



HKEX
香港交易所

Annual Report 2021

Connecting China.
Connecting the World.

Stock Code: 388

Our vision is to become the **Marketplace of the Future**

by facilitating the vital two-way capital flow between East and West, supporting the capital raising needs of businesses and capturing the opportunities presented by the megatrends that are shaping our markets and our societies.





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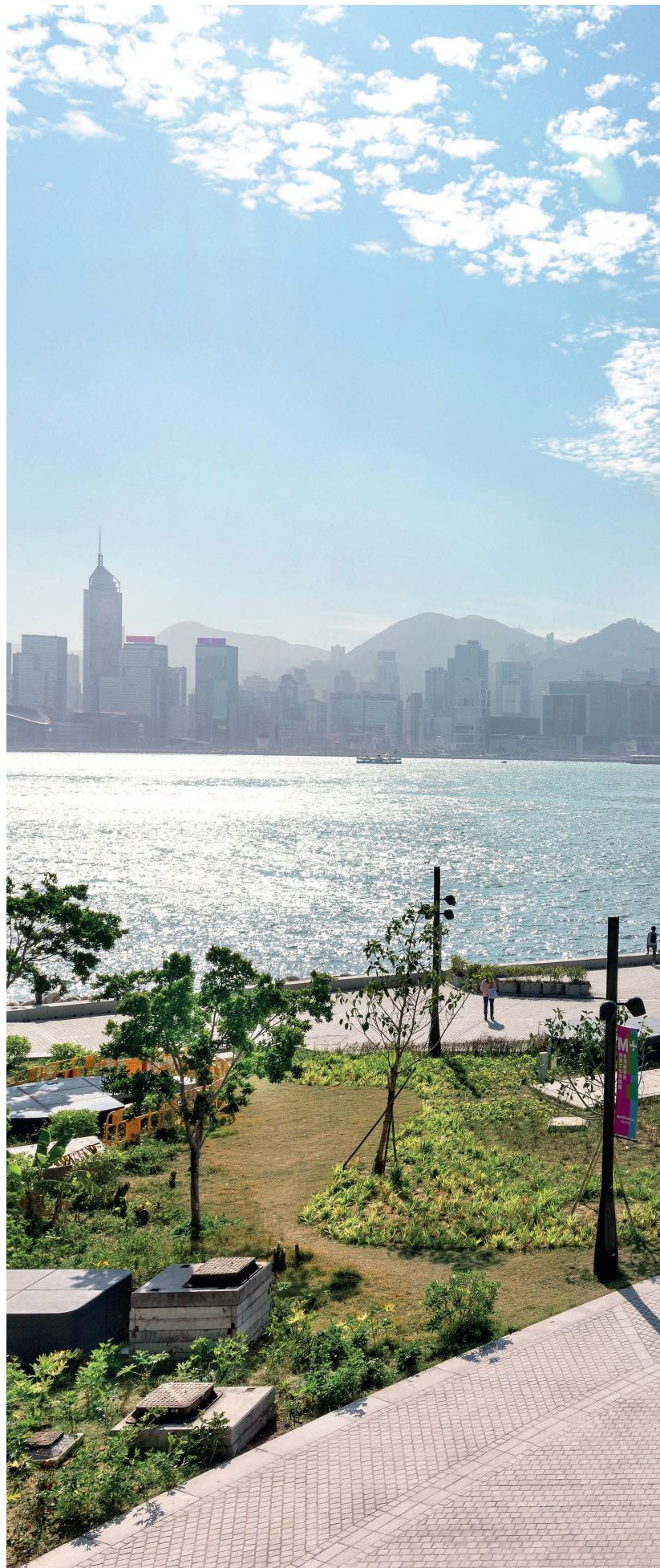
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Overview





Building the Marketplace of the Future.

HKEX had a strong year in 2021, despite a turbulent macro backdrop and the ongoing pandemic. Revenue and other income, and profit both reached record highs. Turnover on our Cash Market and volumes on both Stock Connect and Bond Connect achieved new highs, helping to offset the impact of the low interest rate environment on investment income. With a strong IPO pipeline, a new listing regime for SPACs and overseas issuers, an expanding product portfolio, as well as a range of new market microstructure enhancements, including holiday trading, I am confident that HKEX is well-positioned as a super-connector to play an increasingly important role in the fast-evolving global capital markets of the future.

Nicolas Aguzin
Chief Executive Officer

Strategic & Operational Highlights



Corporate

5 Feb

Invested in Guangzhou Futures Exchange, the first equity investment in a domestic futures exchange by a non-Mainland Chinese investor

30 Apr

3rd Anniversary of listing reforms

24 May

Appointment of new Group Chief Executive, Mr Nicolas Aguzin

27 Jun

21st Anniversary of HKEX as a listed company

8 Jul

Established Mainland China Advisory Group and Mainland Markets Panel

Regulation

20 May

Published consultation conclusions on the Main Board Profit Requirement and Review of Listing Rules relating to Disciplinary Powers and Sanctions

19 Nov

Published consultation conclusions on Listing Regime for Overseas Issuers

10 Dec

Published consultation conclusions on Review of Corporate Governance Code and related Listing Rules, and Housekeeping Rule Amendments

17 Dec

Published consultation conclusions on Special Purpose Acquisition Companies

Products and Services

18 Jan

Launched Hang Seng TECH Index Options

1 Feb

Eligible A-shares listed on SSE's STAR Market, and corresponding H-shares, included in Stock Connect

26 Apr

Launched Mini USD/CNH Futures contract

10 May

OTC Clear launched clearing services for Cross Currency Swaps referencing Secured Overnight Financing Rate and Hong Kong Dollar Overnight Index Average

31 May

Introduced ETP trading fee exemption tiered structure for market makers, and fee waivers for Hong Kong-listed fixed income and money market ETFs

1 Jun

First ETF listings in Hong Kong and Shanghai under the Hong Kong-Mainland ETF Cross-listing Scheme

19 Jul

LME launched six new cash settled futures contracts

23 Aug

Launched Hang Seng Index Futures Options and Hang Seng China Enterprises Index Futures Options

18 Oct

Launched MSCI China A 50 Connect Index Futures, the first A-share derivatives product in Hong Kong

13 Dec

Launched the first batch of ETFs tracking the MSCI China A 50 Connect Index

Market Operations

1 Mar

LME introduced a new electronic warranting solution, replacing paper warrants

29 Mar

Second phase enhancement of Volatility Control Mechanism implemented in the Cash Market

12 Apr

Volatility Control Mechanism and Pre-Market Opening Session enhancements implemented in the Derivatives Market

26 Apr

Completed upgrade of OTC Clearing and Settlement System

8 Jun

LME published discussion paper outcomes on future market structure

6 Jul

Published conclusions to 2020 Concept Paper on Fast Interface for New Issuance, targeting launch of a new platform to streamline and digitalise Hong Kong's IPO settlement process in Q4 2022

2 Aug

Completed system infrastructure resilience improvements to the Hong Kong Futures Automated Trading System

31 Aug

LMEpassport launched, providing a centralised digital register that stores electronic Certificates of Analysis and sustainability credentials for LME-listed metals

27 Sep

Completed upgrade of Orion Central Gateway for the Cash Market

9 Nov

Published a consultation paper on the operational model for Derivatives Holiday Trading, with consultation conclusions published on 6 January 2022

1 Jun

Launched 2021 HKEX Charity Partnership Programme

5 Jul

Launched new HKEX Foundation Impact Funding Scheme

27 Aug

Signed Memorandum of Understanding with Guangzhou Futures Exchange, supporting China's pledge for peak carbon emissions by 2030 and carbon neutrality by 2060

12 Oct

First sustainability disclosures listed on LMEpassport, LME's digital credential register

3 Nov

Joined the Glasgow Financial Alliance for Net Zero, making HKEX Group commitment to Net Zero by latest, 2050

2 Dec

Published Practical Net-Zero Guide for Business and announced new ESG data display

6 Dec

Awarded Most Sustainable Companies/Organisations Gold Award by the HKICPA

Corporate Social Responsibility and ESG

7 May

Launched inaugural HKEX ESG Academy webinar



Financial Highlights

Revenue and other income

+9%

2021 revenue and other income of \$20,950 million, up 9 per cent against the previous record set in 2020

- Core business revenue up 10 per cent compared with 2020, reflecting higher trading and clearing fees driven by record Headline ADT
- Stock Connect revenue and other income reached a record high of \$2,724 million, up 41 per cent against 2020, accounting for 13 per cent of Group total revenue and other income
- Net investment income from Corporate Funds down 16 per cent compared with 2020, reflecting reduced interest income and lower fair value gains of collective investment schemes

EBITDA

+11%

EBITDA¹ up 11 per cent compared with 2020 at \$16,269 million, with EBITDA margin¹ at 78 per cent, 1 per cent higher than 2020

Operating expenses

+2%

Operating expenses up 2 per cent compared with 2020, attributable to higher IT costs and marketing expenses

Profit Attributable to Shareholders

+9%

In 2021, there was a one-off deferred tax charge on acquired LME intangible assets of \$160 million arising from the approval of the change in the UK statutory corporate tax rate from 19 per cent to 25 per cent, effective April 2023

Profit attributable to shareholders up 9 per cent, to a record high of \$12,535 million

¹ For the purposes of this Annual Report, 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. EBITDA margin is calculated based on EBITDA divided by revenue and other income less transaction-related expenses.

Key Financials

	2021 \$m	2020 \$m	Change
Revenue and other income			
Core business revenue	20,103	18,242	10%
HKEX Foundation donation income	139	106	31%
Net investment income of Corporate Funds	708	842	(16%)
	20,950	19,190	9%
Operating expenses	4,529	4,439	2%
EBITDA	16,269	14,641	11%
Profit attributable to shareholders	12,535	11,505	9%
Capital expenditure	1,127	1,388	(19%)
Basic earnings per share	\$9.91	\$9.11	9%
First interim dividend per share	\$4.69	\$3.71	26%
Second interim dividend per share	\$4.18	\$4.46	(6%)
	\$8.87	\$8.17	9%
Dividend payout ratio	90%	90%	-

Key Market Statistics

	2021	2020	Change
ADT of equity products traded on the Stock Exchange ² (\$bn)	146.6*	110.9	32%
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	20.1	18.6	8%
ADT traded on the Stock Exchange ^{2,3} (Headline ADT) (\$bn)	166.7*	129.5	29%
ADT of Northbound Trading of Stock Connect ² (RMBbn)	120.1*	91.3	32%
ADT of Southbound Trading of Stock Connect ² (\$bn)	41.7*	24.4	71%
ADV ⁴ of derivatives contracts traded on the Futures Exchange ('000 contracts)	538	612	(12%)
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	637*	526	21%
Chargeable ADV ^{4,5} of metals contracts traded on the LME ('000 lots)	547	571	(4%)
ADT of Northbound Bond Connect (RMBbn)	26.6*	19.8	34%

* New record high in 2021

2 Includes buy and sell trades under Stock Connect

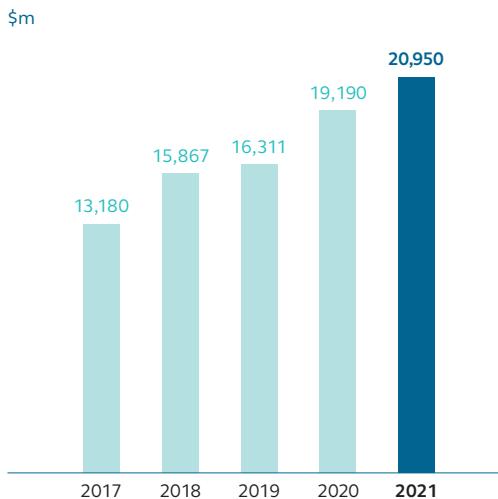
3 ADT of Southbound Trading is included within Headline ADT.

4 In prior years, ADV of derivatives contracts traded on the Futures Exchange and ADV of metals contracts traded on the LME were calculated based on total number of contracts traded divided by total number of trading days during the period. From 2021 onwards, the calculation is revised to the sum of ADV of the individual products. Comparative figures have been restated throughout this Annual Report to conform with the revised calculation.

5 Chargeable ADV excludes administrative trades (Admin Trades) and other non-chargeable trades.

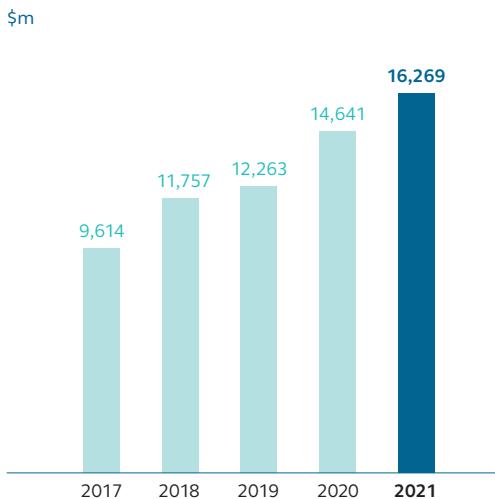
Revenue and Other Income

\$20,950 million
+9%



EBITDA

\$16,269 million
+11%



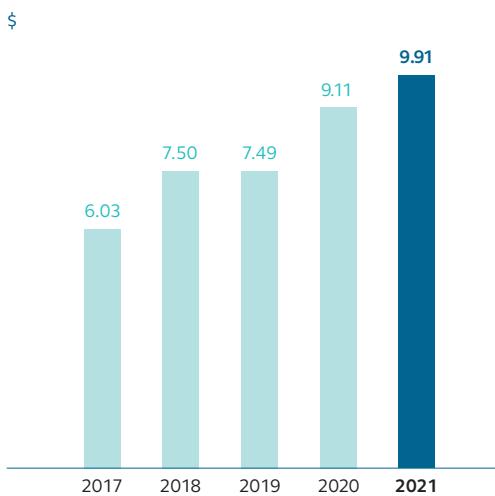
Profit Attributable to Shareholders

\$12,535 million
+9%



Basic Earnings Per Share

\$9.91
+9%



Chairman's Statement



“2021 marked another year of good performance and growth for HKEX. The continued resilience and strength of our businesses, together with various accomplishments and progress we achieved in 2021, enable us to stay competitive and relevant, and reinforce our leadership role in the regional and global capital markets. We are confident that our resolute focus on driving connectivity, innovation and sustainability across markets will continue to underpin our future success and promote long-term collective prosperity in Hong Kong and beyond.”

2021 marked another year of good performance and growth for HKEX, despite challenges from the ongoing pandemic and the increased uncertainty over the global economic outlook. The continued resilience and strength of our businesses, together with various accomplishments and progress we achieved in 2021, enable us to stay competitive and relevant, and reinforce our leadership role in the regional and global capital markets. We are confident that our resolute focus on driving connectivity, innovation and sustainability across markets will continue to underpin our future success and promote long-term collective prosperity in Hong Kong and beyond.

Our Performance

Amid continuing market volatility in 2021 and a slowdown in the fourth quarter, our securities market in Hong Kong recorded strong average daily performance for the year; and our derivatives market also saw new highs in trading across various individual products. Both Stock Connect and Bond Connect continued to show robust growth, achieving new record levels in trading activity. Despite some softness in the second half reflecting the macro environment, Hong Kong's IPO market had another solid year, raising a total of \$331.4 billion for new listings, and the IPO pipeline remains very good as we move into 2022.

The LME continued to operate robust and efficient markets during the pandemic. As world metal trading remained under pressure, the chargeable average daily volume of metals contracts traded on the LME decreased by 4 per cent from 2020.

\$12.5 billion

Record profit attributable
to shareholders

Total revenue and other income of the Group for the year ended 31 December 2021 reached a record high of \$21.0 billion, up 9 per cent from 2020, resulting in a record profit attributable to shareholders of \$12.5 billion, up 9 per cent.

Dividend

The Board declared payment of a second interim dividend of \$4.18 per share which, together with the first interim dividend of \$4.69 per share paid in September 2021, results in a full-year dividend of \$8.87 per share.

Strategic Update

In 2021, we continued to make good progress in enhancing competitiveness and attractiveness of our markets, with new product offerings across asset class, as well as a range of new market enhancements. Among the notable achievements were the successful launch of the MSCI China A 50 Connect Index Futures as Hong Kong's first A-share derivatives product and a cash settled Mini USD/CNH Futures contract, which added further choices and vibrancy to our markets; the enhancement and streamlining of the listing regime for overseas issuers and the introduction of the Hong Kong listing regime for special purpose acquisition companies (SPACs) in January 2022, which enhanced the channels available for fundraising on our markets and reinforced our position as a world leading capital-raising venue; the plan to roll out the FINI (Fast Interface for New Issuance) platform in the fourth quarter of 2022 to streamline Hong Kong's IPO settlement process; and the announcement of the outcomes of the LME's discussion paper on market structure, facilitating the modernisation of our service offering both reflected our continual commitment to progressing our markets and adapting to our customers' needs.

In support of HKEX's vision to become the Marketplace of the Future, we will continue to focus on our strategy on leveraging our strategic China-anchored advantage, expanding our capabilities in market connectivity, and driving product and market innovation, to capture future growth opportunities and strengthen our value proposition as a gateway to China for global investors.

Market Quality and Sustainability

As a leading international exchange group, we aspire to become a sustainability leader in the region and globally, which is inextricably intertwined with our responsibility in promoting the long-term sustainable development of global financial markets.

We joined the Glasgow Financial Alliance for Net Zero (GFANZ) and the Net Zero Financial Service Providers Alliance (NZFSPA) in November to underscore our commitment to building a climate resilient global economy. We also signed a Memorandum of Understanding with the Guangzhou Futures Exchange in August to support Mainland China to peak carbon emissions by 2030 and reach carbon neutrality by 2060.

As part of our ongoing efforts in building a green and sustainable financial ecosystem and cementing Hong Kong's position as a green financial hub in Asia, we continued to support listed issuers and the wider business community in their sustainability journeys through various initiatives in 2021. These included the launch of the ESG Academy; the display of HKEX listed companies' ESG metrics on STAGE, our sustainable and green platform; the publication of a Net-Zero Guide and guidance on climate disclosures to facilitate TCFD-aligned reporting; and active engagements with regulators, industry practitioners and other stakeholders to drive market education and increase investors' awareness of ESG.

The LME continued to elevate its sustainability agenda through the launch of LMEpassport, an online digital register enabling participants to disclose their metals' sustainability credentials. The LME is also collaborating with Metalshub to establish an online base metals spot trading platform, aiming to bring greater transparency to the physical market through digitalisation and standardisation, and better access to sustainable products.

To uphold market quality, we issued the revised Corporate Governance Code for enhancing listed issuers' corporate governance and diversity practices, and other amendments to the Listing Rules in relation to the profit requirement for Main Board listings and disciplinary powers and sanctions.

We also worked on a range of new market microstructure enhancements, including plans to introduce non-Hong Kong dollar denominated futures and options trading and clearing on Hong Kong public holidays in 2022.

Specific details of the Group's performance, achievements and market initiatives in 2021 are set out in the Chief Executive Officer's Review and Business Review sections of this Annual Report.

Corporate Responsibility

At HKEX, we believe that our success as a business and as a market is underpinned by our strong governance and positive and progressive corporate culture, and by our purpose: "To promote and progress our financial markets and the communities they support for the prosperity of all." As a company, regulator and market operator, we look to lead by example, promoting sustainability and best-in-class governance and CSR practices in all we do, across our business, markets and communities.

During 2021, we completed an independent holistic risk review of the Group's risk organisation, processes and practices to ensure that our risk management function remains resilient and effective with respect to our evolving strategy. We conducted internal evaluations of the performance of the boards of HKEX and its subsidiaries, OTC Clear, the LME and LME Clear, which have concluded that all four boards operate effectively and identified areas for enhancement. We also performed an external brand audit to collect views from a wide range of stakeholders for assessment of our brand's position, helping to inform our strategic decision making process, better understand our core stakeholders' needs and support the development of our CSR approach going forward.

The HKEX Foundation raised \$139 million in 2021, deployed to support a wide range of projects and charities in need in our communities. Through our two key charitable programmes – the HKEX Charity Partnership Programme and our newly established HKEX Impact Funding Scheme, and partnerships with local charities, we continued to support community projects focusing on financial literacy, diversity and inclusion, poverty relief and environmental sustainability, to deepen our connectivity with our communities and also our commitment to our collective future. The LME also donated \$5.6 million to the charities Pact and The Impact Facility, with the aim of tackling child labour and children's rights issues in African mining communities.

\$139 million

raised by the
HKEX Foundation in 2021

As a responsible corporate leader, we continue to work on a detailed plan to reduce the environmental impact of our business in support of carbon neutrality goals in Mainland China and Hong Kong and to achieve the target of net-zero emissions by 2050. Details can be found in our 2021 CSR Report, which is available on the HKEX Group website together with this Annual Report.

Outlook

The global economic recovery is expected to continue throughout 2022, although numerous challenges posed by uncertainty surrounding the pandemic recovery, ongoing geopolitical risks, restrictions on travel and upcoming interest rate hikes will all affect our business in the year ahead.

