regions. Net inflow amounted to EUR +7.7 billion in 2021. Assets under management totalled EUR 130 billion. They rose +12% in 2021.
In Q4 21, net banking income amounted to EUR 171 million, up +5.6% vs. Q4 20.

In 2021, Lyxor's net banking income totalled EUR 239 million, an increase of +15.5% vs. 2020. Assets under management were up +27% in 2021, at EUR 178 billion.
In Q4 21, revenues were 10.9% higher than in Q4 20.

Operating expenses

2021: operating expenses totalled EUR 6,863 million, an increase of +2.2% vs. 2020 on a reported basis, and +4.7% on an underlying basis (operating expenses included a restructuring charge of EUR 157 million in Q4 20). This increase can be explained by the rise in variable costs related to the increase in earnings and IFRIC 21 charges. Thanks to a very positive jaws effect, there was a significant improvement in the cost to income ratio of 14 points (72% vs. 86% on an underlying basis in 2020).
Q4 21: operating expenses were up +2.6% on an underlying basis (at EUR 1,681 million).

Net cost of risk

2021: the cost of risk was at a low level of 5 basis points (or EUR 86 million), well below 2020 (57 basis points) which was adversely affected by the health crisis.
Q4 21: it amounted to 1 basis point (or EUR 3 million), vs. 28 basis points in Q4 20.

Contribution to Group net income

2021: the contribution to Group net income was EUR 2,076 million.
Q4 21: it was EUR 635 million on a reported basis and EUR 539 million on an underlying basis (+68.4% vs. Q4 20).

Global Banking & Investor Solutions posted a significant RONE of 13.9% in 2021 (16.1% when restated for the impact of the contribution to the Single Resolution Fund).
The underlying RONE was 13.8% in Q4 21.

6. CORPORATE CENTRE

In EURm	Q4 21	Q4 20	2021	2020
Net banking income	93	2	374	(339)
Underlying net banking income(1)	*(24)*	2	*257*	(339)
Operating expenses	(387)	(202)	(889)	(441)
Underlying operating expenses(1)	*(251)*	*(162)*	*(510)*	*(388)*
Gross operating income	(294)	(200)	(515)	(780)
Underlying gross operating income(1)	*(275)*	*(160)*	*(253)*	*(727)*
Net cost of risk	(7)	(22)	(6)	(22)
Net profits or losses from other assets	429	(105)	603	(185)
Impairment losses on goodwill	(114)	-	(114)	(684)
Income tax	193	52	187	(482)
Reported Group net income	168	(290)	(9)	(2,285)
Underlying Group net income(1)	*(255)*	*(133)*	*(386)*	*(718)*

(1) Adjusted for the linearisation of IFRIC 21

The Corporate Centre includes the property management of the Group's head office, the Group's equity portfolio, the Treasury activities for the Group, certain costs related to cross-functional projects as well as certain costs incurred by the Group not re-invoiced to the businesses.

The Corporate Centre's net banking income totalled EUR +374 million in 2021 vs. EUR -339 million in 2020 and EUR +93 million in Q4 21, including the positive impact of a revaluation of securities for EUR 117 million vs. EUR +2 million in Q4 20.

Operating expenses totalled EUR 889 million in 2021 vs. EUR 441 million in 2020. They include the Group's transformation costs for a total amount of EUR 379 million relating to the activities of French Retail Banking (EUR 194 million), Global Banking & Investor Solutions (EUR 99 million) and the Corporate Centre (EUR 86 million). Underlying costs came to EUR 510 million in 2021 compared to EUR 388 million in 2020.
Operating expenses totalled EUR 387 million in Q4 21 vs. EUR 202 million in Q4 20. They include the Group's transformation costs for a total amount of EUR 147 million relating to the activities of French Retail Banking (EUR 88 million), Global Banking & Investor Solutions (EUR 33 million) and the Corporate Centre (EUR 26 million). Underlying costs came to EUR 251 million in Q4 21 compared to EUR 162 million in Q4 20.

Gross operating income totalled EUR -515 million in 2021 vs. EUR -780 million in 2020 and EUR -294 million in Q4 21 vs. EUR -200 million in Q4 20. Underlying gross operating income came to EUR -253 million in 2021 vs. EUR -727 million in 2020.