As Asia's premier exchange group, we are in a privileged position to promote sustainability and prosperity across our markets and communities in partnership with our customers, partners, regulators and other stakeholders. Our robust business and clear strategic focus make us well positioned for capturing the opportunities ahead and helping us to deepen our leadership role in shaping the global capital markets of the future.

On behalf of the Board, I would like to express gratitude to members of the International Advisory Council and the Mainland China Advisory Group for their invaluable advice and guidance. I also thank my fellow Board members, including our new CEO, Mr Nicolas Aguzin, for their support and commitment throughout 2021.

Last but not least, I would like to thank our shareholders and other stakeholders for their unwavering confidence and support in another challenging year. I would also like to express my heartfelt thanks for all our employees for their dedication and hard work. Their professionalism and commitment enable us to keep delivering resilient performance and ensure that we are doing all we can to support a sustainable future.

Laura M CHA

Chairman

Hong Kong, 24 February 2022

Chief Executive Officer's Review

“I am delighted to report a strong year for HKEX and record financials. Throughout the year HKEX remained resolutely focused on delivering on its strategy through expanding its role as an international capital raising centre; developing Hong Kong as Asia’s preferred risk management hub; growing its offshore China A-share ecosystem; and strengthening the overall quality and attractiveness of Hong Kong’s markets.”



In my first year as HKEX CEO I am delighted to report a strong year for HKEX and record financials. Despite the ongoing pandemic, continued geopolitical tensions and often volatile trading markets, throughout the year HKEX remained resolutely focused on delivering on its strategy through expanding its role as an international capital raising centre; developing Hong Kong as Asia's preferred risk management hub; growing its offshore China A-share ecosystem; and strengthening the overall quality and attractiveness of Hong Kong's markets. HKEX's role in 2021 as Asia's global marketplace became ever stronger and more relevant.

At a time in history when access to and from China is front and centre for investors, business and entrepreneurs the world over, HKEX has remained committed to continuing to leverage our unique advantages and our super-connector role. We have done this by continuing to facilitate the vital two-way capital flow between East and West, whilst supporting the capital raising needs of businesses and looking to capture the opportunities presented by the megatrends that are shaping our markets and our societies. This positions us well for the next phase of our development and growth, with an ambition to build HKEX into the *Marketplace of the Future*.

Market Highlights

- Headline ADT set new record in 2021, reaching \$166.7 billion, up 29 per cent year-on-year.
 - Stock Connect Northbound and Southbound reached record annual turnover of RMB27.6 trillion and \$9.3 trillion, up 31 per cent and 70 per cent year-on-year, respectively, and record ADT of RMB120.1 billion and \$41.7 billion, up 32 per cent and 71 per cent year-on-year, respectively, for 2021.
 - Northbound Bond Connect turnover also saw record highs with ADT reaching RMB26.6 billion, up 34 per cent year-on-year.
 - IPO market remained robust against a challenging macro environment, with a total of \$331.4 billion funds raised in 2021. Our pipeline remains strong.
 - We expanded our China A-share ecosystem with the successful launch of the MSCI China A 50 Connect Index Futures contract in October 2021 – Hong Kong's first A-share derivatives product.
 - We reinforced HKEX as Asia's risk management hub with new products and microstructure enhancements and we took the crown as the world's largest structured products market for the 15th consecutive year.
 - ADT of Hong Kong equity ETFs nearly doubled from \$2.8 billion in 2020 to \$5.4 billion in 2021. The market capitalisation of ETPs listed on HKEX reached a record high of \$429 billion at 31 December 2021.
-

Whilst the ongoing global pandemic continued to impact global economies, our primary and secondary markets have remained vibrant, robust and resilient.

Primary market

HKEX's primary market had a robust year. Against the turbulent geopolitical backdrop, HKEX remained one of the world's leading fundraising centres, with a total of 98 company listings¹ raising \$331.4 billion, down from the strong 2020 (154 company listings¹ raising \$400.2 billion) and 5 per cent higher than 2019 (\$314.2 billion).

New Economy and biotech continued to be our sweet spots: During the year, we welcomed 59 new economy companies, including 31 Weighted Voting Rights (WVR), healthcare and biotech firms (including Chapter 18A listings only) and/or secondary-listed companies, to our markets, accounting for 88 per cent of IPO funds raised in Hong Kong during the period. Hong Kong once again ranked as Asia's largest and the world's second largest biotech fundraising centre in 2021. Hong Kong's new economy and biotech fundraising and investment ecosystem also kept growing.

Our pipeline remains very strong, with notable activity from companies in the New Economy space and those seeking homecoming listings.

Secondary market

Our secondary market remained deep, diverse and liquid. Headline ADT in the Cash Market set a new annual record of \$166.7 billion, up 29 per cent from a year earlier. Total market turnover in 2021 reached \$41.2 trillion, up 28 per cent compared with 2020. The market capitalisation of the securities market reached \$42,381.1 billion at the end of December 2021, down 11 per cent compared with the end of December 2020.

Robust growth in our product ecosystem strengthened our position as Asia's derivatives trading hub, resulting in healthy growth of 3 per cent in average daily volume for HKEX's derivatives market during the year. Total turnover of securitised derivatives (DWs, CBBCs and Inline Warrants) reached \$4,956.8 billion, up 8 per cent compared with 2020 and we retained our position as the world's largest structured products market for the 15th consecutive year.

On the product front, our Hang Seng TECH Index derivative products continued to gain traction. ADV of Hang Seng TECH Index Futures reached 14,718 contracts, with daily trading volume reaching a record high of 89,967 contracts on 28 December 2021. The trading volume of Hang Seng TECH Index Options reached a daily record high of 3,329 contracts on 19 August 2021, with open interest (OI) reaching record high of 29,584 contracts on 29 December 2021. We further broadened our product suite launching Mini USD/CNH Futures contract in April 2021, introducing Options on Futures Contracts on Hang Seng Index Futures and Hang Seng China Enterprises Index Futures in August 2021. We also grew our MSCI product suite to over 40 futures products and, most notably, we launched the MSCI A 50 Connect Index Futures contract in October 2021 – Hong Kong's first China A-share futures product. The new MSCI A 50 Connect Index Futures contract provides global investors and risk managers with a new and effective tool to trade and manage their China exposure and the market response to the launch has been overwhelming – with the best notional Day 1 turnover of any futures contract launched ever on the HKEX market.

¹ Includes 2 (2020: 8) transfers of listings from GEM to Main Board

Strategic Development Review

During the year, HKEX continued to deliver on its strategic priorities that position us as the region's premier international financial market. While many of these priorities are built upon successes in past years, we also developed and progressed a range of new opportunities that will help shape the future of HKEX. Our focus throughout has been on leveraging our unique China advantage; growing our global connections and product offering; and creating a platform that positions us well to embrace the key megatrends and opportunities that will support our future development and growth.

Leveraging China advantage

During the year, HKEX further expanded its China access and product offering and strengthened its role as a gateway to China for global investors. China's future growth trajectory, opening of its capital markets and innovation and technological prowess, ensures that there is strong global appetite for access to this key market; and at HKEX we are uniquely placed to play a key role in that future ecosystem.

Expanding connectivity

Our pioneering mutual market access programmes – Connect Schemes – have gone from strength to strength since launch seven years ago. Stock Connect once again set new records, with Northbound and Southbound reaching record annual turnover of RMB27.6 trillion and \$9.3 trillion, up 31 per cent and 70 per cent year-on-year, respectively, and record ADT of RMB120.1 billion and \$41.7 billion, up 32 per cent and 71 per cent year-on-year, respectively, for the year.

We further expanded the Stock Connect programme in 2021, including Shanghai STAR Market A-shares and their corresponding H-shares, and are preparing to add eligible ETFs. Following the launch of the Hong Kong-Mainland ETF Cross-listing Scheme last year, HKEX announced on 24 December the Stock Connect inclusion arrangements for eligible ETFs,

providing investors in both Hong Kong and Mainland markets with more choice and more diversification tools.

Northbound Bond Connect's annual turnover reached a record high of RMB6.5 trillion in 2021, with ADT of RMB26.6 billion, growing 34 per cent compared with 2020. We also made multiple enhancements to Bond Connect, such as adding MarketAxess as a third trading platform on the Northbound channel; launching CNYPlus to support investors' foreign exchange (FX) risk management needs; and introducing a new dealer pay model.

Beyond Connect

It was a year where we made real progress in expanding our China A-share product suite: In addition to expanding the Stock Connect programmes, the launch of MSCI A 50 Connect Index Futures and Mini USD/CNH Futures contracts provided global investors and risk managers with new and effective tools to manage their China exposure. These, together with the existing suite of China A-share ETFs available on our markets, make HKEX home to the world's most complete and competitive offshore China A-share product ecosystem.

To further grow our onshore China capabilities, we completed a 7 per cent minority stake investment in Guangzhou Futures Exchange and signed a MOU for strategic cooperation. As the first exchange outside of Mainland China to invest in a domestic futures exchange, this signified our commitment to developing the green and low-carbon and derivatives markets in China, helping us grow our presence in the Greater Bay Area and adding to our existing capabilities through the Qianhai Mercantile Exchange (QME), our commodities trading platform, which continued to see robust turnover in 2021. We, this year, also established a Mainland China Advisory Group and Mainland Markets Panel to guide our future China initiatives.

Growing our global relevance

We took numerous steps to further grow our global connectivity, focused on fuelling the growth needs of the businesses of tomorrow and increasing HKEX's competitiveness and attractiveness as a platform for global investors to trade and manage risk in Asia.

Global capital raising venue of choice

Building on the success of HKEX's 2018 listing reforms, we continued to make new enhancements to our listing framework, striking a balance between delivering appropriate investor protections and the promotion of market quality and market attractiveness. Through the year, we enhanced and streamlined the listing regime for overseas issuers; and introduced new rules for special purpose acquisition companies (SPACs), effective from January 2022. A taskforce was also built to look at further enhancing the structure of our IPO regime. These efforts have helped to support Hong Kong's reputation as a global listing venue of choice, whilst further broadening investment opportunities for investors.

Our product ecosystem expanded with the growing popularity of the Hang Seng Hong Kong-listed Biotech Index and their associated ETFs, as well as other futures and options products. Our local expertise grew, and we signed an MOU with Hong Kong Science and Technology Parks Corporation (HKSTP) to explore new biotech and fintech initiatives, applying HKSTP's deep expertise to our listing review process.

Trading Asia, in Asia

We continued to focus on building a competitive and resilient market for global investors to trade and manage risk in Asia. During the year, we broadened our derivatives offering with physically-settled Options on Futures Contracts (OOF) on Hang Seng Index Futures and Hang Seng China Enterprises Index Futures and added two new product offerings to our suite of MSCI futures.

To bolster HKEX's position as Asia's derivatives trading hub, HKEX worked on a range of new market microstructure enhancements, including Volatility Control Mechanism (VCM) and Pre-Opening Session enhancements, as well as plans to launch holiday trading for non-Hong Kong dollar denominated futures and options products in 2022 (announced in January 2022).

LME introduced a new electronic warranting process, ensuring that all LME warrants are now lodged almost immediately and stored digitally. The new system has increased operational efficiency and increased the number of warrants that can be lodged at any one time.

Following the successful introduction of a range of market microstructure enhancements, our ETP product ecosystem grew exponentially with the listings of 33 new products and \$80 billion of net capital inflow this year. ADT of ETPs, which include ETFs and L&I Products, increased 20 per cent to \$7.7 billion in 2021 (2020: \$6.4 billion). In particular, ADT of Hong Kong equity ETFs nearly doubled from \$2.8 billion in 2020 to \$5.4 billion in 2021. Our Fixed Income, Currency and Commodities (FICC) business was also active, with the number of new listings of debt securities in 2021 reaching a record high of 508 and total issuance amounting to \$1,552 billion, up 18 per cent and 2 per cent respectively, compared with 2020. Total turnover value of debt securities reached \$104 billion, an increase of 58 per cent, compared with 2020.

Embracing megatrends and opportunities for growth

HKEX continued to expedite its digital transformation journey to raise our global competitiveness and position ourselves for the future and throughout the year looked to embrace some of the key megatrends shaping global markets.

Technology and Innovation

We continued to invest in modernising our operations and introduced new platforms and technologies, with upgrades to multiple core trading systems. Our Innovation Lab continued to apply innovative technologies to core business functions. We announced the launch of a new platform FINI (Fast Interface for New Issuance) in Q4 2022, which we expect will comprehensively streamline and digitalise Hong Kong's IPO settlement process and address the issue of excessive liquidity lock-up in heavily oversubscribed IPOs. We made good progress on HKEX Synapse, our new solution that uses Digital Asset Modeling Language (DAML) smart contracts to streamline post-trade workflow on Northbound Stock Connect, with the launch of pilot programme. We also announced a new measure to enhance communications on issuers' corporate actions in a timely manner.

LME continued to invest in its global ecosystem, leveraging technology to accelerate its sustainability journey. During the year, LME launched LMEpassport, an online service and centralised digital provenance register, which enables participants to disclose their metals' sustainability credentials. It also announced its collaboration with Metalshub to establish an online base metals spot trading platform, starting with low carbon aluminium in early 2022, to help further its sustainability agenda functions.

Sustainability

Sustainability is front and centre of our agenda, and at HKEX we are committed to growing the sustainable finance ecosystem that supports the low-carbon transition journey in Asia and beyond, capitalising on the significant potential brought by the demand for green investments across the globe.

As a regulator, HKEX remained focused on supporting the more than 2,500 HKEX-listed companies on their ESG strategies implementation through listing rules, guidance, and market education. We launched Guidance on Climate Disclosures to facilitate TCFD-aligned reporting, which will become mandatory by 2025. We also upgraded the Corporate Governance Code with the focus on enhancing listed issuers' corporate governance and diversity practices, including prohibiting single gender Boards.

Our sustainable finance investment ecosystem expanded during the year. Green, social and sustainable (GSS) bond listings on HKEX also grew, with 95 listings raising over \$280 billion, compared with 18 GSS listings raising \$66.7 billion in 2020. LME also launched six new cash-settled futures contracts in July 2021, offering pricing and risk management solutions for metals that support the electric vehicle (EV) transition and circular economy.

In terms of market education and advocacy, we published a Net-Zero Guide for listed issuers and other corporations looking for guidance on charting their net zero carbon journey. We also launched a new service displaying Hong Kong-listed companies' ESG metrics on STAGE, our multi-asset sustainable finance platform. And as a Group we sought to lead by example by becoming a signatory to the Glasgow Financial Alliance for Net Zero (GFANZ) and the Net Zero Financial Service Providers Alliance (NZFSPA), as part of the global financial community's commitment to accelerating the transition to a net-zero global economy, supporting global efforts to meet the goals of the Paris Agreement on climate change.

Strategic Outlook

Ongoing geopolitical tensions and the emergence of the Omicron variant of Covid-19 will be two of the challenges shaping the year ahead. But the opportunities in terms of leveraging our China connectivity, diversifying our product offering and capitalising on areas such as sustainability and developments in the new economy all present sizable opportunities for us.

With China's capital markets expected to grow from their current size of around US\$30 trillion to more than US\$100 trillion within a decade or so, we expect to see the release of Mainland domestic savings, increasing investment flow in and out of China, and accelerating corporate innovations in China in years to come. International participation in the China economy and capital markets is expected to increase at a faster rate than ever. Given this, we see HKEX's role as ever more vital to the ongoing development of capital markets both in the region and around the world.

I would also like to express our appreciation and gratitude to the SFC, the Hong Kong Monetary Authority, market participants, our customers, partners and stakeholders around the world for their continued support during another difficult year for many.

We are proud that together we have continued to strengthen the robustness and competitiveness of Hong Kong's financial markets and we look forward to working closely with you in the months and years ahead. Finally, I would like to thank my fellow members of the Board for their trust and unwavering support.

Nicolas AGUZIN

Director and Chief Executive Officer

Hong Kong, 24 February 2022

Appreciation

The Group has delivered an outstanding set of results in 2021 and this would not have been possible without HKEX staff, who have demonstrated unwavering commitment to both our business and the communities in which we operate in the last year. I sincerely thank each of them for their dedication and contributions in another unprecedented and challenging year. We were delighted to welcome a number of new executives to HKEX, including Mr John Buckley as Head of Exchange Operations and Transformation, Mr Paul Chow as Group General Counsel, Mr Adam Singer as HKEX Group Chief Compliance Officer and, in January 2022, Ms Kerry Rooks as Group Chief People Officer who all joined the Management Committee. We also welcomed Ms Winsome Ng as Group Head of Internal Audit.





Organisation

Board and Committees

From left to right:

Laura M Cha
Nicolas Aguzin
Nicholas Allen
Apurv Bagri
Cheah Cheng Hye



Hugo Leung
Stephen Yiu
Zhang Yichen

(As of 24 February 2022)

Board

INEDs

Laura May-Lung CHA * GBM, GBS, JP
(Chairman)
Nicholas Charles ALLEN
Apurv BAGRI
CHEAH Cheng Hye
CHEUNG Ming Ming, Anna
CHOW WOO Mo Fong, Susan *
Rafael GIL-TIENDA *
HUNG Pi Cheng, Benjamin * BBS, JP
LEUNG Nisa Bernice Wing-Yu * JP
LEUNG Pak Hon, Hugo
YIU Kin Wah, Stephen *
ZHANG Yichen

Executive Director

Alejandro Nicolas AGUZIN
(Chief Executive Officer)

Group Company Secretary

FU Yat Hung, David

Committees

Audit Committee

YIU Kin Wah, Stephen (Chairman)
Nicholas Charles ALLEN
CHEUNG Ming Ming, Anna
LEUNG Nisa Bernice Wing-Yu
LEUNG Pak Hon, Hugo

Board Executive Committee

Laura May-Lung CHA (Chairman)
Alejandro Nicolas AGUZIN
CHEAH Cheng Hye
CHEUNG Ming Ming, Anna
LEUNG Pak Hon, Hugo

Corporate Social Responsibility Committee

Laura May-Lung CHA (Chairman)
Alejandro Nicolas AGUZIN
CHEUNG Ming Ming, Anna
CHOW WOO Mo Fong, Susan
ZHANG Yichen

Investment Committee

CHEAH Cheng Hye (Chairman)
HUNG Pi Cheng, Benjamin
LEUNG Pak Hon, Hugo
ZHANG Yichen

Listing Operation Governance Committee

CHOW WOO Mo Fong, Susan (Chairman)
Peter Wilhelm Hubert BRIEN ¹
LEUNG Pak Hon, Hugo
Keith Timothy POGSON ²
YIU Kin Wah, Stephen

Nomination and Governance Committee

Laura May-Lung CHA (Chairman)
Apurv BAGRI
CHEAH Cheng Hye
Rafael GIL-TIENDA
HUNG Pi Cheng, Benjamin



Panel Member Selection Committee

LEUNG Pak Hon, Hugo (Chairman)
CHEAH Cheng Hye
LEUNG Nisa Bernice Wing-Yu
YIU Kin Wah, Stephen
ZHANG Yichen

Remuneration Committee

Rafael GIL-TIENDA (Chairman)
Apurv BAGRI
Laura May-Lung CHA
CHEAH Cheng Hye
CHOW WOO Mo Fong, Susan

Risk Committee

CHOW WOO Mo Fong, Susan (Chairman)
Nicholas Charles ALLEN
Laura May-Lung CHA
LEUNG Nisa Bernice Wing-Yu
LEUNG Pak Hon, Hugo
YIU Kin Wah, Stephen

Risk Management Committee (statutory) ^Δ

Laura May-Lung CHA ³ (Chairman)
CHAN Ka Chai, Clara ** ⁴
CHOW WOO Mo Fong, Susan
David Allen GRIMME ** ⁵
KWOK Pui Fong, Miranda **
LEUNG Chung Yin, Rico ** ⁶
LEUNG Pak Hon, Hugo
SUN Yu **

* Government Appointed Director

** Appointed by the Financial Secretary

Δ Established under Section 65 of the SFO

1 Member by virtue of being chairman of the Listing Committee of the Stock Exchange

2 Member by virtue of being deputy chairman of the Listing Committee of the Stock Exchange

3 Member by virtue of being HKEX's Chairman

4 Member by virtue of being Executive Director (Monetary Management) of the Hong Kong Monetary Authority

5 Member by virtue of being the Chairman of Hong Kong Interbank Clearing Limited

6 Member by virtue of being Executive Director (Supervision of Markets) of the SFC

Board of Directors and Senior Management

Board of Directors



Laura May-Lung CHA GBM, GBS, JP
Chairman, INED

Aged 72

Director since 25 April 2018

Chairman since 4 May 2018

Term of office: 7 May 2020 (re-appointed) to 2022 AGM

Other positions held with the Group

HKEX – chairman of Board Executive Committee, Corporate Social Responsibility Committee, Nomination and Governance Committee, Risk Management Committee (statutory), International Advisory Council and Mainland China Advisory Group, and member of Remuneration Committee and Risk Committee

SEHK – chairman of Listing Appeals Committee and member of Listing Nominating Committee