Net profits or losses from other assets amounted to EUR +603 million in 2021 vs. EUR -185 million in 2020. In Q4 21, they totalled EUR +429 million including the proceeds of the disposal of Lyxor's asset management activities for EUR 439 million, vs. EUR -105 million in Q4 20 including EUR -101 million in respect of the disposal of SG Finans.
In Q4 21, the Group benefited from the recognition of EUR 130 million of deferred tax assets. Furthermore, the review of International Retail Banking's financial trajectory led to the impairment of goodwill for EUR 114 million in Q4 21.

The **Corporate Centre's contribution to Group net income was EUR -9 million** in 2021 vs. EUR -2,285 million in 2020 and EUR +168 million in Q4 21 vs. EUR -290 million in Q4 20. The Corporate Centre's contribution to Group net income on an underlying basis was EUR -255 million.

7. CONCLUSION

In 2021, the Group delivered the best annual performance in its history, with Group net income of EUR 5.6 billion and a strong contribution from all its businesses.

2021 was also marked by major progress in the execution of all our strategic initiatives and in the strategic reallocation of our capital in favour of businesses offering profitable growth. The Group therefore announced the planned acquisition of LeasePlan by ALD to create a mobility leader, as well as Boursorama's entry into exclusive discussions with ING with a view to offering ING's individual customers in France the best alternative banking solution.

At end-December 2021, the Group had a CET1 ratio of 13.7%(1), comfortably above its regulatory requirement.

The Board of Directors has established an attractive distribution of 2021 financial results to shareholders equivalent to EUR 2.75 per share. A dividend in cash of EUR 1.65 per share will be proposed to the General Meeting of Shareholders on May 17th.

Furthermore, the Group foresee a buyback programme for around EUR 915 million, or an amount equivalent to EUR 1.10 per share. Exceptionally, it has been retained a split of the distribution between 60% in cash and 40% through share buy-back.

In future, the Group intends to maintain a distribution policy of 50% of underlying Group net income(2) with up to 20% of the distribution in the form of a share buyback.

(1) *Phased-in (13.6% fully-loaded) post distribution provision*
(2) *After deducting interest on deeply subordinated notes and undated subordinated notes*

8. 2022 FINANCIAL CALENDAR

2022 Financial communication calendar

May 5th, 2022	First quarter 2022 results
May 17th, 2022	2022 General Meeting
August 3rd, 2022	Second quarter and first half 2022 results
November 4th, 2022	Third quarter and nine-month 2022 results

The Alternative Performance Measures, notably the notions of net banking income for the pillars, operating expenses, IFRIC 21 adjustment, cost of risk in basis points, ROE, ROTE, RONE, net assets, tangible net assets, and the amounts serving as a basis for the different restatements carried out (in particular the transition from published data to underlying data) are presented in the methodology notes, as are the principles for the presentation of prudential ratios.

This document contains forward-looking statements relating to the targets and strategies of the Societe Generale Group.
These forward-looking statements are based on a series of assumptions, both general and specific, in particular the application of accounting principles and methods in accordance with IFRS (International Financial Reporting Standards) as adopted in the European Union, as well as the application of existing prudential regulations.

These forward-looking statements have also been developed from scenarios based on a number of economic assumptions in the context of a given competitive and regulatory environment. The Group may be unable to:
- anticipate all the risks, uncertainties or other factors likely to affect its business and to appraise their potential consequences,
- evaluate the extent to which the occurrence of a risk or a combination of risks could cause actual results to differ materially from those provided in this document and the related presentation.

Therefore, although Societe Generale believes that these statements are based on reasonable assumptions, these forward-looking statements are subject to numerous risks and uncertainties, including matters not yet known to it or its management or not currently considered material, and there can be no assurance that anticipated events will occur or that the objectives set out will actually be achieved. Important factors that could cause actual results to differ materially from the results anticipated in the forward-looking statements include, among others, overall trends in general economic activity and in Societe Generale's markets in particular, regulatory and prudential changes, and the success of Societe Generale's strategic, operating and financial initiatives.