LME – independent non-executive director and member of Nomination Committee

LMEH – independent non-executive director

HKEX Foundation – chairman and director

Other major offices

World Federation of Exchanges – director (2018~)

Unilever PLC (listed on Euronext Amsterdam and London Stock Exchange) – non-executive director (2013~)

Past offices

HSBC Holdings plc * – independent non-executive director (2011-2021)

The Hongkong and Shanghai Banking Corporation Limited – chairman (2019-2021), independent non-executive director (2004-2021) and deputy chairman (2007-2019)

Unilever NV (formerly listed on Euronext Amsterdam) – non-executive director (2013-2020)

China Telecom Corporation Limited * – independent non-executive director (2008-2018)

HKEX – independent non-executive director (2006-2012)

China Securities Regulatory Commission – vice-chairman (2001-2004)

SFC – deputy chairman (1998-2001), executive director (1994-2001), senior director (1993-1994) and assistant director (1991-1993)

Coudert Brothers – lawyer (1985-1990)

Pillsbury, Madison & Sutro – lawyer (1982-1985)

Public service

Listing Policy Panel – member (2018~)

Financial Leaders Forum – member (2017~)

Executive Council of the HKSAR – non-official member (2004~)

China Securities Regulatory Commission – vice-chairman of International Advisory Council (2004~)

Qualifications

Bachelor of Arts (University of Wisconsin, US)

Juris Doctor (Santa Clara University, US)

State Bar of California (US)

Honorary Fellow (Hong Kong Securities and Investment Institute)

Honorary Doctorate (The Hong Kong Polytechnic University)

* Listed on the Stock Exchange



Alejandro Nicolas AGUZIN
Executive Director, Chief Executive Officer

Aged 53

Joined on 24 May 2021
Chief Executive Officer since 24 May 2021
Ex-officio member of the Board
Term of office: 24 May 2021 to 23 May 2024



Nicholas Charles ALLEN
INED

Aged 66

Director since 28 April 2021
Term of office: 28 April 2021 (elected) to 2024 AGM

Other positions held with the Group

HKEX – member of Board Executive Committee, Corporate Social Responsibility Committee and Mainland China Advisory Group

HKFE, SEHK and HKSCC – chairman

SEHK – ex-officio member of Listing Committee of the Main Board and GEM

HKEX's certain subsidiaries – director

Other directorship

MercadoLibre Inc (listed on NASDAQ) – independent director (2017~)

Past offices

JPMorgan Chase & Co (1990-2021): chief executive officer, international private bank (2019-2021), chairman and chief executive officer, Asia Pacific (2013-2020), senior country officer for Brazil (2008-2009), chief executive officer, Latin America (2005-2012), head of investment banking, Latin America (2002-2012), and head of mergers & acquisitions group, Latin America (2000-2002)

Public service

Listing Policy Panel – member (2021~)

Qualifications

Bachelor of Science in Economics (The Wharton School, University of Pennsylvania, US)

Other positions held with the Group

HKEX – member of Audit Committee and Risk Committee

SEHK – deputy chairman of Listing Appeals Committee

Other major offices

Link Asset Management Limited (as manager of Link Real Estate Investment Trust *) – chairman and independent non-executive director (2016~)

Mordril Properties Limited – independent non-executive director (2019~)

CLP Holdings Limited * – independent non-executive director (2009~)

Past offices

Lenovo Group Limited * – independent non-executive director (2009-2021)

RAK Rock LLC – independent non-executive director (2018-2021)

Stevin Rock LLC – independent non-executive director (2018-2021)

VinaLand Limited (formerly listed on Alternative Investment Market of London Stock Exchange) – independent non-executive director (2010-2016)

Hysan Development Company Limited * – independent non-executive director (2009-2016)

PricewaterhouseCoopers – partner (1998-2007)

Coopers & Lybrand (1977-1998): partner (1988-1998)

Qualifications

Bachelor of Arts (Economics/Social Studies) (The University of Manchester, UK)

Associate (Hong Kong Institute of Certified Public Accountants)

Fellow (The Institute of Chartered Accountants in England and Wales)

* Listed on the Stock Exchange



Apurv BAGRI

INED

Aged 62

Director since 28 April 2016

Term of office: 24 April 2019 (re-elected) to 2022 AGM



CHEAH Cheng Hye

Darjah Gemilang Pangkuhan Negeri

INED

Aged 67

Director since 26 April 2017

Term of office: 7 May 2020 (re-elected) to 2023 AGM

Other positions held with the Group

HKEX – member of Nomination and Governance Committee, and Remuneration Committee

Other major offices

International Wrought Copper Council – director (2013~)

Metdist Group of Companies, London – president and chief executive officer (1980~)

Public service¹

London Business School – chairman of governing body (2014~)

Dubai Financial Services Authority – director (2004~)

Qualifications

Bachelor of Science in Business Administration (Bayes Business School, City, University of London, UK)

Doctor of Science (Honoris Causa) (City, University of London, UK)

¹ Ceased to be a commissioner of Crown Estate Paving Commission, England effective 11 October 2021

Other positions held with the Group

HKEX – chairman of Investment Committee, member of Board Executive Committee, Nomination and Governance Committee, Panel Member Selection Committee and Remuneration Committee, and chairman of Cash Market Consultative Panel

SEHK – chairman of Disciplinary Appeals Committee and Exchange Participant Admission Appeals Committee

Other major offices

Value Partners Group * – co-chairman and co-chief investment officer (2019~), and executive director (1993~)

Past offices

Value Partners Group * – co-chief investment officer (2010-2019), chairman (2000-2019) and chief investment officer (1993-2010)

Morgan Grenfell Group, Hong Kong – executive director, head of research and proprietary trader (1989-1993)

The Asian Wall Street Journal, Far Eastern Economic Review, Asiaweek, Hong Kong Standard and The Star (Malaysia) – editor and financial journalist (1971-1989)

Public service

HKTDC Belt and Road & Greater Bay Area Committee – member (2019~)

Listing Policy Panel – member (2018~)

Qualifications

Honorary Fellow (The Hong Kong University of Science and Technology)

* The holding company of the group, namely Value Partners Group Limited, has been listed on the Stock Exchange since 2007. In October 2000, Value Partners Limited ("VPL") and Mr Cheah (one of VPL's dealing directors and investment adviser directors) were publicly reprimanded by the SFC for placing a number of buy orders in December 1998 which unintentionally resulted in the market price of certain stocks closing higher than they might otherwise have been, and for a number of inadequacies in VPL's internal procedures and breaches of various regulatory requirements. For details, please refer to the SFC's enforcement news issued on 5 October 2000.



CHEUNG Ming Ming, Anna
INED

Aged 54
Director since 28 April 2021
Term of office: 28 April 2021 (elected) to 2024 AGM



WOO Mo Fong, Susan
(alias CHOW WOO Mo Fong, Susan)
INED

Aged 68
Director since 7 May 2020
Term of office: 7 May 2020 (appointed) to 2022 AGM

Other positions held with the Group

HKEX – member of Audit Committee, Board Executive Committee and Corporate Social Responsibility Committee
HKEX Foundation – director

Other major offices

Trinity Acquisition Holdings Limited – independent non-executive director (2021~)¹
LGT Capital Partners Group Holding Ltd – director (2021~)

Past offices

Jardine Pacific Limited – chief executive (2015-2020)
FountainVest Partners – senior advisor (2013-2015)
LionRock Capital – senior advisor (2012-2013)
3i Group Plc (listed on London Stock Exchange) (2001-2012): partner (2008-2012)

Qualifications

Bachelor of Arts (Computer Science) (University of California, Berkeley, US)
Master of Business Administration (Finance) (The Wharton School, University of Pennsylvania, US)

¹ Appointment as director effective 3 December 2021

Other positions held with the Group

HKEX – chairman of Listing Operation Governance Committee and Risk Committee, and member of Corporate Social Responsibility Committee, Remuneration Committee and Risk Management Committee (statutory)

HKFE – member of Disciplinary Appeals Committee
HKEX Foundation – director

Other major offices

Hutchison Telecommunications (Australia) Limited (listed on Australian Securities Exchange) – non-executive director (2019~)
CK Hutchison Holdings Limited * – non-executive director (2017~)
HK Electric Investments Manager Limited (trustee-manager of HK Electric Investments *) and **HK Electric Investments Limited** * – alternate director (2014~)
CK Infrastructure Holdings Limited * – alternate director (2006~)

Past offices

CK Hutchison Holdings Limited * – senior advisor (2016), and executive director and group deputy managing director (2015-2016)
Hutchison Whampoa Limited (formerly listed on the Stock Exchange) – director (2015-2016), deputy group managing director (1998-2015), and executive director (1993-2015)
Woo Kwan Lee & Lo – partner (1985-1993)

Qualifications

Bachelor of Science (Business Administration) (The University of Bath, UK)
Solicitor (Hong Kong, and England & Wales)

* Listed on the Stock Exchange



Rafael GIL-TIENDA
INED

Aged 69

Director since 29 April 2015

Term of office: 28 April 2021 (re-appointed) to 2023 AGM



HUNG Pi Cheng, Benjamin BBS, JP
INED

Aged 57

Director since 25 April 2018

Term of office: 7 May 2020 (re-appointed) to 2022 AGM

Other positions held with the Group

HKEX – chairman of Remuneration Committee, and member of Nomination and Governance Committee

SEHK and HKSCC – member of Disciplinary Appeals Committee

OTC Clear – chairman, independent non-executive director and chairman of Risk Management Committee

Other major offices

JPMorgan Chase Bank (China) Company Limited

– independent non-executive director (2018~)

JP Morgan Securities (Asia Pacific) Limited – independent non-executive director (2017~)

Past offices

Oliver Wyman – chairman of Asia Pacific region (2012-2017)

Marsh & McLennan Companies – chairman of Asia Pacific region (2003-2011)

Standard Chartered Bank – head of Asian wholesale banking business (2001-2003), and head of corporate and institutional banking business, Greater China (1998-2001)

Citibank (1977-1998):
country manager of Citibank for Spain (1992-1998), for Malaysia (1988-1992) and for China (1984-1988)

Qualifications

Bachelor of Arts (Philosophy, Politics and Economics)
(University of Oxford, UK)

Master of Business Administration (University of California, Berkeley, US)

Other positions held with the Group

HKEX – member of Investment Committee, and Nomination and Governance Committee

SEHK – member of Listing Nominating Committee

Other major offices

Standard Chartered Bank – chief executive officer, Asia (2021~)

Standard Chartered Bank (Hong Kong) Limited
– executive director (2019~)

Standard Chartered Bank (China) Limited – chairman (2015~)

Standard Chartered Bank (Singapore) Limited – chairman (2021~)¹

Past offices

Standard Chartered Bank (2015-2020):
chief executive officer of wealth management (2018-2020) and retail banking (2017-2020), and regional chief executive officer, Greater China & North Asia (2015-2020)

Standard Chartered Bank (Hong Kong) Limited (1992-2019):
chairman (2014-2019), chief executive officer, Greater China (2014-2015) and chief executive officer and executive director, Hong Kong (2008-2014)

HKEX – member of Risk Management Committee (statutory) (2008-2010 and 2014)

Public service

Chief Executive's Council of Advisers on Innovation and Strategic Development – non-official member (2018~)

Hong Kong-United States Business Council – member (2016~)

Hong Kong Institute for Monetary and Financial Research – director (2011~)

Exchange Fund Advisory Committee – member (2009~)

Qualifications

Bachelor of Arts (Business Administration) (University of Washington, US)

Master of Business Administration (University of Toronto, Canada)

¹ Appointment effective 11 November 2021



LEUNG Nisa Bernice Wing-Yu JP
INED

Aged 51
Director since 28 April 2021
Term of office: 28 April 2021 (appointed) to 2023 AGM

Other positions held with the Group

HKEX – member of Audit Committee, Panel Member Selection Committee and Risk Committee

Other major offices

Qiming Venture Partners – managing partner (2013~)

New Horizon Health Limited * – non-executive director (2018~)

Zai Lab Limited * (also listed on NSADAQ) – non-executive director (2014~)

Venus Medtech (Hangzhou) Inc * – non-executive director (2013~)

CanSino Biologics Inc * (also listed on Shanghai Stock Exchange) – non-executive director (2015~)

Past offices

Gan & Lee Pharmaceutical Holdings Ltd (listed on Shanghai Stock Exchange) – non-executive director (2009-2021)

Qiming Venture Partners – partner (2007-2013)

Public service

Committee on Innovation, Technology and Re-industrialisation – member (2017~)

Qualifications

Bachelor of Science (Cornell University, US)

Master of Business Administration (Stanford University, US)

* Listed on the Stock Exchange



LEUNG Pak Hon, Hugo
INED

Aged 53
Director since 26 April 2017
Term of office: 7 May 2020 (re-elected) to 2023 AGM

Other positions held with the Group

HKEX – chairman of Panel Member Selection Committee, member of Audit Committee, Board Executive Committee, Investment Committee, Listing Operation Governance Committee, Risk Committee and Risk Management Committee (statutory), and chairman of Derivatives Market Consultative Panel

HKFE – chairman of Disciplinary Appeals Committee and Exchange Participant Admission Appeals Committee

Other major offices

BNP Paribas – chief executive officer, Hong Kong (2019~)

BNP Paribas Securities (Asia) Limited – chief executive officer (2015~)

Past offices

BNP Paribas – head of global markets, Hong Kong (2015-2019), head of global equities and commodity derivatives, Greater China (2013-2015)

BNP Paribas Securities (Asia) Limited – deputy chief executive officer (2012-2015), head of equity syndicate and corporate equity (2010-2012), head of equity brokerage (2007-2010), head of Asia (ex-Greater China) product (2004-2007), product sales head for Taiwan (2003-2004) and deputy managing director (2000-2003)

Qualifications

Bachelor of Arts (Economics) (Simon Fraser University, Canada)



YIU Kin Wah, Stephen INED

Aged 61

Director since 26 April 2017

Term of office: 28 April 2021 (re-appointed) to 2023 AGM

Other positions held with the Group

HKEX – chairman of Audit Committee, member of Listing Operation Governance Committee, Panel Member Selection Committee and Risk Committee, and chairman of Clearing Consultative Panel

SEHK – member of Listing Nominating Committee

HKCC and **SEOCH** – chairman of Participant Admission Appeals Committee

HKSCC – chairman of Disciplinary Appeals Committee and Participant Admission Appeals Committee

LME – independent non-executive director, chairman of Audit and Risk Committee, and member of Remuneration Committee

LME Clear – independent non-executive director, chairman of Audit Committee, and member of Nomination Committee and Remuneration Committee

Other major offices

ANTA Sports Products Limited * – independent non-executive director (2018~)

China Mobile Limited * – independent non-executive director (2017~)

Past offices

KPMG International – member of executive committee and board (2011-2015)

KPMG Asia Pacific – member of board (2011-2015) and executive committee (2009-2015)

KPMG China (including Hong Kong) (1983-2015): chairman and chief executive officer (2011-2015), deputy chairman (2010-2011), audit partner-in-charge (2007-2010), and partner (1994-2015)

Public service

Insurance Authority – chairman (2021~)¹ and non-executive director (2015~)

Independent Commission Against Corruption Complaints Committee – member (2019~)

Exchange Fund Advisory Committee – member (2018~)

Qualifications

Professional Diploma in Accountancy (The Hong Kong Polytechnic University)

Master in Business Administration (Warwick University, UK)

Fellow (Association of Chartered Certified Accountants, Hong Kong Institute of Certified Public Accountants, and The Institute of Chartered Accountants in England & Wales)

* Listed on the Stock Exchange

1 Appointment effective 28 December 2021



ZHANG Yichen

INED

Aged 58

Director since 28 April 2021

Term of office: 28 April 2021 (elected) to 2024 AGM

Public service

The National Committee of the Chinese People's Political Consultative Conference – member (2008~)

Qualifications

Bachelor of Science (Computer Science)

(The Massachusetts Institute of Technology, US)

* Listed on the Stock Exchange

1 Appointment ceased effective 27 August 2021

Other positions held with the Group

HKEX – member of Corporate Social Responsibility Committee, Investment Committee, Panel Member Selection Committee and Mainland China Advisory Group

Other major offices

CITIC Capital Holdings Limited – chairman (2013~) and chief executive officer (2003~)

Harbin Pharmaceutical Group Co Ltd (listed on Shanghai Stock Exchange) – chairman and director (2021~)

China Vanke Co Ltd * (also listed on Shenzhen Stock Exchange) – independent non-executive director (2020~)

AsialInfo Technologies Limited * – non-executive director (2018~)

S F Holding Co Ltd (listed on Shenzhen Stock Exchange) – director (2016~)

Past offices

Genertec Universal Medical Group Company Limited * – chairman (2012-2021)¹ and non-executive director (2015-2021)¹

SINA Corporation (formerly listed on NASDAQ) – independent director (2002-2021)

Frontier Services Group Limited * – non-executive director (2020-2021)

CITIC Capital Holdings Limited – deputy chief executive officer (2002-2003)

CITIC Pacific Communications Limited – president (2000-2002)

CITIC Limited * – executive director (2000-2002)

Merrill Lynch Asia Pacific – managing director (1996-2000)

Group Company Secretary



FU Yat Hung, David
Group Company Secretary and
Head of Secretarial Services

Aged 57
Joined in January 2020

Other major offices

The Hong Kong Chartered Governance Institute
– ex-officio member of council as past president (2020~)

Past offices

Standing Committee on Company Law Reform – member (2017-2020)

SFC – member of Takeovers and Mergers Panel and Takeovers Appeal Committee (2015-2020)

Swire Properties Limited * – company secretary (2010-2020)

Cathay Pacific Airways Limited *, **John Swire & Sons (HK) Limited** and **Swire Pacific Limited** * – company secretary (2006-2020)

The Hong Kong Chartered Governance Institute
– president (2018-2019)

Public service

HKTDC Professional Services Advisory Committee
– member (2018~)

Qualifications

Bachelor of Arts (Engineering, Economics and Management) and **Master of Arts** (University of Oxford, UK)

Fellow (The Hong Kong Chartered Governance Institute and The Chartered Governance Institute)

* Listed on the Stock Exchange

Senior Management



CHAN Yiting, Bonnie
Head of Listing

Aged 52
Joined in January 2020

Other positions held with the Group

HKFE, HKSCC and SEHK – member of Disciplinary Committee

Past offices

Davis Polk & Wardwell LLP – partner (2010-2019)

HKEX – Head of IPO Transactions (2007-2010)

Public service

Standing Committee on Company Law Reform
– ex-officio member (2020~)

Board of Inland Revenue of the Government of the HKSAR – member (2017~)

Qualifications

Bachelor of Laws (The University of Hong Kong)

Master of Laws (Harvard University, US)



LAU Bik Yun, Vanessa
Group Chief Financial Officer

Aged 49
Joined in October 2015

Past offices

HKEX – Chief Financial Officer, Hong Kong (2017-2020) and Deputy Chief Financial Officer (2015-2017)
Sanford C Bernstein (Hong Kong) Limited – vice president and senior research analyst (2011-2015)
Alcoa Inc – group chief financial officer, global rolled products group (2007-2011)
McKinsey & Company Inc (2001-2007): various professional positions including associate principal, Hong Kong (2005-2007)
PricewaterhouseCoopers (UK) (1994-2000): various professional positions including senior tax manager, mergers and acquisitions tax group (1999-2000)

Qualifications

Bachelor of Arts (Mathematics and Computation) and **Master of Arts** (University of Oxford, UK)
Associate (The Institute of Chartered Accountants in England & Wales)



TAI Chi Kin, Calvin
President and Chief Operating Officer

Aged 59
Joined in July 1998
President since 1 August 2021

Other positions held with the Group

HKFE – chief executive
HKCC – chairman
HKSCC – chief executive and member of Risk Management Committee
OTC Clear – chief executive and chairman of User Committee
SEHK – chief executive and chairman of Compensation Committee

Past offices

China Exchanges Services Company Limited – director (2012-2021)
HKEX – Executive Director and Interim Chief Executive (1 January – 23 May 2021), Co-President (2019-2021), Head of Clearing (2016-2019), Joint Chief Operating Officer (2017-2018), Head of Global Clearing (Asia) (2014-2015), Co-head of Equities and FIC Business (2013-2014), Head of Trading Division (2010-2013), and Head of Derivatives Market Development and Operations (2003-2010)
HKFE – head of products (1998-2000)
ABN-Amro Bank NV – senior vice president of treasury division (1995-1998)
Royal Bank of Canada – head of treasury department (1994-1995)
The Hongkong and Shanghai Banking Corporation Limited – various positions in general banking and treasury (1984-1994)

Public service

SFC – member of Advisory Committee (2021~)

Qualifications

Bachelor of Social Sciences (The University of Hong Kong)



Richard Alan WISE
Group Chief Risk Officer

Aged 53
Joined in November 2020

Other positions held with the Group

HKFE, HKSCC and SEHK – chairman of Disciplinary Committee

Past offices

Credit Suisse AG – chief risk officer, Asia Pacific (2016-2020)

JP Morgan Chase – global head of market risk management (2012-2016)

JP Morgan Securities LCC – chief risk officer (2012-2016)

JP Morgan (1995-2012):

global head of equity risk management (2007-2012), regional head of market risk management, Asia Pacific (2004-2007), head of risk management (1999-2004), and fixed income proprietary trader (1995-1999)

Qualifications

Bachelor of Arts (Mathematics) (Cambridge University, UK)

Vanessa Lau and Calvin Tai also act as directors in certain HKEX's subsidiaries.