More detailed information on the potential risks that could affect Societe Generale's financial results can be found in the section "Risk Factors" in our Universal Registration Document filed with the French Autorité des Marchés Financiers (which is available on https://investors.societegenerale.com/en).

Investors are advised to take into account factors of uncertainty and risk likely to impact the operations of the Group when considering the information contained in such forward-looking statements. Other than as required by applicable law, Societe Generale does not undertake any obligation to update or revise any forward-looking information or statements. Unless otherwise specified, the sources for the business rankings and market positions are internal.

9. APPENDIX 1: FINANCIAL DATA

GROUP NET INCOME BY CORE BUSINESS

In EURm	Q4 21	Q4 20	Variation	2021	2020	Variation
French Retail Banking	400	104	x 3.8	1,492	666	x 2.2
International Retail Banking and Financial Services	584	376	+55.3%	2,082	1,304	+59.7%
Global Banking and Investor Solutions	635	280	x 2.3	2,076	57	x 36.4
Core Businesses	1,619	760	x 2.1	5,650	2,027	x 2.8
Corporate Centre	168	(290)	n/s	(9)	(2,285)	+99.6%
Group	1,787	470	x 3.8	5,641	(258)	n/s

CONSOLIDATED BALANCE SHEET

In EUR m	31.12.2021	31.12.2020
Cash, due from central banks	179,969	168,179
Financial assets at fair value through profit or loss *	342,714	411,916
Hedging derivatives	13,239	20,667
Financial assets at fair value through other comprehensive income	43,450	52,060
Securities at amortised cost	19,371	15,635
Due from banks at amortised cost	55,972	53,380
Customer loans at amortised cost	497,164	448,761
Revaluation differences on portfolios hedged against interest rate risk	131	378
Investments of insurance companies	178,898	166,854
Tax assets *	4,812	4,995
Other assets	92,898	67,341
Non-current assets held for sale	27	6
Investments accounted for using the equity method	95	100
Tangible and intangible fixed assets	31,968	30,088
Goodwill	3,741	4,044
Total *	**1,464,449**	**1,444,404**

In EUR m	31.12.2021	31.12.2020
Due to central banks	5,152	1,489
Financial liabilities at fair value through profit or loss *	307,563	372,705
Hedging derivatives	10,425	12,461
Debt securities issued	135,324	138,957
Due to banks	139,177	135,571
Customer deposits	509,133	456,059
Revaluation differences on portfolios hedged against interest rate risk	2,832	7,696
Tax liabilities *	1,577	1,227
Other liabilities	106,305	84,937
Non-current liabilities held for sale	1	-
Insurance contracts related liabilities	155,288	146,126
Provisions *	4,850	4,732
Subordinated debts	15,959	15,432
Total liabilities *	**1,393,586**	**1,377,392**
Shareholder's equity		
Shareholders' equity, Group share		
Issued common stocks and capital reserves	21,913	22,333
Other equity instruments	7,534	9,295
Retained earnings *	30,631	32,102
Net income	5,641	(258)
Sub-total *	**65,719**	**63,472**
Unrealised or deferred capital gains and losses	(652)	(1,762)
Sub-total equity, Group share *	**65,067**	**61,710**
Non-controlling interests *	5,796	5,302
Total equity *	**70,863**	**67,012**
Total *	**1,464,449**	**1,444,404**

(*) Amounts restated compared with the financial statements published in 2020 (See Note1.7 of financial statements)

10. APPENDIX 2: METHODOLOGY

1 –The financial information presented in respect of Q4 and 2021 was examined by the Board of Directors on February 9th, 2021 and has been prepared in accordance with IFRS as adopted in the European Union and applicable at that date. This information has not been audited.

2 - Net banking income

The pillars' net banking income is defined on page 41 of Societe Generale's 2021 Universal Registration Document. The terms "Revenues" or "Net Banking Income" are used interchangeably. They provide a normalised measure of each pillar's net banking income taking into account the normative capital mobilised for its activity.

3 - Operating expenses

Operating expenses correspond to the "Operating Expenses" as presented in note 8.1 to the Group's consolidated financial statements as at December 31st, 2020 (pages 466 et seq. of Societe Generale's 2021 Universal Registration Document). The term "costs" is also used to refer to Operating Expenses. The Cost/Income Ratio is defined on page 41 of Societe Generale's 2021 Universal Registration Document.