Management Committee



From left to right:

Nicolas Aguzin
HKEX Chief Executive Officer

John Buckley
Head of Exchange Operations and Transformation

Matthew Chamberlain
LME Chief Executive

Bonnie Y Chan
Head of Listing

Paul Chow
Group General Counsel

Tori Cowley
Group Chief Communications Officer

Vanessa Lau
Group Chief Financial Officer

Richard Leung
Group Chief Technology Officer

Mao Zhirong
Head of Mainland Development

Kerry Rooks
Group Chief People Officer

Adam Singer
Group Chief Compliance Officer

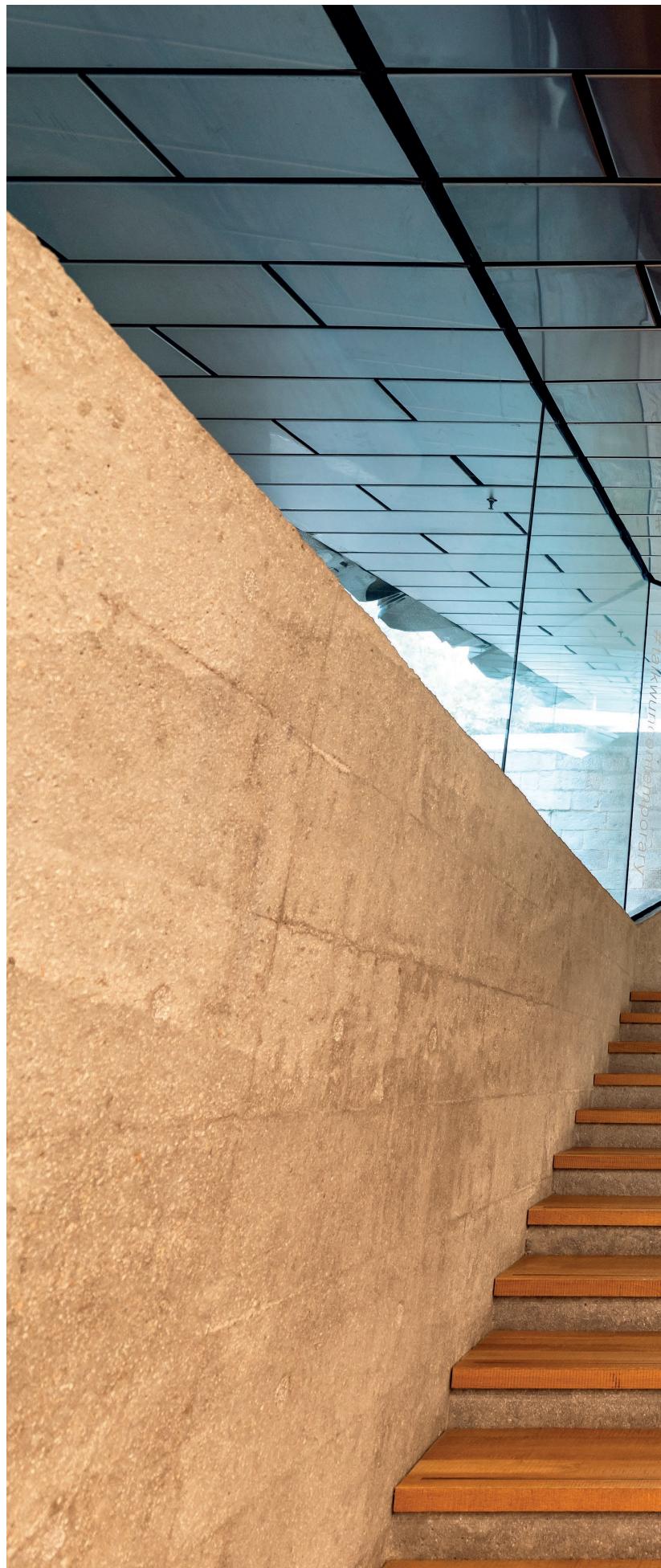
Glenda So
Co-Head of Markets

Calvin Tai
President and Chief Operating Officer

Richard Wise
Group Chief Risk Officer

Wilfred Yiu
Co-Head of Markets

Management Discussion and Analysis





Business Review

Overview

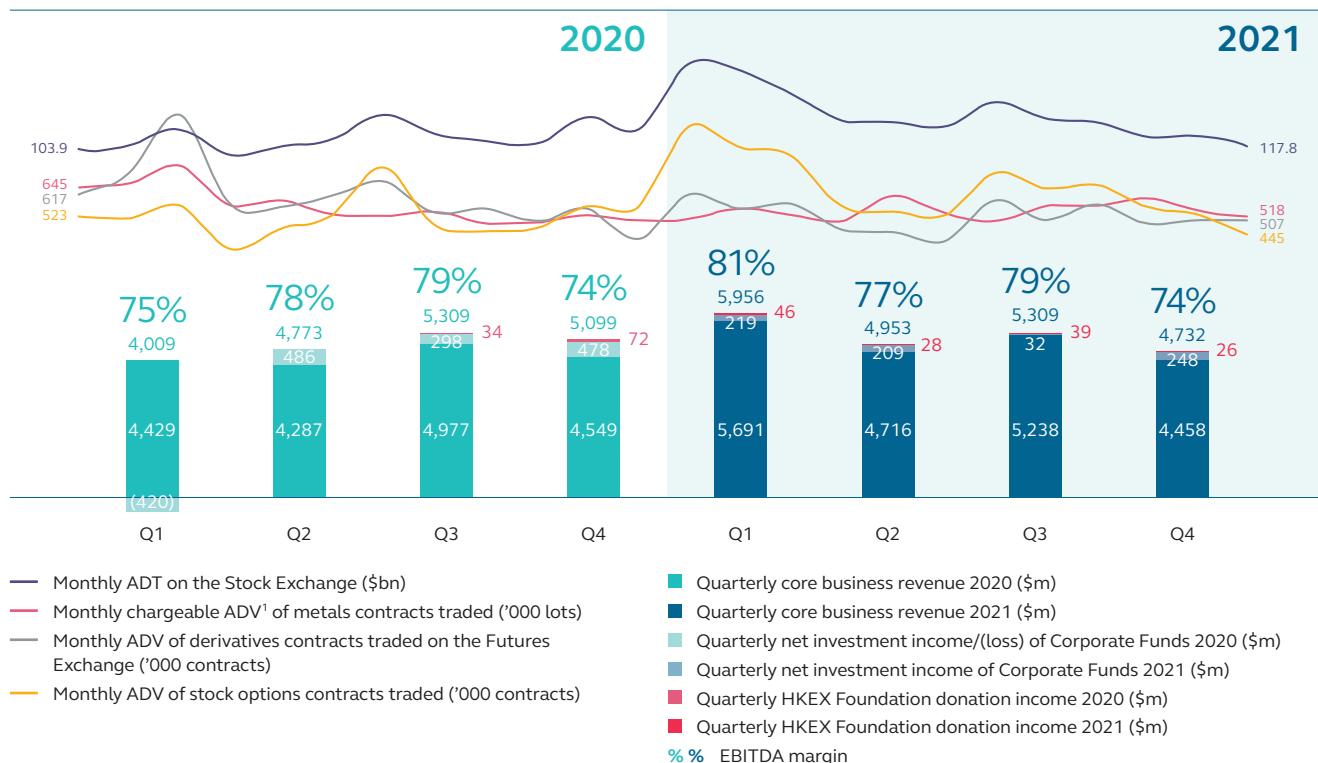


Fig. 1 – Market activity and Group's revenue and other income/(loss)

2021 started exceptionally well, and the year overall was good for HKEX. Revenue and other income, and profit, both reached record highs. Driven by an exceptionally buoyant first quarter with record quarterly Headline ADT of \$224.4 billion, the full year's Headline ADT reached a record high of \$166.7 billion, 29 per cent above the previous record set in 2020. Stock Connect trading volumes also saw record highs with Northbound and Southbound ADT 32 per cent and 71 per cent higher than 2020 respectively. The Hong Kong IPO market had a strong year, driven by an especially positive first half, and the very strong IPO pipeline was boosted by a range of homecoming overseas-listed Chinese stocks and new economy and biotech companies in particular.

Revenue and other income reached a record high of \$21.0 billion, up 9 per cent against 2020. The increase in trading and clearing fees was partly offset by lower net investment income, arising from both lower interest income and fair value gains on collective investment schemes (2021: \$364 million; 2020: \$487 million). Operating expenses increased

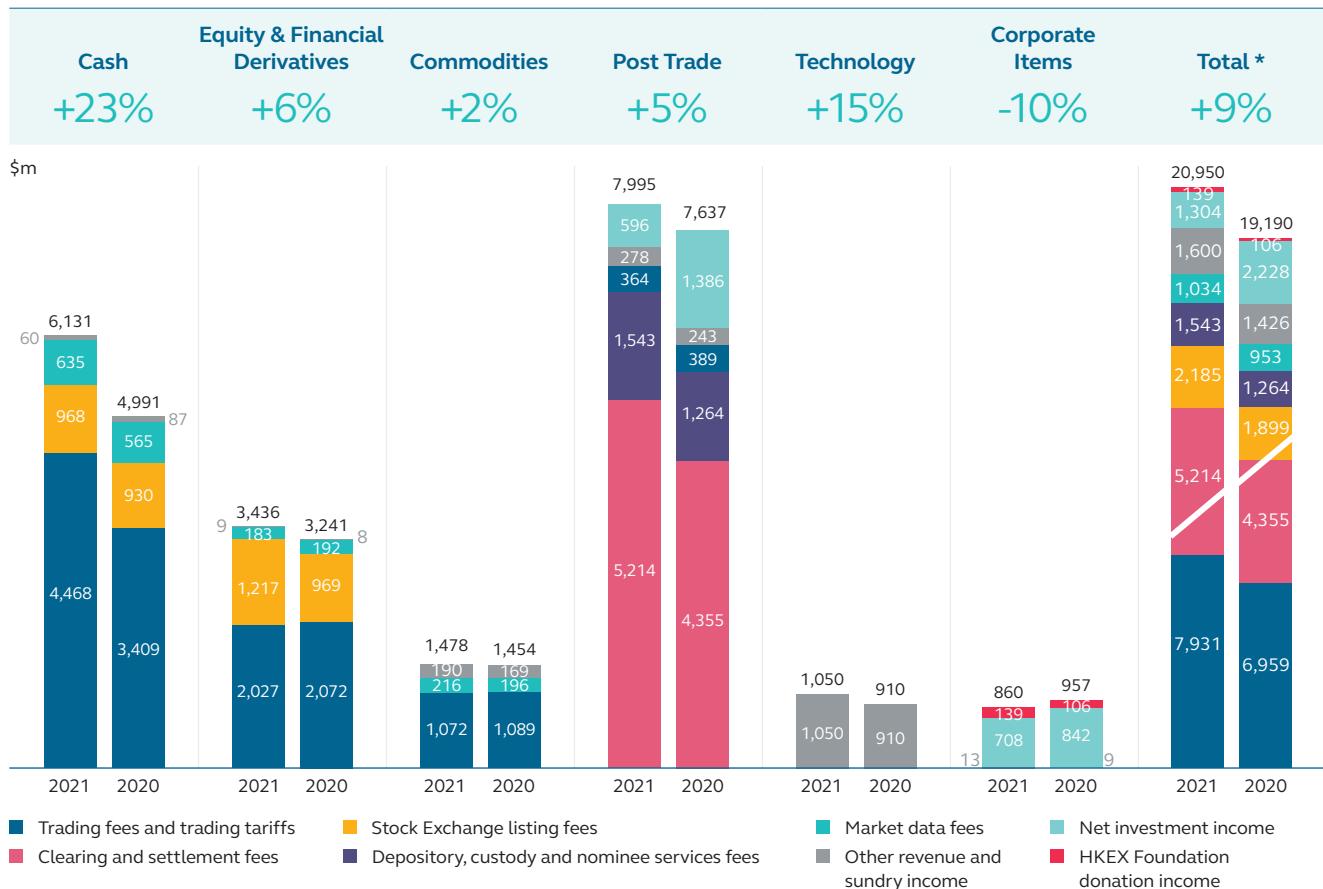
by 2 per cent compared with 2020, mainly due to higher IT and computer maintenance expenses and higher product marketing expenses and cash incentives for new products. EBITDA margin was 78 per cent, 1 per cent higher than 2020.

Looking ahead to 2022, there are positive signs of global economic growth, despite continued uncertainty and challenges including those related to the unwinding of extraordinary levels of fiscal stimulus, persistent inflationary pressures, and the ongoing pandemic. Despite these challenges, HKEX remains very well-positioned to play an increasingly important role in the fast-evolving, interconnected global markets of the future. Looking forward, the Group will look to capitalise on regional and sector growth opportunities by leveraging its position as a super-connector, participating in technological and industry developments and driving the ongoing diversification of its offering, whilst also continuing to ensure the long-term stability, resiliency and sustainability of its markets and its business.

¹ Chargeable ADV excludes administrative trades (Admin Trades) and other non-chargeable trades.

Analysis of Results and Business Update by Operating Segment

Analysis of Revenue and Other Income by Segment



Analysis of EBITDA and EBITDA Margin by Segment*



%% EBITDA margin = EBITDA divided by revenue and other income less transaction-related expenses

* Further details of the results by segment are set out in note 4 to the Consolidated Financial Statements of this Annual Report.

1 LME Clear EBITDA is reflected in the Post Trade segment

Cash Segment

Key Market Indicators

	2021	2020	Change
ADT of equity products traded on the Stock Exchange ^{1,2} (\$bn)	146.6 ⁴	110.9	32%
ADT of Northbound Trading – Shanghai-Hong Kong Stock Connect ² (RMBbn)	55.1 ⁴	39.1	41%
ADT of Northbound Trading – Shenzhen-Hong Kong Stock Connect ² (RMBbn)	65.0 ⁴	52.2	25%
ADT of Southbound Trading – Shanghai-Hong Kong Stock Connect ² (\$bn)	20.1 ⁴	13.1	53%
ADT of Southbound Trading – Shenzhen-Hong Kong Stock Connect ² (\$bn)	21.6 ⁴	11.3	91%
ADT of Northbound Bond Connect (RMBbn)	26.6 ⁴	19.8	34%
Average daily number of trades of equity products traded on the Stock Exchange ^{1,2} ('000)	1,949 ⁴	1,618	20%
Number of newly listed companies on Main Board ³	97	146	(34%)
Number of newly listed companies on GEM	1	8	(88%)
Number of companies listed on Main Board at 31 Dec	2,219	2,170	2%
Number of companies listed on GEM at 31 Dec	353	368	(4%)
Total	2,572	2,538	1%
Market capitalisation of companies listed on Main Board at 31 Dec (\$bn)	42,273	47,392	(11%)
Market capitalisation of companies listed on GEM at 31 Dec (\$bn)	108	131	(18%)

1 Excludes \$20.1 billion (2020: \$18.6 billion) of ADT of DWs, CBBCs and warrants (which are included under the Equity and Financial Derivatives segment) and includes ADT of Southbound Trading under Stock Connect

2 Includes buy and sell trades under Stock Connect

3 Includes 2 transfers from GEM (2020: 8)

4 New record high in 2021

	2021 \$bn	2020 \$bn	Change
Total equity funds raised on Main Board			
– IPOs	331.3	399.6	(17%)
– Post-IPO	438.7	343.8	28%
Total equity funds raised on GEM			
– IPOs	0.1	0.6	(83%)
– Post-IPO	3.2	3.0	7%
Total	773.3	747.0	4%

Stock Connect – New Record Highs in 2021

	2021	2020	Change
Northbound Trading value (RMBbn)	27,630	21,089	31%
Southbound Trading value (\$bn)	9,343	5,508	70%
Total revenue and other income ¹ (\$m)	2,724	1,926	41%

1 \$2,123 million of which arose from trading and clearing activities (2020: \$1,485 million)

Analysis of Results

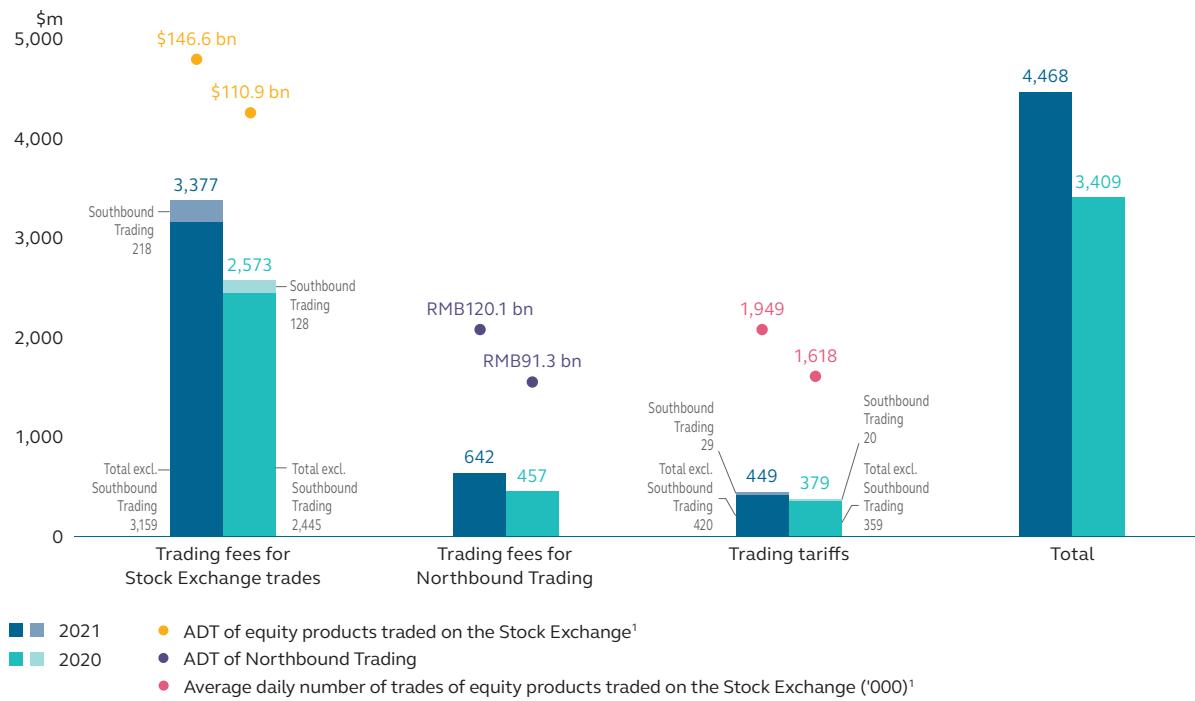
Summary

	2021 \$m	2020 \$m	Change
Trading fees and trading tariffs ¹	4,468	3,409	31%
Stock Exchange listing fees ¹	968	930	4%
Market data fees ¹	635	565	12%
Other revenue and sundry income	60	87	(31%)
Total revenue and other income	6,131	4,991	23%
Operating expenses ²	(614)	(595)	3%
EBITDA	5,517	4,396	26%
EBITDA margin	90%	88%	2%

1 Excludes DWs, CBBCs and warrants (which are included under the Equity and Financial Derivatives segment)

2 Includes Listing Division costs apportioned to equity products listed on the Stock Exchange

Trading Fees and Trading Tariffs



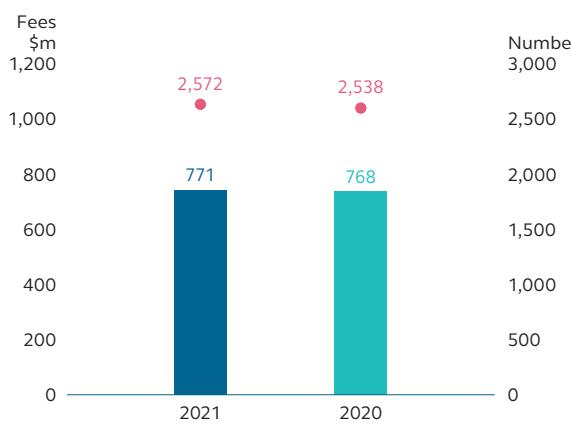
1 Excludes DWs, CBBCs and warrants (which are included under the Equity and Financial Derivatives segment)

Trading fees increased by \$989 million (33 per cent), from \$3,030 million to \$4,019 million, attributable to the 32 per cent increase in equity products' ADT, and record trading fees from Northbound and Southbound Trading through Stock Connect. Trading tariffs increased by 18 per cent due to the increase in number of trades of equity products.

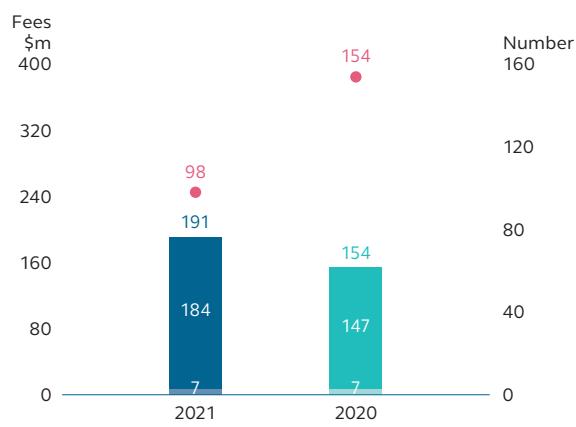
Stock Exchange Listing Fees

	2021 \$m	2020 \$m	Change
Annual listing fees	771	768	0%
Initial and subsequent issue listing fees	191	154	24%
Others	6	8	(25%)
Total	968	930	4%

Annual Listing Fees



Initial and Subsequent Issue Listing Fees



Annual listing fees rose in line with the increase in the total number of listed companies.

Despite the drop in number of newly listed companies, initial and subsequent issue listing fees increased by 24 per cent mainly due to an increase in forfeitures.

EBITDA

Operating expenses increased by 3 per cent due to higher staff costs associated with new initiatives, and an increase in IT maintenance costs as a result of upgrades to systems and networks. EBITDA margin rose from 88 per cent to 90 per cent due to the increase in revenue.

Business Update

The Hong Kong Cash Market was very active with record trading activities in 2021, with record high Headline ADT and record high ADT of equity products of \$166.7 billion and \$146.6 billion respectively, up 29 per cent and 32 per cent from 2020. On 27 July 2021, trading turnover reached an all-time daily high of \$361 billion.

Stock Connect

Stock Connect experienced strong flows on both Northbound and Southbound Trading in 2021, with ADT reaching record highs of RMB120.1 billion (up 32 per cent against 2020) and \$41.7 billion (up 71 per cent against 2020) respectively. Southbound Trading reached a daily record high of \$102.2 billion on 27 July 2021. As a result, Stock Connect generated record revenue and other income for the fifth consecutive year of \$2,724 million, and accounted for 13 per cent of the Group's total revenue and other income.

Stock Connect was further enhanced during the year, with expansion in the scope of eligible stocks for both Northbound and Southbound Trading. On 1 February 2021, eligible A-shares listed on the Sci-Tech Innovation Board (STAR Market) of the SSE were included in Northbound Trading through Shanghai-Hong Kong Stock Connect, and the corresponding H-shares were also included in Stock Connect Southbound Trading. This expansion was warmly welcomed by the market and trading has been active since the inclusion of the new eligible stocks.

Market Structure Development

Throughout the year HKEX has continued to enhance its market microstructure to increase its competitiveness and attractiveness. Examples of this include, the second phase enhancement of the Volatility Control Mechanism (VCM), which was successfully implemented in March 2021, allowing multiple triggers of the VCM per applicable security in the same trading session. The enhanced VCM mechanism provides more opportunities for market participants to review their position and reassess their trading strategies during periods of extreme price movements.

Following the SFC's publication of its consultation conclusions on the introduction of the Hong Kong investor identification regime (HKIDR), HKEX published an information paper and relevant technical specification in August 2021. The HKIDR is expected to be launched in 2H 2022.

Issuer Business

During 2021, HKEX welcomed 98 new listings, raising a total of \$331.4 billion. The IPO pipeline remained very robust throughout the year, with over 150 active listing applications at the end of 2021. New economy listings continued to dominate Hong Kong's IPO market in 2021, with HKEX welcoming 59 new economy company listings, accounting for 88 per cent of IPO funds raised during the year.

New economy sectors in information technology and healthcare have become the fastest-growing IPO sectors in Hong Kong, contributing 38 per cent and 24 per cent of IPO funds raised respectively in 2021. In particular, the robust biotech ecosystem in Hong Kong attracted 34 biotech and healthcare companies listings in 2021, including 20 companies listed under Chapter 18A of the Main Board Listing Rules.

In 2021, eight US-listed Chinese companies completed homecoming listings in Hong Kong, consisting of five secondary listings: Baidu, Bilibili, Weibo, Trip.com, Autohome, and three dual-primary listings: XPeng, Li Auto and Hutchmed (China).

During the year, HKEX consulted on, and then announced, the launch of a new listing regime for special purpose acquisition companies (SPACs), which took effect on 1 January 2022. The regime allows simultaneous listed SPAC shares and warrants to be traded, accessible to any eligible SPAC EPs or investors.

With the enhanced listing regime for overseas issuers and the introduction of a listing regime for SPACs, HKEX is well-positioned to be a global listing venue of choice for international and regional issuers. HKEX continues to focus on expanding its outreach and engagement overseas to strengthen its competitiveness as a premier capital raising centre.

ETF Market Development

ADT of ETPs, which include ETFs and L&I Products, increased 20 per cent to \$7.7 billion in 2021 (2020: \$6.4 billion). In particular, ADT of Hong Kong equity ETFs nearly doubled from \$2.8 billion in 2020 to \$5.4 billion in 2021. The market capitalisation of ETPs listed on HKEX has continued to grow, reaching a record high of \$429 billion at 31 December 2021 (31 December 2020: \$393 billion).

Key initiatives for the ETP market in 2021

- HKEX expanded its product suite, welcoming a range of new ETPs in the Hong Kong market, including 18 new thematic ETFs, and the first batch of ETPs tracking the MSCI China A 50 Connect Index and FTSE China A 50 Index
- HKEX introduced fee waivers for Hong Kong-listed fixed income and money market ETFs, helping to reduce transaction costs for investors
- HKEX introduced a new tiered structure for ETP trading fee exemptions for market makers, which was adjusted to be based on their ADT over a 12-month period and their relevant investment exposure
- HKEX welcomed the first ETF listings in Hong Kong and Shanghai under the Hong Kong-Mainland ETF Cross-listing Scheme, marking another milestone in the development of cross-border ETFs and collaboration between Hong Kong and Mainland exchanges

Bond Connect

In 2021, turnover in Bond Connect grew significantly, and is now a preferred channel for international investors, with robust growth in trading volume, net inflows, foreign holdings, as well as the number of newly registered investors.

ADT of Northbound Bond Connect has been setting record highs every year since its launch in 2017, reaching RMB26.6 billion in 2021, up 34 per cent compared with 2020. Trading volume in November 2021 reached a monthly record high of RMB644 billion, and single-day trading volume recorded an all-time high of RMB51.0 billion on 16 December 2021. In addition, the highest number of daily trading tickets of 1,113 was recorded on 30 November 2021.

Net inflows of Northbound Bond Connect amounted to RMB319 billion in 2021, with a monthly record high of RMB96 billion in January. As at 31 December 2021, the overall foreign investor holdings of domestic debt securities in the China Interbank Bond Market rose to RMB4,003 billion, up 23 per cent from RMB3,255 billion as at 31 December 2020.

Market participation in Northbound Bond Connect continued to grow throughout 2021. As at 31 December 2021, a total of 3,233 institutional investors from 35 jurisdictions globally participated in Bond Connect, up 37 per cent from 2,352 institutional investors as at 31 December 2020.

Key developments of Bond Connect in 2021

- Southbound Bond Connect was launched in September, enabling Mainland institutional investors to invest in the Hong Kong and global bond markets
- MarketAxess became the third trading platform under Northbound Bond Connect
- Chinese government bonds were included in the FTSE World Government Bond Index (WGBI) from October 2021, marking another major milestone of China's integration with global markets
- A new Bond Connect filing arrangement was introduced to further facilitate overseas institutional investors' participation in China's inter-bank bond market. The new arrangement enables filing to be submitted by the investment manager at entity level, with one filing for multiple products allowed
- Bond Connect launched a new dealer pay model, which allows global investors to get price quotations from market makers with trading fee built into the bond price
- CNYPlus, a web-based system, was launched to provide Bond Connect investors with currency conversion options and facilitate their foreign exchange (FX) risk management needs
- Bond Connect launched a web-based third-party FX registration service on the E-Filing portal to facilitate investors registering their Hong Kong FX settlement banks online
- The policy to exempt overseas institutional investors from corporate income tax and value-added tax on their domestic bond investments is extended till 31 December 2025

Listed Bond Market Development

In 2021, there were 508 new listings of debt securities on the Stock Exchange, with total issuance amounting to \$1,552 billion, up 18 per cent and 2 per cent respectively, compared with 2020. Among these were a total of 95 new green/ESG-related bond listings, raising a total of \$282.6 billion in 2021 (2020: 18 listings raising \$66.7 billion). Total turnover value of debt securities reached \$104 billion, an increase of 58 per cent, compared with 2020.

Sustainable Finance

HKEX's Sustainable and Green Exchange (STAGE) has continued to gain traction since its launch in December 2020. As at 31 December 2021, there were a total of 87 sustainable-focused products from leading issuers displayed on STAGE, including green, social, sustainable or similar bonds from issuers across different sectors, as well as ESG-related ETPs.

To support businesses and investors in their sustainability journey, a new equities section has been introduced on STAGE, following the introduction of Bonds and ETPs. ESG metrics on over 600 Hong Kong-listed companies published by leading ESG data providers are displayed as of 31 December 2021. HKEX published the Practical Net-Zero Guide for Business in December 2021, introducing the essential steps for businesses to develop a pathway to net-zero, providing support to companies to facilitate their net-zero transition, and encouraging more net-zero commitments.

The inaugural HKEX Green Asia Summit was hosted in December 2021, with over 900 attendees. Senior executives, policy makers and sustainability experts from across the globe shared their insights on the role of capital markets in supporting the transition to a low-carbon and sustainable economy, and discussed how opportunities presented in the fast-changing technology and regulatory landscape can be collectively leveraged.



Emerging Business Development

HKEX continues to explore a range of new opportunities to create value for the Group's stakeholders, with a focus in particular on expanding our digital expertise and consolidating our role as Asia's leading ESG hub.

Key developments of Emerging Business in 2021

- Established a new Emerging Business Development Team, cross leveraging the latest financial technologies and partnerships, to develop successful ecosystems in emerging business areas
- Participation in Project Genesis, a project led by the Bank for International Settlements (BIS), Innovation Hub Hong Kong Centre and the Hong Kong Monetary Authority (HKMA). Prototypes on tokenised green bonds were announced in November 2021, which provided potential solutions that may help market participants in achieving their environmental and sustainability goals
- Participation in the Multiple Central Bank Digital Currency (m-CBDC) Bridge project for cross-border payments jointly run by the HKMA, Bank of Thailand, Central Bank of the United Arab Emirates and the Digital Currency Institute of the People's Bank of China (PBC DCI). HKEX is one of the participating parties which provided business use case to facilitate the development of proof-of-concept prototype for transactions of multilateral central bank digital currencies

Market Surveillance and Compliance

Throughout 2021, HKEX has continued its efforts in promoting transparency and strong compliance culture of our marketplace, with a number of key initiatives set out below.

Key initiatives on promoting market surveillance and compliance in 2021

- New surveillance measures have been introduced to support the launch of new products, trading and related business initiatives, and more ad hoc investigations were conducted in 2021 to maintain market fairness and orderliness
- HKEX conducted its 2021 Annual Attestation and Inspection Programme with a focus on three areas: (1) manual trades (2) risk management and (3) China Connect rules
- HKEX conducted thematic reviews of (1) Block Trade Order Aggregation (2) Broker-to-Client-Assigned Number under the Investor ID Model for Stock Connect Northbound Trading and (3) Investor Eligibility in bonds listed under Chapter 37 of the Main Board Listing Rules
- HKEX issued its first quarterly compliance bulletin in August 2021, which seeks to provide the industry with a better understanding of the Group's enforcement work and regulatory expectations
- Four compliance roundtables with the industry were held to discuss topical issues around market surveillance and monitoring practices, as well as observations from the 2020 Annual Programme

Listing Regulation

In 2021, the Stock Exchange issued various proposals and conclusions on Listing Rules amendments as set out in the following table. Details of the consultations and other main policy changes and updates arising in 2021, as well as the proposals under review in 2022 and beyond, are set out in the 2021 Listing Committee Report.

Key Proposals and Conclusions in 2021

	Consultation paper ¹	Consultation conclusions ¹	Effective date of changes (if any)
Review of Listing Rules relating to Disciplinary Powers and Sanctions	August 2020	May 2021	3 July 2021
The Main Board Profit Requirement	November 2020	May 2021	1 January 2022
Listing Regime for Overseas Issuers	March 2021	November 2021	1 January 2022
Review of Corporate Governance Code and related Listing Rules, and Housekeeping Rule Amendments	April 2021	December 2021	1 January 2022
Special Purpose Acquisition Companies	September 2021	December 2021	1 January 2022
Proposed Amendments to Listing Rules relating to Share Schemes of Listed Issuers	October 2021	1H 2022 (tentative)	–

¹ All the consultation papers and conclusions are available under the News (Market Consultations) section of the HKEX Market website.

Key Initiatives by the Stock Exchange to Promote Issuers' Self-compliance with the Listing Rules

- Issued two new listing decisions to provide guidance on the application of the reverse takeovers rules
- Published new guidance letter on pre-vetting for placing to connected clients in an initial public offering; and updated guidance letters on (i) disclosure in listing documents for biotech companies; (ii) placing to connected clients, and existing shareholders or their close associates; and (iii) sufficiency of operations
- Published semi-annual (i) Listing Division Newsletter; (ii) Listed Issuer Regulation Newsletter; and (iii) Enforcement Bulletin
- Published revised Enforcement Policy Statement and Enforcement Sanctions Statement to reflect both recent developments and the Stock Exchange's view of current enforcement priorities
- Published (i) Corporate Governance Guide for Boards and Directors; (ii) Analysis of IPO Applicants' Corporate Governance and ESG Practice Disclosure in 2020/2021; and (iii) Guidance on Climate Disclosures
- Launched three e-Learning modules on (i) equity fundraising rules; (ii) continuing obligations of listed issuers; and (iii) continuing disclosure obligations and trading halt as part of the new e-learning series on ongoing compliance requirements under the Listing Rules

IPO Processing, Compliance and Monitoring

The following tables illustrate the work of the Stock Exchange in processing new listings and monitoring issuers' compliance for the purposes of maintaining an orderly, informed, and fair market under Section 21 of the SFO.

Stock Exchange's IPO Work

	2021	2020
Number of listing applications vetted ¹	408	357
Number of applications brought to the Listing Committees (or their delegates) for decisions ²	118	154
– within 120 calendar days	48	52
– between 121 to 180 calendar days	47	39
– after more than 180 calendar days	23	63
Number of applications for which approval was granted in principle ³	153	179
Number of requests for guidance from listing applicants or their advisers seeking clarifications of listing matters	209	181
– Average response time (in business days)	14	10
Number of listing applications for transfer of listing from GEM to Main Board accepted	5	12
Applications listed ⁴	132	181
New listing applications rejected ⁵	1	1
New listing applications withdrawn	9	6
New listing applications returned	2	–
Application in process at year-end	131	92

1 Comprises 316 (2020: 231) new applications and 92 (2020: 126) existing applications brought forward from previous year

2 Refers to listing applications heard by the Listing Committees (or their delegates) for the first time and excludes Chapter 20 listing applications

3 Includes 35 (2020: 26) investment vehicles. At the end of 2021, 23 (2020: 20) approved applications had not yet been listed, and 15 (2020: 4) approved applications had lapsed during the year.

4 Includes 34 investment vehicles listed on Main Board and no deemed new listings (2020: 27)

5 No rejection decision in 2021 (2020: nil) was subsequently reversed upon review.

Number of Compliance and Monitoring Actions

	2021	2020
Announcements of issuers vetted	65,315	68,522
Circulars of issuers vetted	3,296	2,696
Share price and trading volume monitoring actions undertaken ¹	12,541	10,535
Complaints handled	1,075	475
Cases (including complaints) referred to Listing Enforcement Department for investigation	93	78

1 In 2021, monitoring actions undertaken included 608 enquiries (2020: 360) on unusual share price and trading volume movements, and the actions undertaken led to 30 resumption announcements (2020: 19) on trading suspensions.

Long Suspension

Status of Long Suspended Companies	Main Board		GEM	
	2021	2020	2021	2020
Resumption of trading of securities during the year	26	12	6	3
Cancellation of listing after expiry of prescribed remedial periods during the year	18	15	12	7
Cancellation of listing under grandfathered provisions during the year (Main Board Rule 6.01A(2)(a) or (c) or GEM Rule 9.14A(2)(b))	3	8	1	1
Voluntary withdrawal of listing during the year	2	–	–	–
Companies suspended for 3 months or more at year-end	90	64	16	17

Updates on the work in respect of listed companies' compliance, and insights and observations that may assist listed companies in their own compliance, can be found in the semi-annual "Listed Issuer Regulation Newsletter".

Listing Enforcement

The enforcement statistics set out below represent a high level overview of the enforcement work undertaken in 2021 by the Stock Exchange.

Further details and information relating to enforcement work (including the Stock Exchange's general approach, disciplinary procedures and recent cases) can be found on the HKEX Market website and via the semi-annual "Enforcement Bulletin", and are included in the 2021 Listing Committee Report.

Enforcement Statistics

	2021	2020
Cases ^{1,2,3}	164	128
Public sanctions ⁴	35	13
Regulatory letters ⁵	12	9

- Figures represent cases handled by Listing Enforcement in 2021 (including those carried over from the previous year and those ongoing at year-end).
- At the end of 2021, there were 61 ongoing investigations (2020: 54).
- In 2021, 3 enforcement cases (2020: 4) originating from complaints were subject to enforcement investigation.
- The number of investigation cases that resulted in a public sanction. Actions taken at a lower level in the same case, e.g., private reprimand, are not included.
- The number of cases involving issuance of at least one regulatory letter (i.e., a warning or guidance letter) where, following investigation, disciplinary proceedings before the Listing Committee were not considered appropriate against any party. These letters are recorded as part of the compliance history for the relevant party.

Costs of the Listing Function

The costs associated with the front line regulation of listed issuers, performed by the Listing Committee and the Listing Division, are absorbed by the Cash and Equity and Financial Derivatives segments in proportion to the listing fee income of the two segments.

Equity and Financial Derivatives Segment

Key Market Indicators

	2021	2020	Change
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	20.1	18.6	8%
Average daily number of trades of DWs, CBBCs and warrants traded on the Stock Exchange ('000)	416 ²	344	21%
ADV of derivatives contracts traded on the Futures Exchange ¹ ('000 contracts)	536	610	(12%)
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	637 ²	526	21%
Number of newly listed DWs	16,684 ²	12,128	38%
Number of newly listed CBBCs	42,807 ²	38,039	13%
Number of newly listed Inline Warrants	83	780	(89%)
ADV of contracts traded during After-Hours Trading ¹ ('000 contracts)	68	95	(28%)

	At 31 Dec 2021	At 31 Dec 2020	Change
Open interest of futures and options ¹ ('000 contracts)	9,916	11,260	(12%)

1 Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)
 2 New record high in 2021

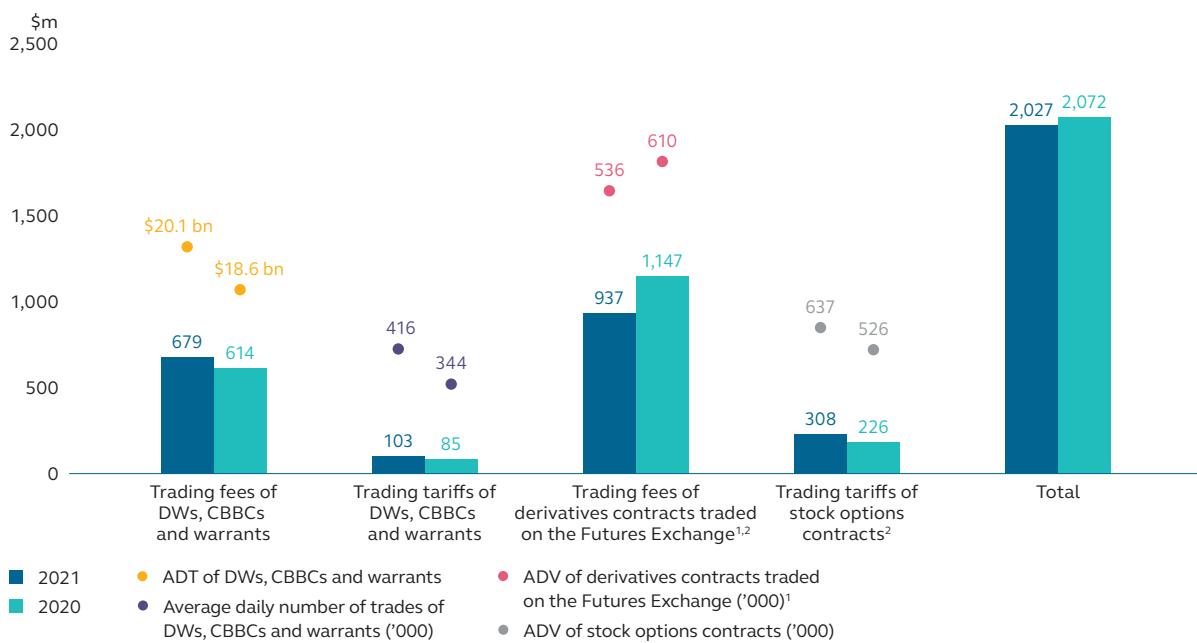
Analysis of Results

Summary

	2021 \$m	2020 \$m	Change
Trading fees and trading tariffs ¹	2,027	2,072	(2%)
Stock Exchange listing fees	1,217	969	26%
Market data fees ¹	183	192	(5%)
Other revenue and sundry income	9	8	13%
Total revenue and other income	3,436	3,241	6%
Less: Transaction-related expenses	(126)	(85)	48%
Total revenue and other income less transaction-related expenses	3,310	3,156	5%
Operating expenses ²	(665)	(607)	10%
EBITDA	2,645	2,549	4%
EBITDA margin ³	80%	81%	(1%)

1 Excludes cash equities (which are included under the Cash segment)
 2 Includes Listing Division costs apportioned to DWs, CBBCs and warrants listed on the Stock Exchange
 3 EBITDA margin is calculated based on EBITDA divided by total revenue and other income less transaction-related expenses.