4 - IFRIC 21 adjustment

The IFRIC 21 adjustment corrects the result of the charges recognised in the accounts in their entirety when they are due (generating event) so as to recognise only the portion relating to the current quarter, i.e. a quarter of the total. It consists in smoothing the charge recognised accordingly over the financial year in order to provide a more economic idea of the costs actually attributable to the activity over the period analysed.

The contributions to **Single Resolution Fund (« SRF »)** are part of IFRIC21 adjusted charges, they include contributions to national resolution funds within the EU.

5 – Exceptional items – Transition from accounting data to underlying data

It may be necessary for the Group to present underlying indicators in order to facilitate the understanding of its actual performance. The transition from published data to underlying data is obtained by restating published data for exceptional items and the IFRIC 21 adjustment.

Moreover, the Group restates the revenues and earnings of the French Retail Banking pillar for PEL/CEL provision allocations or write-backs. This adjustment makes it easier to identify the revenues and earnings relating to the pillar's activity, by excluding the volatile component related to commitments specific to regulated savings.

The reconciliation enabling the transition from published accounting data to underlying data is set out in the table below:

Q4 21 (in EURm)	Net Banking Income	Operating Expenses	Cost of risk	Net profit or losses from other assets	Impairment losses on goodwill	Income tax	Group net income	Business
Reported	6 620	(4 565)	(86)	449	(114)	(311)	1 787	
*(+) Revaluation gain**	*(117)*					*2*	*(115)*	*Corporate Center*
(+) IFRIC 21 linearisation		*(199)*				*46*	*(149)*	
*(+) Transformation charges**		*147*				*(39)*	*108*	*Corporate Center(1)*
*(+) Lyxor disposal**				*(439)*		*50*	*(389)*	*Corporate Center*
*(+) DTA recognition**						*(130)*	*(130)*	*Corporate Center*
*(+) Goodwill impairment**					*114*		*114*	*Corporate Center*
Underlying	6 503	(4 617)	(86)	10	0	(382)	1 226	

Q4 20 (in EURm)	Net Banking Income	Operating Expenses	Cost of risk	Net profit or losses from other assets	Impairment losses on goodwill	Income tax	Group net income	Business
Reported	5 838	(4 351)	(689)	(94)	0	(125)	470	
(+) IFRIC 21 linearisation		*(177)*				*52*	*(121)*	
*(+) Transformation charges**		*210*				*(63)*	*147*	*o/w GBIS (EUR -157m), Corporate Center (EUR -53m)*
*(+) Group refocusing plan**			*20*	*101*		*14*	*135*	*Corporate Center*
Underlying	5 838	(4 318)	(669)	7	0	(123)	631	

2021 (in EURm)	Net Banking Income	Operating Expenses	Cost of risk	Net profit or losses from other assets	Impairment losses on goodwill	Income tax	Group net income	Business
Reported	25 798	(17 590)	(700)	635	(114)	(1 697)	5 641	
*(+) Lyxor disposal**				*(439)*		*50*	*(389)*	*Corporate Center*
*(+) Transformation charges**		*379*				*(104)*	*275*	*Corporate Center(2)*
*(+) Capital gains on Haussmann office disposal**				*(185)*		*53*	*(132)*	*Corporate Center*
*(+) Revaluation gain**	*(117)*					*2*	*(115)*	*Corporate Center*
*(+) DTA recognition**						*(130)*	*(130)*	*Corporate Center*
*(+) Goodwill impairment**					*114*		*114*	*Corporate Center*
Underlying	25 681	(17 211)	(700)	11	0	(1 826)	5 264	

2020 (in EURm)	Net Banking Income	Operating Expenses	Cost of risk	Net profit or losses from other assets	Impairment losses on goodwill	Income tax	Group net income	Business
Reported	22 113	(16 714)	(3 306)	(12)	(684)	(1 204)	(258)	
*(+) Transformation charges**		*210*				*(63)*	*147*	*o/w GBIS (EUR -157m), Corporate Center (EUR -53m)*
*(+) Group refocusing plan**			*20*	*178*		*14*	*212*	*Corporate center*
*(+) Goodwill impairment**					*684*		*684*	*Corporate center*
*(+) DTA impairment **						*650*	*650*	*Corporate center*
Underlying	22 113	(16 504)	(3 286)	166	0	(603)	1 435	