Trading Fees and Trading Tariffs



1 Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)

2 Excludes trading fees and trading tariffs allocated to the Post Trade segment (Derivatives contracts traded on the Futures Exchange – 2021: \$260 million; 2020: \$303 million; stock options contracts – 2021: \$104 million; 2020: \$86 million)

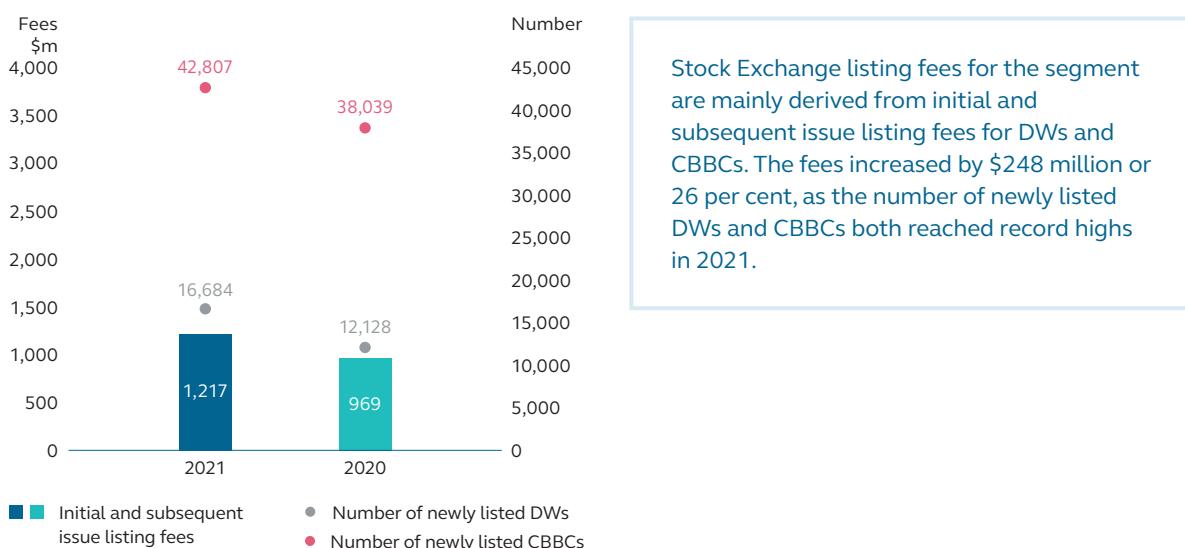
Trading fees and trading tariffs for the segment are generated from the trading of derivatives on the Stock Exchange (i.e., DWs, CBBCs, warrants, and stock options) and trading of futures and options on the Futures Exchange. A portion of the trading fees and trading tariffs for futures and options contracts is allocated to the Post Trade segment, as the trading and clearing fees of these products are bundled together.

Trading fees and trading tariffs from DWs, CBBCs and warrants increased by \$83 million, or 12 per cent, to \$782 million (2020: \$699 million), attributable to the 8 per cent increase in ADT and the 21 per cent increase in the average daily number of trades.

Derivatives trading fees of the Futures Exchange decreased by \$210 million, or 18 per cent, attributable to the 12 per cent decrease in ADV of derivatives contracts traded, and a lower fee per contract attributable to fee waivers for certain newly launched products and a lower proportion of higher fee contracts (including HSI futures and options) being traded during 2021.

ADV of stock options contracts was up 21 per cent and reached record high in 2021. Trading tariffs rose by \$82 million or 36 per cent, more than the 21 per cent increase in ADV, as a larger proportion of higher fee contracts was traded during 2021.

Stock Exchange Listing Fees



EBITDA

Transaction-related expenses include licence fees and other costs which directly vary with trading transactions. These expenses increased by \$41 million, or 48 per cent, partially driven by the licence fees for the MSCI index futures contracts launched in July 2020.

Operating expenses increased by \$58 million (10 per cent) due to higher allocated costs of the Listing Division, reflecting the relatively higher increase in listing fees from DWs and CBBCs, and increase in marketing expenses and incentives relating to new products. EBITDA increased by 4 per cent year-on-year, while EBITDA margin decreased from 81 per cent to 80 per cent, reflecting the higher percentage increase in transaction-related expenses and operating expenses compared to the percentage increase in revenue.

Business Update

The Hong Kong Derivatives Market showed moderate growth in 2021. The total number of futures and options contracts traded in 2021 was 287,642,407², up 2 per cent on 2020. Stock options were the major contributor to growth, with ADV reaching a record high of 637,246 contracts, a 21 per cent increase compared with 2020. In addition, a number of key futures and options contracts reached new record highs in 2021 (see below).

New Record Highs – Full Year Trading Volume

	2021 Number of contracts	Pre-2021 record Number of contracts
Weekly Hang Seng Index Options	2,078,915	1,191,533 (2020)
Stock Futures	2,382,772	1,141,729 (2020)
Stock Options	158,036,999	131,021,660 (2020)

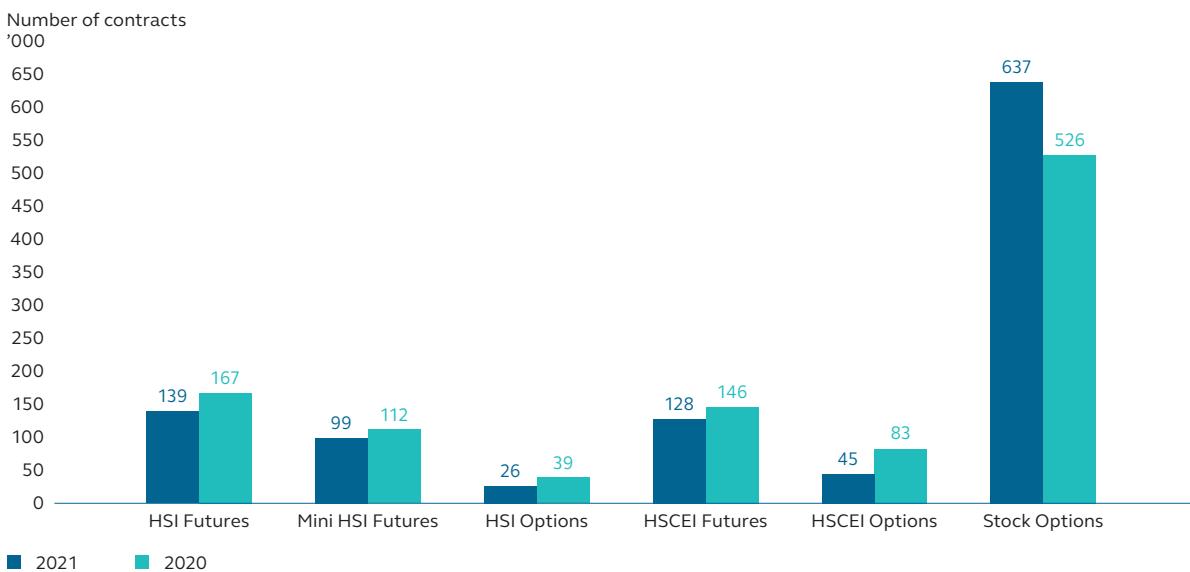
² Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)

New Record Highs – Single-day Trading Volume and Open Interest

	Single-day Trading Volume		Open interest	
	Date (2021)	Number of contracts	Date (2021)	Number of contracts
HSI Options	11 Jan	140,628	N/A	N/A
Mini HSI Futures	N/A	N/A	22 Dec	25,814
Weekly HSI Options	8 Jul	20,628	2 Jul	14,887
HSCEI Futures	27 Jul	545,816	N/A	N/A
HSCEI Options	11 Jan	389,483	N/A	N/A
HSCEI Futures Options ¹	26 Nov	30,988	16 Dec	108,574
Hang Seng TECH Index Futures	28 Dec	89,967	28 Dec	69,944
Hang Seng TECH Index Options ¹	19 Aug	3,329	29 Dec	29,584
MSCI Japan Net Total Return (USD) Index Futures	15 Sep	30,260	17 Sep	17,793
MSCI Thailand Net Total Return (USD) Index Futures	16 Jun	23,200	16 Jun	25,873
MSCI China A 50 Connect (USD) Index Futures ¹	13 Dec	38,610	16 Dec	34,016
Stock Futures	9 Mar	36,944	22 Mar	61,238
Stock Options	N/A	N/A	29 Mar	15,625,280

1 Launched in 2021

Average Daily Volume of Major Futures and Options Contracts



Equity Futures and Options Market Development

The new Hang Seng TECH Index derivative products continued to gain traction with investors during the year. Since launch in November 2020, both trading volume and open interest (OI) of Hang Seng TECH Index Futures continued to grow in 2021 with ADV

reaching 14,718 contracts. Daily trading volume and OI reached record highs of 89,967 contracts and 69,944 contracts respectively on 28 December 2021. Hang Seng TECH Index Options, which was introduced in January 2021, reached a daily record high of 3,329 contracts on 19 August 2021, and OI reached record high of 29,584 contracts on 29 December 2021.

To broaden HKEX's derivatives product offering and complement the existing Hang Seng product suite, two physically settled Options on Futures Contracts (OOF) were introduced, namely the HSI Futures Options and HSCEI Futures Options, in August 2021. ADV of these two contracts since launch was 4,072 contracts and OI reached 90,201 contracts as at the end of December. The introduction of OOF introduced additional new trading and risk management tools for investors.

HKEX launched the first A-share derivatives product in Hong Kong, MSCI China A 50 Connect Index Futures, in October 2021. The contract tracks the performance of top 50 large cap China A-shares using a sector-neutral approach via Stock Connect, and provides international investors with a new and effective risk management tool for their portfolio of Stock Connect eligible A-shares. The product offers better correlation to the market than others and the launch marks a key step forward for HKEX in building as risk management centre in Hong Kong. The launch was very well received by the market with a record high first-month ADV and open interest for index futures. ADV since launch was 11,558 contracts and OI reached 31,710 contracts as of the end of December. In addition, to strengthen HKEX's MSCI derivatives product suite, MSCI China Free (USD) Index Options and MSCI Taiwan (USD) Index Options were introduced in March 2021 while MSCI China (USD) Index Futures and MSCI China Net Total Return (USD) Index Futures were introduced in November 2021.

Market Structure Development

Throughout 2021, HKEX continued to enhance its market microstructure, with the roll-out of a number of key initiatives. In April 2021, both the VCM and Pre-Opening Session (POS) enhancements in the Derivatives Market were introduced. The VCM enhancement allows multiple VCM triggers per trading session helping to better safeguard market integrity; and the POS enhancement introduces a random cut-off mechanism to the pre-opening session and the pre-open allocation session, aiming to deter manipulation of the Calculated Opening Price near the end of the auction process.

In November 2021, a new version of the Pre-Trade Risk Management System (PTRM 2.0) was rolled out to provide investors with additional risk management tools to support the management of their intraday exposures, further improving and safeguarding stability in the Derivatives Market.

On 6 January 2022, HKEX published consultation conclusions for Derivatives Holiday Trading, after receiving positive responses from a broad spectrum of market stakeholders on its consultation paper published in November 2021. The initiative will enable investors to actively manage their derivatives portfolios during Hong Kong holidays, when the markets of their underlying securities holdings may be open. The proposal is part of HKEX's ongoing commitment to enhance Hong Kong's market microstructure to support the needs of global investors.

Fixed Income and Currency (FIC) Development

The RMB currency derivatives market gained strong momentum in 2021, supported by the continued appreciation of the RMB. A total of 1,561,949 USD/CNH Futures and USD/CNH Options contracts were traded in 2021.

In April 2021, HKEX introduced the Mini USD/CNH Futures contract, complementing the existing USD/CNH contract with a smaller contract size of US\$20,000. Since its launch, trading demand for the contract experienced strong momentum, with a total of 792,196 contracts traded for the period to 31 December 2021.

Structured Products

Hong Kong was again the world's largest structured products market, for the 15th consecutive year. In June 2021, HKEX was awarded the "Best Structured Product and Derivatives Exchange" in the "Asia-Pacific Awards 2021" organised by Structured Retail Products³, for the second consecutive year.

The structured products market experienced solid growth in 2021, both in terms of listing and trading activities. The number of new listings reached a record high of 59,574, and ADT of CBBCs, DWs, and warrants was \$20.1 billion, up 8 per cent from 2020, and accounted for 12 per cent of total market turnover.

In August 2021, HKEX welcomed our 16th structured products issuer to the market, bringing in new products and further improving market liquidity.

³ An organisation providing data and market intelligence on structured products

Commodities Segment

Key Market Indicators

	2021	2020	Change
ADV of metals contracts traded on the LME ('000 lots)			
Aluminium	229	237	(3%)
Copper	120	128	(6%)
Zinc	87	90	(3%)
Nickel	65	67	(3%)
Lead	41	42	(2%)
Others	5	7	(29%)
Total chargeable ADV excluding Admin Trades ¹	547	571	(4%)
Chargeable Admin Trades ¹	25	37	(32%)
Other non-chargeable trades	1	2	(50%)
Total ADV	573	610	(6%)

1 Admin Trades are chargeable at lower fee rate of US\$0.04 per contract.

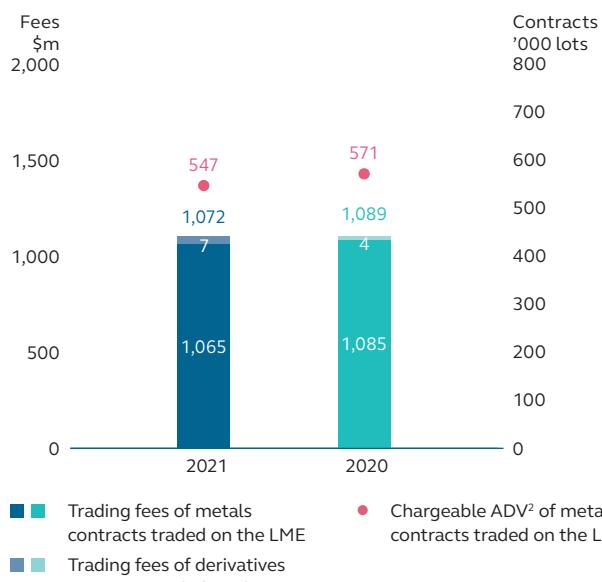
	At 31 Dec 2021	At 31 Dec 2020	Change
Total futures market open interest ('000 lots)	1,702	2,044	(17%)

Analysis of Results

Summary

	2021 \$m	2020 \$m	Change
Trading fees and trading tariffs	1,072	1,089	(2%)
Market data fees	216	196	10%
Other revenue and sundry income:			
Commodities stock levies and warehouse listing fees	78	67	16%
Financial OTC booking fees	53	49	8%
Others	59	53	11%
Total revenue and other income	1,478	1,454	2%
Operating expenses	(695)	(692)	0%
EBITDA	783	762	3%
EBITDA margin	53%	52%	1%

Trading Fees and Trading Tariffs



LME trading fees dropped by \$20 million (2 per cent) due to the 4 per cent decrease in chargeable ADV of metals contracts traded in 2021, partly offset by a higher average fee per contract.

- 1 Includes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts
 2 Chargeable ADV excludes Admin Trades and other non-chargeable trades.

EBITDA

Operating expenses were broadly flat against 2020 despite the appreciation of pound sterling, reflecting strong management of the business and targeted cost controls. The EBITDA margin increased from 52 per cent to 53 per cent due to the increase in market data fees and other revenue.

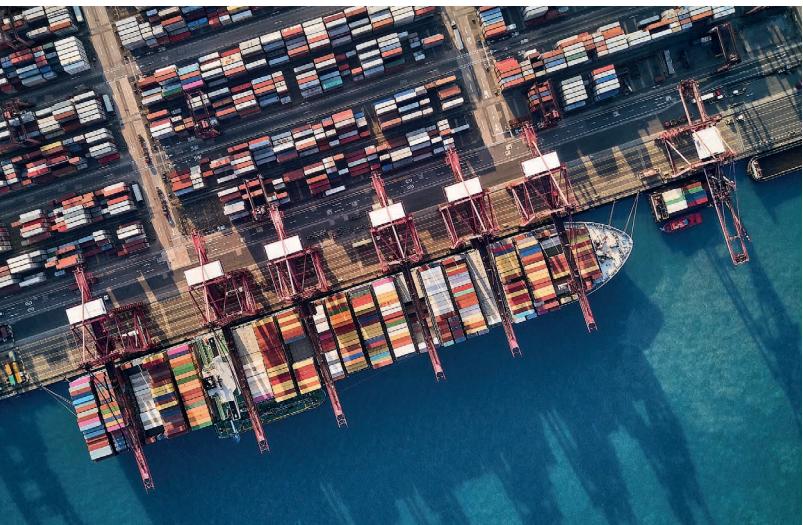
Throughout 2021, the LME has continued to invest in its global physical ecosystem and successfully launched its electronic warranting solution in March 2021, replacing paper warrants. This new model streamlines the lodgement and withdrawal process for warrants, introducing more efficiency and reducing the cost of operations.

Business Update

LME

Building on the groundwork of the principles identified in the 2017 Strategic Pathway, in June 2021 the LME published the outcomes of its discussion paper on market structure. Key outcomes of the paper covered the reopening of the Ring for Official Prices on 6 September 2021, with Closing Prices moving permanently to the LME's electronic trading platform (LMEselect), measures to enhance liquidity, exploring the possibility of a hybrid Contingent Variation Margin/Realised Variation Margin methodology and enhancements to off-warrant stock reporting.

In August 2021, the LME launched LMEpassport, a centralised digital register that stores electronic Certificates of Analysis (CoAs) and sustainability credentials for LME-listed metals. Moving the physical transfer of these documents to a digital service provides efficiencies and digitisation to stakeholders throughout the metals trading and warehousing lifecycle. LMEpassport has seen strong uptake from the market with more than 1 million records created in the system from more than 17,000 CoAs.



LMEpassport also provides a platform for sustainability certifications and disclosures, which allows valuable information relating to the ethical and metallurgical provenance and production of metal to be robustly stored and distributed. The LME launched the first publication of such disclosures in LME Week, with nine producers of LME-listed brands choosing to publicise aspects of their sustainability work. To support this, the LME has developed a sustainability taxonomy, which provides LMEpassport users with a straightforward categorisation framework, making it easier to navigate the wide range of sustainability-related focus areas in the industry.

In October 2021, the LME announced its partnership with Metalshub, a digital procurement platform for raw materials. This partnership focuses on helping promote sustainability, transparency and increased efficiency in the base metals markets. The LME intends to use the Metalshub platform as a price discovery venue for premiums to LME prices, helping further embed LME prices and creating new price indices to facilitate enhanced risk management.

The LME launched six new cash settled futures in July 2021, and four of the contracts (including LME Aluminium Premium Duty Paid European (Fastmarkets MB), LME Steel Scrap CFR Taiwan (Argus), LME Steel Scrap CFR India (Platts) and LME Steel HRC NW Europe (Argus)) have seen active trading.

HKFE Commodities Product Development

In Hong Kong, USD London Metal Mini Futures volumes continued to grow, with a total of 417,545 lots traded in 2021, more than doubling that of 2020. USD London Aluminium Mini Futures and USD London Zinc Mini Futures reached daily record highs of 2,129 lots on 28 September 2021 and 2,231 lots on 18 October 2021 respectively.

LME Asia Metals Seminar 2021 was successfully hosted in May 2021, bringing together more than 1,000 industry leaders and investors to discuss the latest development in the global commodities market and opportunities emerging from Covid-19.

QME

In 2021, QME's trading turnover reached a record high of RMB32.5 billion, more than double the turnover of 2020. The base metals product suite was further expanded during 2021, with the launch of aluminium coil to provide comprehensive services for industry players. QME's alumina benchmark price gained further recognition, after being included in all three major alumina price indices in the Mainland's domestic market. QME's unique position as the nation's most recognised physical commodities exchange gained increasing support from regulatory authorities and the market, as China's Vice Premier Han Zheng paid a visit to QME in September for research on the subject of construction of a physical commodities trading platform.