(*) Exceptional item

(1) Transformation and/or restructuring charges in Q4 21 related to RBDF (EUR 88m), GBIS (EUR 33m) and Corporate Center (EUR 26m)

(2) Transformation and/or restructuring charges in 2021 related to RBDF (EUR 194m), GBIS (EUR 99m) and Corporate Center (EUR 86m)

6 - Cost of risk in basis points, coverage ratio for doubtful outstandings

The cost of risk is defined on pages 43 and 635 of Societe Generale's 2021 Universal Registration Document. This indicator makes it possible to assess the level of risk of each of the pillars as a percentage of balance sheet loan commitments, including operating leases.

In EURm		Q4 21	Q4 20	2021	2020
French Retail Banking	Net Cost Of Risk	(20)	276	104	1,097
	Gross loan Outstandings	219,522	222,926	218,043	212,185
	Cost of Risk in bp	(4)	50	5	52
International Retail Banking and Financial Services	Net Cost Of Risk	96	287	504	1,265
	Gross loan Outstandings	137,018	128,965	133,321	132,082
	Cost of Risk in bp	28	89	38	96
Global Banking and Investor Solutions	Net Cost Of Risk	3	104	86	922
	Gross loan Outstandings	178,116	147,508	165,603	160,918
	Cost of Risk in bp	1	28	5	57
Corporate Centre	Net Cost Of Risk	7	22	6	22
	Gross loan Outstandings	14,574	14,044	13,835	11,611
	Cost of Risk in bp	16	62	4	20
Societe Generale Group	Net Cost Of Risk	86	689	700	3,306
	Gross loan Outstandings	549,229	513,443	530,801	516,797
	Cost of Risk in bp	6	54	13	64

The **gross coverage ratio for doubtful outstandings** is calculated as the ratio of provisions recognised in respect of the credit risk to gross outstandings identified as in default within the meaning of the regulations, without taking account of any guarantees provided. This coverage ratio measures the maximum residual risk associated with outstandings in default ("doubtful").

7 - ROE, ROTE, RONE

The notions of ROE (Return on Equity) and ROTE (Return on Tangible Equity), as well as their calculation methodology, are specified on page 43 and 44 of Societe Generale's 2021 Universal Registration Document. This measure makes it possible to assess Societe Generale's return on equity and return on tangible equity.
RONE (Return on Normative Equity) determines the return on average normative equity allocated to the Group's businesses, according to the principles presented on page 44 of Societe Generale's 2021 Universal Registration Document.
Group net income used for the ratio numerator is book Group net income adjusted for "interest net of tax payable on deeply subordinated notes and undated subordinated notes, interest paid to holders of deeply subordinated notes and undated subordinated notes, issue premium amortisations" and "unrealised gains/losses booked under shareholders' equity, excluding conversion reserves" (see methodology note No. 9). For ROTE, income is also restated for goodwill impairment.

Details of the corrections made to book equity in order to calculate ROE and ROTE for the period are given in the table below:

ROTE calculation: calculation methodology

End of period	Q4 21	Q4 20	2021	2020
Shareholders' equity Group share*	65,067	61,710	65,067	61,710
Deeply subordinated notes	(8,003)	(8,830)	(8,003)	(8,830)
Undated subordinated notes		(264)		(264)
Interest net of tax payable to holders of deeply subordinated notes & undated subordinated notes, interest paid to holders of deeply subordinated notes & undated subordinated notes, issue premium amortisations	20	19	20	19
OCI excluding conversion reserves	(489)	(942)	(489)	(942)
Dividend provision	(2,286)	(467)	(2,286)	(467)
ROE equity end-of-period*	54,310	51,227	54,310	51,227
Average ROE equity*	53,878	51,307	52,634	52,091
Average Goodwill	(3,776)	(3,928)	(3,890)	(4,172)
Average Intangible Assets	(2,687)	(2,477)	(2,584)	(2,432)
Average ROTE equity*	47,415	44,902	46,160	45,487
Group net Income (a)	1,787	470	5,641	(258)
Underlying Group net income (b)	1,226	631	5,264	1,435
Interest on deeply subordinated notes and undated subordinated notes (c)	(151)	(164)	(590)	(611)
Cancellation of goodwill impairment (d)	337	-	337	684
Ajusted Group net Income (e) = (a)+ (c)+(d)	1,973	306	5,388	(185)
Ajusted Underlying Group net Income (f)=(b)+(c)	1,075	467	4,674	824
Average ROTE equity (g)*	47,415	44,902	46,160	45,487
ROTE [quarter: (4*e/g), 12M: (2*e/g)]	16.6%	2.7%	11.7%	-0.4%
Average ROTE equity (underlying) (h)*	46,854	45,063	45,783	47,180
Underlying ROTE [quarter: (4*f/h), 12M: (2*f/h)]	9.2%	4.1%	10.2%	1.7%

(*) Amounts restated compared with the financial statements published in 2020 (See Note1.7 of the financial statements)

RONE calculation: Average capital allocated to Core Businesses (in EURm)

In EUR m	Q4 21	Q4 20	Change	2021	2020	Change
French Retail Banking	10,990	11,186	-1.8%	11,149	11,427	-2.4%
International Retail Banking and Financial Services	10,523	10,112	+4.1%	10,246	10,499	-2.4%
Global Banking and Investor Solutions	15,602	14,287	+9.2%	14,916	14,302	+4.3%
Core Businesses	37,115	35,585	+4.3%	36,310	36,228	+0.2%
Corporate Center	16,763	15,722	+6.7%	16,324	15,863	+2.9%
Group	53,878	51,307	+5.0%	52,634	52,091	+1.0%

(*) Amounts restated compared with the financial statements published in 2020 (See Note1.7 of the financial statements)

8 - Net assets and tangible net assets

Net assets and tangible net assets are defined in the methodology, page 46 of the Group's 2021 Universal Registration Document. The items used to calculate them are presented below:

End of period – in EUR m	2021	2020	2019
Shareholders' equity Group share*	65,067	61,710	63,527
Deeply subordinated notes	(8,003)	(8,830)	(9,501)
Undated subordinated notes		(264)	(283)
Interest, net of tax, payable to holders of deeply subordinated notes & undated subordinated notes, interest paid to holders of deeply subordinated notes & undated subordinated notes, issue premium amortisations	20	19	4
Bookvalue of own shares in trading portfolio	37	301	375
Net Asset Value*	57,121	52,936	54,122
Goodwill	(3,624)	(3,928)	(4,510)
Intangible Assets	(2,733)	(2,484)	(2,362)
Net Tangible Asset Value*	50,764	46,524	47,250
Number of shares used to calculate NAPS**	831,162	848,859	849,665
Net Asset Value per Share	68.7	62.4	63.7
Net Tangible Asset Value per Share	61.1	54.8	55.6

(*) Amounts restated compared with the financial statements published in 2020 (See Note1.7 of the financial statements)

(*) The number of shares considered is the number of ordinary shares outstanding as at end of period, excluding treasury shares and buybacks, but including the trading shares held by the Group.*

In accordance with IAS 33, historical data per share prior to the date of detachment of a preferential subscription right are restated by the adjustment coefficient for the transaction.

9 - Calculation of Earnings Per Share (EPS)

The EPS published by Societe Generale is calculated according to the rules defined by the IAS 33 standard (see page 45 of Societe Generale's 2021 Universal Registration Document). The corrections made to Group net income in order to calculate EPS correspond to the restatements carried out for the calculation of ROE and ROTE. As specified on page 45 of Societe Generale's 2021 Universal Registration Document, the Group also publishes EPS adjusted for the impact of non-economic and exceptional items presented in methodology note No. 5 (underlying EPS).
The calculation of Earnings Per Share is described in the following table:

Average number of shares (thousands) – in EUR m	2021	2020	2019
Existing shares	853,371	853,371	834,062
Deductions			
Shares allocated to cover stock option plans and free shares awarded to staff	3,861	2,987	4,011
Other own shares and treasury shares	3,249		149
Number of shares used to calculate EPS**	846,261	850,385	829,902
Group net Income	5,641	(258)	3,248
Interest on deeply subordinated notes and undated subordinated notes	(590)	(611)	(715)
Capital gain net of tax on partial buybacks			
Adjusted Group net income	5,051	(869)	2,533
EPS (in EUR)	5.97	(1.02)	3.05
Underlying EPS* (in EUR)	5.52	0.97	4.03

(*) Calculated on the basis of underlying Group net income.