Post Trade Segment

Key Market Indicators

	2021	2020	Change
ADT on the Stock Exchange (\$bn)	166.7 ³	129.5	29%
Average daily number of Stock Exchange trades ('000)	2,365 ³	1,962	21%
Average value per Stock Exchange trade (\$)	70,506	65,984	7%
Average daily value of Settlement Instructions (SIs) for Stock Exchange trades (\$bn)	403.2	346.1	16%
Average daily number of SIs for Stock Exchange trades ('000)	127	115	10%
Average value per SI for Stock Exchange trades (\$)	3,171,204	3,011,015	5%
ADT of Northbound Trading of Stock Connect ¹ (RMBbn)	120.1 ³	91.3	32%
Average daily value of SIs for Northbound Trading of Stock Connect (RMBbn)	32.5 ³	21.1	54%
Chargeable ADV ² of metals contracts traded on the LME ('000 lots)	547	571	(4%)

1 Includes buy and sell trades under Stock Connect

2 Chargeable ADV excludes Admin Trades (which are chargeable at a lower clearing fee rate of US\$0.02 per contract) and other non-chargeable trades.

3 New record high in 2021

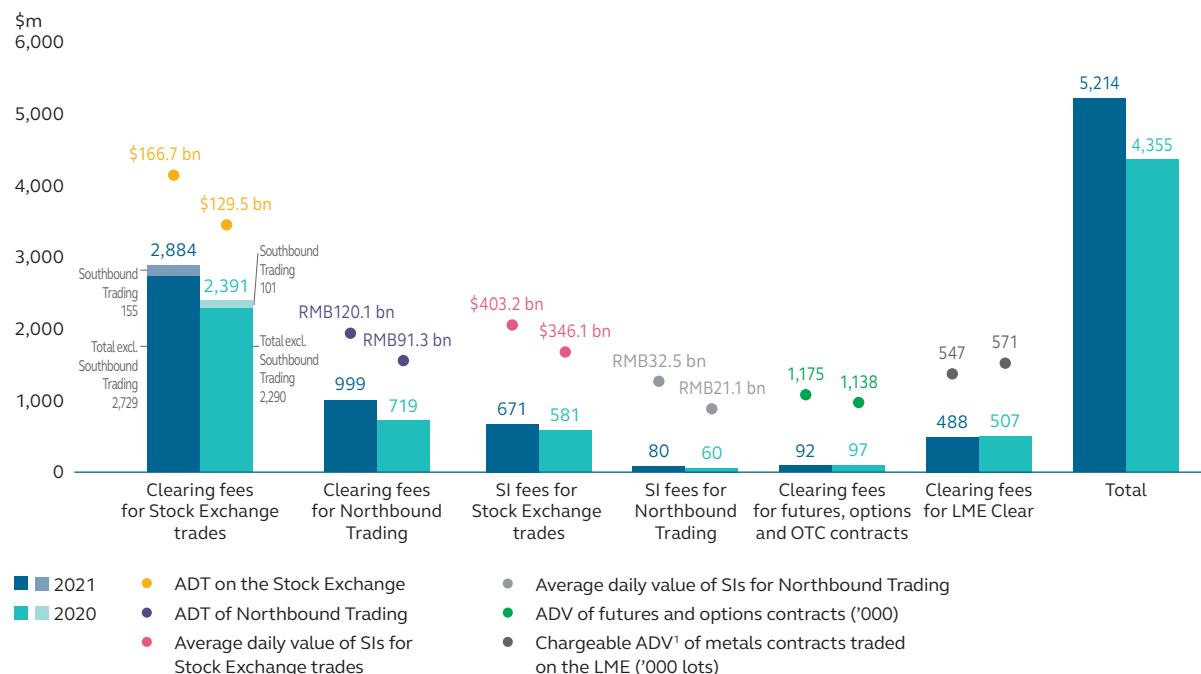
Analysis of Results

Summary

	2021 \$m	2020 \$m	Change
Clearing and settlement fees	5,214	4,355	20%
Depository, custody and nominee services fees	1,543	1,264	22%
Trading fees and trading tariffs – allocated from Equity and Financial Derivatives segment	364	389	(6%)
Other revenue and sundry income	278	243	14%
	7,399	6,251	18%
Net investment income	596	1,386	(57%)
Total revenue and other income	7,995	7,637	5%
Less: Transaction-related expenses	(26)	(25)	4%
Total revenue and other income less transaction-related expenses	7,969	7,612	5%
Operating expenses	(844)	(860)	(2%)
EBITDA	7,125	6,752	6%
EBITDA margin ¹	89%	89%	–

1 EBITDA margin is calculated based on EBITDA divided by total revenue and other income less transaction-related expenses.

Clearing and Settlement Fees



¹ Chargeable ADV excludes Admin Trades (which are chargeable at a lower clearing fee rate of US\$0.02 per contract) and other non-chargeable trades.

Clearing and settlement fees for the Cash Market (i.e., including Stock Exchange trades and Northbound Trading) increased by 25 per cent to \$3,883 million in 2021 (2020: \$3,110 million) and total fees for SIs increased by 17 per cent to \$751 million in 2021 (2020: \$641 million). The increases were primarily driven by a higher number of transactions, and record fees from Stock Connect Northbound Trading of \$1,079 million (2020: \$779 million).

Clearing fees for LME Clear decreased by 4 per cent compared with 2020, in line with the decrease in chargeable ADV of metals contracts traded on the LME.

Depository, Custody and Nominee Services Fees

Depository, custody and nominee services fees do not directly vary with changes in market activity. The fees rose by \$279 million or 22 per cent to \$1,543 million in 2021 (2020: \$1,264 million), mainly due to higher Stock Connect portfolio fees from increase in portfolio values, higher scrip fees from more companies having their book close in 2021, and increase in stock withdrawal fees.

Trading Fees and Trading Tariffs

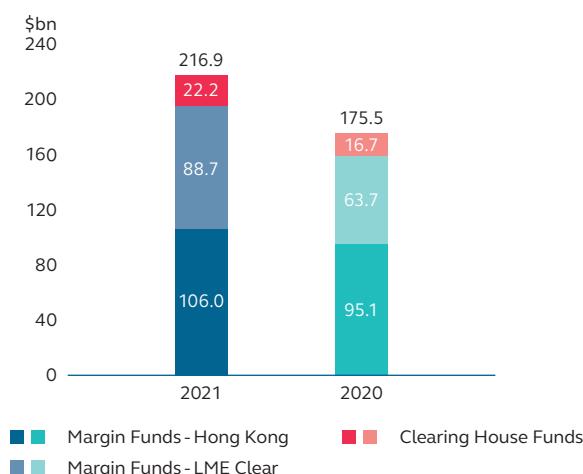
Trading fees and trading tariffs allocated from the Equity and Financial Derivatives segment for clearing derivatives products dropped by 6 per cent, due to a 12 per cent decrease in ADV of derivatives contracts traded on the Futures Exchange, partly offset by a 21 per cent increase in ADV of stock options traded (see commentary in the Equity and Financial Derivatives segment).

Other Revenue and Sundry Income

Other revenue increased by \$35 million, mainly due to higher interest shortfall collected from LME Clear CPs on cash collateral, as USD investment returns fell below the benchmark interest rate stipulated in the rules of LME Clear, but was partly offset by a drop in accommodation income received from HKCC CPs for placing less Euro and Japanese Yen as collateral.

Net Investment Income

Average fund size



The increase in the average size of Margin Funds during the year was attributable to higher average Margin Fund size of LME Clear due to higher margin requirements per contract reflecting heightened volatility, and higher SEOCH Margin Fund size due to increase in open interests and margin requirements per contract.

The increase in the average size of Clearing House Funds during the year was attributable to higher average fund sizes of LME Clear and HKSCC due to changes in risk exposures.

The analysis of net investment income is as follows:

	2021			2020		
	Margin Funds \$m	Clearing House Funds \$m	Total \$m	Margin Funds \$m	Clearing House Funds \$m	Total \$m
Net investment income from:						
- Cash and bank deposits	538	16	554	1,255	78	1,333
- Debt securities	37	1	38	56	-	56
- Exchange gains/(losses)	4	-	4	(3)	-	(3)
Total net investment income	579	17	596	1,308	78	1,386
Net investment return	0.30%	0.08%	0.27%	0.82%	0.47%	0.79%

Net investment income dropped by \$790 million mainly due to lower investment returns as a result of the low interest rate environment, partly offset by higher average Margin Fund and Clearing House Fund sizes.

EBITDA

Operating expenses decreased by \$16 million (2 per cent), reflecting lower staff costs, due to lower headcount. EBITDA margin remained stable at 89 per cent.

Business Update

Cash and Derivatives Clearing

Trading activities remained strong in 2021, with the average daily number of Stock Exchange trades and SIs settled by CCASS increasing by 21 per cent and 10 per cent respectively, compared with 2020.

The average daily value of Northbound SIs increased by 54 per cent in 2021 compared with 2020. In addition, Northbound and Southbound portfolio values of Stock Connect at 31 December 2021 increased by 18 per cent and 7 per cent to RMB2,760 billion (31 December 2020: RMB2,339 billion) and \$2,250 billion (31 December 2020: \$2,096 billion) respectively.

In July 2021, HKEX published the conclusions to its 2020 Concept Paper on its new platform, FINI, a comprehensive solution for the modernisation and shortening of Hong Kong's IPO settlement cycle. Since then, a series of market readiness campaigns have been rolled out for HKSCC participants, Designated Banks and Share Registrars to provide further implementation details of the new e-IPO pre-funding model, optional use of Broker-to-Client Assigned Number (BCAN) and paperless preferential offerings. The FINI platform is in development with market rehearsals scheduled to be held throughout 2022.

HKEX plans to launch Var Platform, a new risk management platform in 2022 which adopts Value-at-Risk models to replace the current flat-rate methodology to calculate initial margin and Default Fund of HKSCC CPs. Familiarisation programme of VaR Platform commenced in 2021, where an online margin simulator as well as margin and default fund contribution requirement under the new risk models are made available to CPs to enhance their understanding on the changes brought by the new platform.

OTC Clear

OTC Clear's USD/CNH Cross Currency Swaps (CCS) clearing volume remained strong in 2021 and reached a record high, with US\$52.3 billion notional cleared, up 26 per cent compared with 2020. OTC Clear's USD Interest Rate Swaps clearing volume also continued to grow and was up 8 per cent from the previous record of US\$18.3 billion notional cleared in 2020.

In May 2021, OTC Clear launched clearing services for CCS referencing Secured Overnight Financing Rate (SOFR) and Hong Kong Dollar Overnight Index Average (HONIA) to provide a full suite of Risk-Free Rate (RFR) based clearing products, supporting the market adoption of new risk-free reference rate in Hong Kong before cessation of LIBOR. In addition, OTC Clear continues to expand its membership base through onboarding new direct members and clients via the Sponsored Settlement Membership model.



Technology Segment

Analysis of Results

Summary

	2021 \$m	2020 \$m	Change
Network, terminal user, data line and software sub-license fees	720	610	18%
Hosting services fees	257	230	12%
BayConnect sales and service revenue and other income	73	70	4%
Total revenue and other income	1,050	910	15%
Operating expenses	(305)	(304)	0%
EBITDA	745	606	23%
EBITDA margin	71%	67%	4%

Network, Terminal User, Data Line and Software Sub-license Fees

Network fees rose by \$110 million (18 per cent) due to increased usage of the Orion Central Gateway and China Connect Central Gateway by EPs, and higher fees from the sale of new throttles.

Hosting Services Fees

Hosting services fees increased by 12 per cent due to organic growth from both new customer subscriptions and increased usage by existing customers, with over 20 racks newly subscribed in 2021. As at 31 December 2021, 102 EPs were using HKEX's Hosting Services. These EPs generated, in aggregate, approximately 58 per cent of the Cash Market turnover and 67 per cent of the trading volume of the Derivatives Market in 2021.

EBITDA

Operating expenses were broadly flat against 2020, reflecting good cost discipline. As a result, EBITDA margin rose from 67 per cent in 2020 to 71 per cent in 2021 and EBITDA increased by 23 per cent year-on-year.

Business Update

Trading and Clearing Systems

During 2021, despite market volatility and challenges posed by the pandemic on work arrangements, all of HKEX's major trading, clearing, settlement and market data dissemination systems for the Cash, Derivatives and Commodities Markets continued to perform robustly.

The upgrade of the OTC Clearing and Settlement System (OCASS) was completed in April 2021. This further enhanced system performance, flexibility and stability, and at the same time brought significant functional and technical improvements (in particular the new risk engine, low-latency technical architecture and market data catch-up processes) to both OTC Clear and its Clearing Members.

HKEX improved the system infrastructure resilience of the Hong Kong Futures Automated Trading System (HKATS), by adding two new Matching Engines in August 2021, and by reallocating products of a similar nature into the new Matching Engines to facilitate the introduction of new product initiatives.

To refresh the technology of the securities market access platform, both software and hardware of Orion Central Gateway – Securities Market (OCG-C) were upgraded in September 2021. The new OCG-C adopted the same technology stack and fully integrates with Orion Trading Platform – Securities Market (OTP-C), providing greater flexibility and stability, to implement new functionalities in the future.

The project for hardware obsolescence replacement for various trading and clearing systems, together with the relocation of one of HKEX secondary data centre sites, was successfully completed in December 2021.

Hosting Services

To meet customer demands, Hosting Services in 2022, will offer high power density racks to enrich the hosting product portfolio and to fit-out the new data hall. The new high power density racks and the new data hall will be ready for service in Q2 2022 and Q4 2022 respectively.

Innovation Lab

The HKEX Innovation Lab continued its mission to explore, incubate and apply new technologies to modernise HKEX's business and drive technological enhancements for Hong Kong's markets.

In 2021, the Innovation Lab played a key role in the design and architecture of the FINI platform (refer to details in the Post Trade segment). The Innovation Lab also concluded its three-year Robotic Process Automation (RPA) programme, which has streamlined more than 100 operational processes across HKEX's businesses. This programme was recognised by Blue Prism, with its Asia Pacific Pinnacle Award for implementation excellence in June. Further investments were also made throughout the year in applications of big data and artificial intelligence, including new partnerships with local startups Gekko Lab and DeepTranslate.

Corporate Items

"Corporate Items" is not a business segment but comprises central income (including net investment income of the Corporate Funds and HKEX Foundation donation income), the 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 segments.

Summary

	2021 \$m	2020 \$m	Change
Net investment income	708	842	(16%)
HKEX Foundation donation income	139	106	31%
Others	13	9	44%
Total revenue and other income	860	957	(10%)
Operating expenses:			
– HKEX Foundation charitable donations	(105)	(112)	(6%)
– Others	(1,301)	(1,269)	3%
EBITDA	(546)	(424)	29%

Net Investment Income

Average fund size



Average fund size of Corporate Funds increased principally due to cash generated and retained by the business after payment of cash dividends and the increase in fair values of collective investment schemes.

The analysis of net investment income is as follows:

	Corporate Funds	
	2021 \$m	2020 \$m
Net investment income from:		
– Collective investment schemes	364	487
– Cash and bank deposits	172	376
– Equity securities ¹	121	–
– Debt securities	2	8
– Exchange gains/(losses)	49	(29)
Total net investment income	708	842
Net investment return	2.06%	2.75%

1 Investments in minority stakes of unlisted companies

Net investment income of Corporate Funds decreased by \$134 million compared with 2020 due to lower interest income reflecting the low interest rate environment and lower fair value gains on collective investment schemes, partly offset by gains on valuation of long-term equity investments.

The fair value gains on collective investment schemes came from funds invested in the following strategies:

Strategy	2021 \$m	2020 \$m
Public equities	222	79
Diversifiers ¹	113	278
Government Bonds and Mortgage-backed Securities	29	130
Total fair value gains	364	487

1 Diversifiers comprise Absolute Return and Multi-Sector Fixed Income asset classes.

EBITDA

Excluding HKEX Foundation charitable donations, operating expenses increased by 3 per cent against 2020, due to higher IT maintenance costs on upgraded systems, and higher professional fees for strategic projects.

EBITDA decreased by \$122 million mainly due to the decrease in total revenue and other income.

Business Update

Equity Investment

In 2021, HKEX completed a minority stake investment in the newly-established Guangzhou Futures Exchange (GFE) for a total consideration of RMB210 million, the first investment in a domestic futures exchange by a non-Mainland Chinese investor. Anchored in the Greater Bay Area, GFE was

launched in April, and aims to become an innovative and market-oriented exchange with international influence, focusing on serving the real economy and green development initiatives. This investment provides HKEX with the opportunity to help build and promote the development of China's derivatives market, alongside our Mainland partners and customers. In August 2021, HKEX signed a Memorandum of Understanding with GFE for strategic cooperation, supporting China's pledge for peak carbon emissions by 2030 and carbon neutrality by 2060.

Corporate Social Responsibility

Throughout 2021, HKEX continued to play an active role in shaping the long-term sustainability of global financial markets. HKEX, as a corporate, regulator and market operator, was committed to promoting good corporate governance and ESG stewardship

through the ongoing publication of training and guidance materials, industry knowledge sharing and leadership on best practices. HKEX was pleased to launch the ESG Academy in 2021 and associated website in November 2021, a new centralised portal providing ESG guidance and educational materials; the ESG Academy webinar series aims to deepen the understanding of ESG-related disclosure and stewardship among listed companies.

To reinforce its commitment to tackling climate change, the Group continued to make efforts in facilitating the transition to a net-zero global economy across its markets, business and operations. During 2021 the Group focused on the ongoing development of sustainable and green finance in the region through HKEX's Sustainable and Green Exchange, STAGE, and sought to enhance sustainability transparency for the LME's traded metals via its newly launched digital register, LMEpassport. To provide more practical guidance for listed companies in addressing climate change, HKEX published two guides to assist listed companies in preparing climate change disclosures that are aligned with the Task Force on Climate-Related Financial Disclosures (TCFD), and sharing the essential steps for businesses to develop a pathway to net-zero. HKEX as a corporate joined the Glasgow Financial Alliance for Net Zero and made a pledge to support global efforts to meet the goals of the Paris Agreement.

Other key CSR and sustainability initiatives implemented throughout 2021 included a group-wide "Go Green with HKEX" campaign promoting environmental stewardship across our markets and

operations; the launch of HKEX's new Diversity Networks which seek to foster a healthy, diverse and inclusive workplace with a focus on Women, Families, Abilities and the LGBT+ community; a staff "Big Day Out" programme supporting partner charities; and the rollout of an artificial intelligence (AI)-powered online learning platform, iLearn, which enables tailored learning resources for our employees. Further information on HKEX's CSR activities can be found in HKEX's 2021 CSR Report.

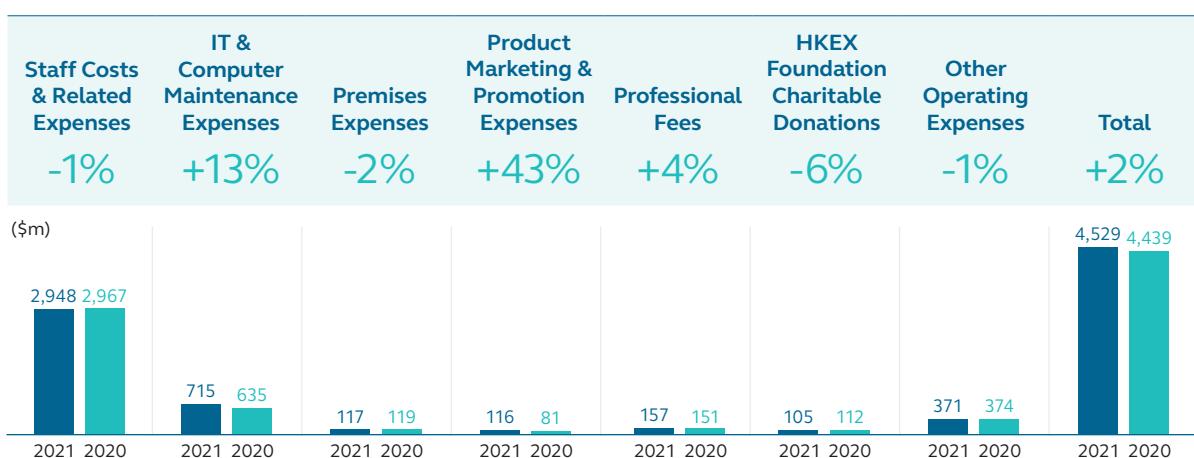
HKEX Foundation

HKEX Foundation continued to act as HKEX's dedicated charitable channel facilitating and advocating for meaningful change through programmes that build better lives and a better community. Through the Foundation, HKEX seeks to deepen its relationship with its communities, and promote a shared prosperous sustainable future. During the year, HKEX Foundation funded a wide range of projects and charities focusing on financial literacy, diversity and inclusion, poverty relief and environmental sustainability. HKEX also strengthened its partnerships with local charitable bodies through the HKEX Charity Partnership Programme and the newly launched HKEX Impact Funding Scheme.