(**) The number of shares considered is the average number of ordinary shares outstanding during the period, excluding treasury shares and buybacks, but including the trading shares held by the Group.

10 – The Societe Generale Group's Common Equity Tier 1 capital is calculated in accordance with applicable CRR2/CRD5 rules. The fully loaded solvency ratios are presented pro forma for current earnings, net of dividends, for the current financial year, unless specified otherwise. When there is reference to phased-in ratios, these do not include the earnings for the current financial year, unless specified otherwise. The leverage ratio is also calculated according to applicable CRR2/CRD5 rules including the phased-in following the same rationale as solvency ratios.

NB (1) The sum of values contained in the tables and analyses may differ slightly from the total reported due to rounding rules.

(2) All the information on the results for the period (notably: press release, downloadable data, presentation slides and supplement) is available on Societe Generale's website www.societegenerale.com in the "Investor" section.

Societe Generale

Societe Generale is one of the leading European financial services groups. Based on a diversified and integrated banking model, the Group combines financial strength and proven expertise in innovation with a strategy of sustainable growth. Committed to the positive transformations of the world's societies and economies, Societe Generale and its teams seek to build, day after day, together with its clients, a better and sustainable future through responsible and innovative financial solutions.

Active in the real economy for over 150 years, with a solid position in Europe and connected to the rest of the world, Societe Generale has over 133,000 members of staff in 61 countries and supports on a daily basis 30 million individual clients, businesses and institutional investors around the world by offering a wide range of advisory services and tailored financial solutions. The Group is built on three complementary core businesses:

- **French Retail Banking** which encompasses the Societe Generale, Credit du Nord and Boursorama brands. Each offers a full range of financial services with omnichannel products at the cutting edge of digital innovation;
- **International Retail Banking, Insurance and Financial Services to Corporates,** with networks in Africa, Russia, Central and Eastern Europe and specialised businesses that are leaders in their markets;
- **Global Banking and Investor Solutions,** which offers recognised expertise, key international locations and integrated solutions.

Societe Generale is included in the principal socially responsible investment indices: DJSI (Europe), FTSE4Good (Global and Europe), Bloomberg Gender-Equality Index, Refinitiv Diversity and Inclusion Index, Euronext Vigeo (Europe and Eurozone), STOXX Global ESG Leaders indexes, and the MSCI Low Carbon Leaders Index (World and Europe).

In case of doubt regarding the authenticity of this press release, please go to the end of Societe Generale's newsroom page where official Press Releases sent by Societe Generale can be certified using blockchain technology. A link will allow you to check the document's legitimacy directly on the web page.

For more information, you can follow us on Twitter @societegenerale or visit our website www.societegenerale.com.

REGISTERED OFFICE OF THE ISSUER

SG Issuer
16, Boulevard Royal
L-2449 Luxembourg
Luxembourg

REGISTERED OFFICE OF THE GUARANTOR

Société Générale
29, boulevard Haussmann
75009 Paris
France

ISSUER'S AUDITORS

Ernst & Young Société Anonyme
35E, avenue John F. Kennedy
L-1855 Luxembourg
Luxembourg

GUARANTOR'S AUDITORS

Ernst & Young et Autres
Tour First
TSA 14444
92037 Paris-La Défense Cedex
France

Deloitte & Associés
6, place de la Pyramide
92908 Paris-La Défense Cedex
France

WARRANT AGENT

THE CENTRAL DEPOSITORY (PTE) LIMITED
11 North Buona Vista Drive
#06-07 The Metropolis Tower 2
Singapore 138589

LEGAL ADVISERS TO THE ISSUER
(as to Singapore law)

ALLEN & GLEDHILL LLP
One Marina Boulevard #28-00
Singapore 018989