In 2021, HKEX Foundation raised \$139 million principally from HKEX's Stock Code for Charity Scheme, and made a total of \$105 million charitable donations to various causes in the community. As at 31 December 2021, the Foundation had a cumulative surplus of \$28 million for future donations and expenditures.

Expenses, Other Costs and Taxation

Operating Expenses



Staff costs and related expenses decreased by \$19 million (1 per cent) mainly due to a decrease in headcount during the year, and special gratuity payments paid to the then HKEX's Chief Executive in 2020.

IT and computer maintenance expenses consumed by the Group, excluding costs of services and goods directly consumed by participants of \$81 million (2020: \$84 million), were \$634 million (2020: \$551 million). The increase was mainly attributable to higher maintenance expenses for new IT systems, upgraded networks and higher IT costs for cloud-based IT systems.

Product marketing and promotion expenses increased by \$35 million (43 per cent), due to higher marketing expenses and cash incentives relating to newly introduced derivatives products.

Depreciation and Amortisation

	2021 \$m	2020 \$m	Change
Depreciation and amortisation	1,354	1,197	13%

Depreciation and amortisation increased by \$157 million (13 per cent), attributable to an increase in depreciation and amortisation of new IT systems and upgrades completed in 2H 2020 and 2021.

Finance Costs

	2021 \$m	2020 \$m	Change
Finance costs	154	181	(15%)

Finance costs decreased due to lower negative interest charges, as smaller amounts of Euro and Japanese Yen deposits were lodged by CPs as collateral.

Taxation

	2021 \$m	2020 \$m	Change
Taxation	2,343	1,845	27%

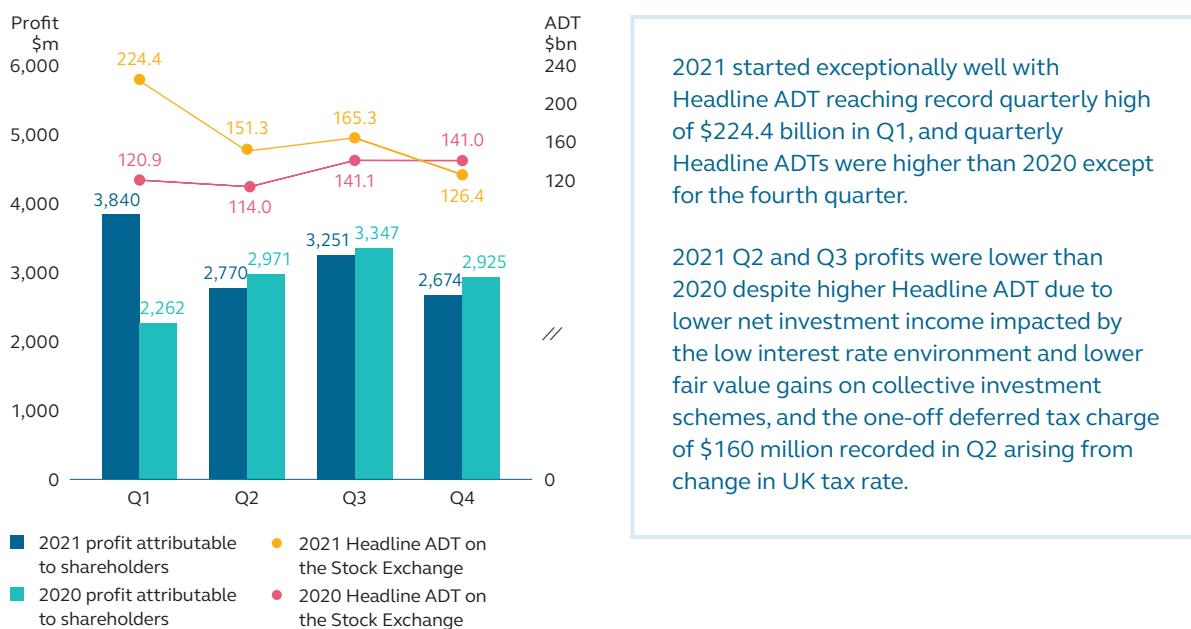
Taxation increased due to higher profit before taxation in 2021, and a one-off deferred tax charge of \$160 million on acquired LME intangible assets arising from approval of the change of statutory UK tax rate in 2021 from 19 per cent to 25 per cent effective from April 2023.

Financial Review

Analysis of Results by Quarter Quarterly Results

	Q1 2021 \$m	Q2 2021 \$m	Q3 2021 \$m	Q4 2021 \$m	Total 2021 \$m
Revenue and other income	5,956	4,953	5,309	4,732	20,950
Less: Transaction-related expenses	(45)	(36)	(37)	(34)	(152)
Revenue and other income less transaction-related expenses	5,911	4,917	5,272	4,698	20,798
Operating expenses	(1,102)	(1,119)	(1,108)	(1,200)	(4,529)
EBITDA	4,809	3,798	4,164	3,498	16,269
Depreciation and amortisation	(327)	(335)	(344)	(348)	(1,354)
Operating profit	4,482	3,463	3,820	3,150	14,915
Finance costs	(39)	(38)	(39)	(38)	(154)
Share of profits less losses of joint ventures	16	22	20	22	80
Profit before taxation	4,459	3,447	3,801	3,134	14,841
Taxation	(632)	(685)	(563)	(463)	(2,343)
Profit for period/year	3,827	2,762	3,238	2,671	12,498
Loss attributable to non-controlling interests	13	8	13	3	37
Profit attributable to shareholders	3,840	2,770	3,251	2,674	12,535
	Q1 2020 \$m	Q2 2020 \$m	Q3 2020 \$m	Q4 2020 \$m	Total 2020 \$m
Revenue and other income	4,009	4,773	5,309	5,099	19,190
Profit attributable to shareholders	2,262	2,971	3,347	2,925	11,505

Analysis of Quarterly Results



Changes to Key Items in Consolidated Statement of Financial Position

(A) Significant Financial Assets and Financial Liabilities by Funds

	At 31 Dec 2021 \$m	At 31 Dec 2020 \$m	Change
Financial assets			
Cash and cash equivalents	181,361	157,996	15%
Financial assets measured at fair value through profit or loss	100,861	100,597	0%
Financial assets measured at fair value through other comprehensive income	9,755	7,942	23%
Financial assets measured at amortised cost	51,828	62,688	(17%)
Total	343,805	329,223	4%

The Group's financial assets comprised financial assets of Corporate Funds, Margin Funds, Clearing House Funds, base, ferrous, and precious metals derivatives contracts, and cash prepayments and collateral for A-shares traded under Stock Connect, as follows:

	At 31 Dec 2021 \$m	At 31 Dec 2020 \$m	Change
Financial assets			
Corporate Funds ¹	33,794	33,747	0%
Margin Funds ²	191,240	175,129	9%
Clearing House Funds	19,975	21,251	(6%)
Base, ferrous, and precious metals derivatives contracts cleared through LME Clear	91,424	92,884	(2%)
Cash prepayments and collateral for A-shares	7,372	6,212	19%
Total	343,805	329,223	4%

1 Includes \$1,267 million (31 December 2020: \$1,241 million) solely used for supporting contributions to default funds and default fund credits for HKSCC Guarantee Fund, SEOCH Reserve Fund and HKCC Reserve Fund

2 Excludes Settlement Reserve Fund and Settlement Guarantee Fund paid to ChinaClear and margin receivable from CPs of \$12,764 million (31 December 2020: \$11,879 million), which are included in accounts receivable, prepayments and other deposits

	At 31 Dec 2021 \$m	At 31 Dec 2020 \$m	Change
Financial liabilities			
Base, ferrous, and precious metals derivatives contracts cleared through LME Clear	91,424	92,884	(2%)
Margin deposits, Mainland security and settlement deposits, and cash collateral from CPs	203,536	187,008	9%
CPs' contributions to Clearing House Funds	19,182	20,439	(6%)
Total	314,142	300,331	5%

The increase in financial assets and financial liabilities of Margin Funds at 31 December 2021 compared with 31 December 2020 was mainly attributable to increased contributions from members of LME Clear and SEOCH CPs due to higher margin requirements.

Financial assets and financial liabilities of Clearing House Funds at 31 December 2021 were 6 per cent lower than the balance at 31 December 2020, as lower contributions required from members of LME Clear and HKSCC CPs were partly offset by higher contributions from HKCC and SEOCH CPs, in response to changes in risk exposures.

Financial assets of Corporate Funds at 31 December 2021 were broadly flat compared with 31 December 2020, as retention of cash generated by the business over the past year and the increase in fair value of collective investment scheme investments were offset by the cash paid for the 2020 second interim dividend and 2021 first interim dividend.

A portion of the Corporate Funds is invested in collective investment schemes which are designed to enhance returns and mitigate portfolio volatility and asset class concentration risk. Further details of investments in collective investment schemes are included in note 53(a)(iv) to the Consolidated Financial Statements of this Annual Report.

(B) Fixed Assets, Intangible Assets, Right-of-use Assets and Capital Commitments

The total net book value of the Group's fixed assets and intangible assets rose by \$183 million from \$20,394 million at 31 December 2020 to \$20,577 million at 31 December 2021. The increase was mainly due to additions of assets¹ of \$1,127 million and exchange differences arising mainly from appreciation of USD of \$100 million relating to translation of fixed and intangible assets of the LME Group, but was partly offset by depreciation and amortisation of \$1,044 million. Additions during the year were mainly related to the

development and upgrade of various trading and clearing systems (notably trading systems for Commodities Market and software for cash clearing systems), and the setup of a new secondary data centre.

In accordance with HKFRS 16, the Group's operating leases are recognised as right-of-use assets. At 31 December 2021, the carrying amounts of these assets amounted to \$1,896 million (31 December 2020: \$2,193 million), and were mainly related to leases of office premises.

The Group's capital commitments¹ at 31 December 2021, including those authorised by the Board but not yet contracted for, amounted to \$815 million (31 December 2020: \$890 million). They were mainly related to the development and upgrade of IT systems including the cash, derivatives and commodities trading and clearing systems, and the development of a new data hall for hosting services.

(C) Significant Investments Held, Material Acquisitions and Disposals of Subsidiaries, and Future Plans for Material Investments or Capital Assets

In 2021, HKEX completed a minority stake investment in the newly established Guangzhou Futures Exchange Co. Ltd. (GFE) for a total consideration of RMB210 million.

HKEX also made a further capital injection of \$100 million in Fusion Bank Limited in 2021, bringing the total investment in the bank to \$200 million.

Save for those disclosed in this Annual Report, there were no other significant investments held, nor were there material acquisitions or disposals of subsidiaries during the year under review. Apart from those disclosed in this Annual Report, there were no material investments or additions of capital assets authorised by the Board at the date of this Annual Report.

¹ Exclude right-of-use assets recognised under HKFRS 16: Leases

(D) Equity attributable to Shareholders and Return on Equity

Equity attributable to shareholders increased by \$708 million to \$49,626 million at 31 December 2021 (31 December 2020: \$48,918 million). This arose principally from the increase in retained earnings of \$959 million mainly attributable to profit for the year less dividends declared or paid, the increase in reserve arising from share-based compensation expenses of \$324 million, and the exchange gains arising from translation of foreign subsidiaries of \$101 million, but was partly offset by shares purchased for Share Award Scheme of \$681 million.

Equity attributable to Shareholders and Return on Equity



1 Based on equity attributable to shareholders at year-end

Liquidity, Financial Resources and Gearing

Working capital decreased by \$254 million to \$29,105 million at 31 December 2021 (31 December 2020: \$29,359 million). The decrease was mainly due to payment of 2020 second interim dividend and 2021 first interim dividend of \$11,580 million, net increase in non-current assets of \$822 million, partly offset by profit attributable to shareholders of \$12,535 million.

At 31 December 2021, the Group had the following outstanding borrowings:

	At 31 Dec 2021		At 31 Dec 2020	
	Carrying value \$m	Maturity	Carrying value \$m	Maturity
Written put options to non-controlling interests	426	N/A	423	N/A

At 31 December 2021, the Group had a gross gearing ratio (i.e., gross debt divided by adjusted capital) of 1 per cent (31 December 2020: 1 per cent), and a net gearing ratio (i.e., net debt divided by adjusted capital) of zero per cent (31 December 2020: zero per cent). For this purpose, gross debt is defined as total borrowings (excluding lease liabilities) and net debt² is defined as gross debt less cash and cash equivalents of Corporate Funds (excluding those reserved for supporting contributions to default funds and default fund credits for Clearing House Funds), and adjusted capital as all components of equity attributable to shareholders of HKEX other than designated reserves.

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 has also put in place foreign exchange facilities for its daily clearing operations and for the RMB Trading Support Facility to support the trading of RMB stocks listed on the Stock Exchange.

At 31 December 2021, the total amount of the 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 (31 December 2020: RMB13,000 million) for settling payment obligations to ChinaClear should there be events that disrupt normal settlement arrangements for Stock Connect.

At 31 December 2021, 83 per cent (31 December 2020: 82 per cent) of the Group's cash and cash equivalents were denominated in HKD or USD.

Pledges of Assets

Details of pledges of assets are included in note 51 to the Consolidated Financial Statements of this Annual Report.

Exposure to Fluctuations in Exchange Rates and Related Hedges

Details of the Group's exposure to fluctuations in exchange rates and related hedges are included in note 53(a)(i) – Foreign exchange risk to the Consolidated Financial Statements of this Annual Report.

Contingent Liabilities

Details of contingent liabilities are included in note 49 to the Consolidated Financial Statements of this Annual Report.

² Net debt is zero when the amount of cash and cash equivalents of Corporate Funds (excluding those reserved for supporting contributions to default funds and default fund credits for Clearing House Funds) is higher than gross debt

10-Year Financial Statistics

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Key Market Statistics										
Headline ADT traded on the Stock Exchange (\$bn)	166.7	129.5	87.2	107.4	88.2	66.9	105.6	69.5	62.6	53.9
ADV of derivatives contracts traded on the Futures Exchange ('000 contracts)	538	612	630	687	443	465	394	275	284	260
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	637	526	442	517	428	298	374	302	249	228
Chargeable ADV of metals contracts traded on LME* ('000 lots)	547	571	617	627	602	618	670	700	676	634
* HKEX completed the acquisition of the LME Group on 6 December 2012.										
Consolidated Income Statement										
({\$m})										
Revenue and other income	20,950	19,190	16,311	15,867	13,180	11,116	13,375	9,849	8,723	7,211
Less: Transaction-related expenses	(152)	(110)	(51)	(54)	(40)	(39)	(36)	(27)	(27)	(24)
Revenue and other income less transaction-related expenses	20,798	19,080	16,260	15,813	13,140	11,077	13,339	9,822	8,696	7,187
Operating expenses	(4,529)	(4,439)	(3,997)	(4,056)	(3,526)	(3,416)	(3,254)	(2,931)	(2,750)	(1,933)
EBITDA	16,269	14,641	12,263	11,757	9,614	7,661	10,085	6,891	5,946	5,254
Depreciation and amortisation	(1,354)	(1,197)	(1,044)	(762)	(858)	(771)	(684)	(647)	(507)	(158)
Costs relating to acquisition of LME Group	-	-	-	-	-	-	-	-	-	(138)
Costs relating to proposed combination with LSEG	-	-	(123)	-	-	-	-	-	-	-
Finance costs	(154)	(181)	(177)	(114)	(134)	(82)	(114)	(196)	(183)	(55)
Fair value loss on derivative component of convertible bonds	-	-	-	-	-	-	-	-	-	(55)
Share of profits/(losses) of joint ventures	80	69	32	2	(12)	(9)	(9)	(10)	(10)	(3)
Profit before taxation	14,841	13,332	10,951	10,883	8,610	6,799	9,278	6,038	5,246	4,845
Taxation	(2,343)	(1,845)	(1,561)	(1,592)	(1,255)	(1,058)	(1,347)	(900)	(700)	(761)
Profit for the year	12,498	11,487	9,390	9,291	7,355	5,741	7,931	5,138	4,546	4,084
Loss attributable to non-controlling interests	37	18	1	21	49	28	25	27	6	-
Profit attributable to shareholders	12,535	11,505	9,391	9,312	7,404	5,769	7,956	5,165	4,552	4,084
Dividend per share (\$)	8.87	8.17	6.71	6.71	5.40	4.25	5.95	3.98	3.54	3.31
Basic earnings per share (\$)	9.91	9.11	7.49	7.50	6.03	4.76	6.70	4.44	3.95	3.75
Consolidated Statement of Financial Position										
({\$m})										
Non-current assets	24,235	23,413	23,856	20,165	19,586	19,508	19,622	19,672	20,797	20,260
Current assets	375,069	375,693	255,195	235,783	298,018	227,810	218,571	232,188	65,146	60,577
Current liabilities	(345,964)	(346,334)	(230,937)	(213,581)	(278,566)	(210,688)	(203,976)	(222,564)	(57,538)	(55,337)
Net current assets	29,105	29,359	24,258	22,202	19,452	17,122	14,595	9,624	7,608	5,240
Total assets less current liabilities	53,340	52,772	48,114	42,367	39,038	36,630	34,217	29,296	28,405	25,500
Non-current liabilities	(3,430)	(3,536)	(3,613)	(1,464)	(1,663)	(4,246)	(4,255)	(7,937)	(7,887)	(7,736)
Total equity	49,910	49,236	44,501	40,903	37,375	32,384	29,962	21,359	20,518	17,764
Non-controlling interests	(284)	(318)	(328)	(174)	(102)	(118)	(146)	(86)	(113)	-
Equity attributable to HKEX's shareholders	49,626	48,918	44,173	40,729	37,273	32,266	29,816	21,273	20,405	17,764
Equity per share ¹ (\$)	39.22	38.64	35.12	32.65	30.14	26.42	24.74	18.26	17.59	15.48
Financial Ratios										
Dividend payout ratio	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Cost to income ratio ²	22%	23%	25%	26%	27%	31%	24%	30%	32%	27%
Pre-tax profit margin ²	71%	70%	67%	69%	66%	61%	70%	62%	60%	67%
Return on equity ³	25%	24%	21%	23%	20%	18%	27%	24%	22%	23%
Current ratio	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1

Notes:

1 Based on number of shares issued and fully paid less number of shares held for the Share Award Scheme at 31 December

2 For the purpose of computing cost (i.e., operating expenses) to income ratio and pre-tax profit margin, income includes revenue and other income less transaction-related expenses and share of profits/losses of joint ventures.

3 Based on equity attributable to HKEX's shareholders at year-end



A nighttime photograph showing the exterior of a building. In the foreground, there are several wide, light-colored stone or concrete steps leading up to the entrance. The steps are illuminated by bright, glowing lights embedded in the treads. Metal railings with small, glowing circular lights attached to them line the sides of the steps. The building's facade is dark and textured. A few windows are visible, with some light coming through. The overall atmosphere is mysterious and architectural.

Governance

Corporate Governance Report

The Board is committed to high standards of corporate governance and recognises that good governance is vital for the long-term success and sustainability of HKEX businesses.

HKEX's key corporate governance practices and activities during the year ended 31 December 2021 are highlighted in this report and the Committee Reports, as well as in the 2021 CSR Report which will be published on the HKEX Group website together with this Annual Report. All the Committee Reports form part of this report.

More details about HKEX's corporate governance structure, principles and practices are available on the HKEX Group website [CG](#).

Governance Highlights

Board structure

- 12 of the 13 Directors are independent
- Members of all governance related committees* are INEDs
- 4 of the 13 Directors are female
- Set a goal to achieve gender parity on the Board
- Diverse range of expertise and experience
- Periodic Board refreshment

Committee Reports

Nomination and Governance Committee Report:
pages 93 to 96

Audit Committee Report: pages 97 to 99

Risk Committee Report: pages 100 to 104

Remuneration Committee Report: pages 105 to 111

CSR Committee Report: pages 112 and 113

HKEX Group website (www.hkexgroup.com)

About HKEX (Our Structure) section [OS](#)

Investor Relations section [IR](#)

Corporate Governance section [CG](#)

Corporate Social Responsibility section [CSR](#)

Board and governance process

- Establishment of the Listing Operation Governance Committee to enhance oversight of the operation and management of the Listing Division
- Establishment of the Mainland China Advisory Group to advise the Board on the development of China's financial markets and economy
- International Advisory Council provides the Board with expert insight and perspective from around the world
- 48 Board and committee meetings in total in 2021
- Completion of an internally-led Board evaluation
- Annual review of succession plans
- Annual review of compensation policies
- Robust risk management and internal controls framework
- Embedded compliance culture
- Proactive and ongoing stakeholder engagement

* Refer to the Audit Committee, the Nomination and Governance Committee, the Remuneration Committee, and the Risk Committee

Compliance with Corporate Governance Code

Throughout 2021, HKEX complied with all code provisions and, where appropriate, adopted the recommended best practices set out in the Corporate Governance Code in force during the year, with the following exceptions:

Code Provision A.4.1 (Re-election of non-executive directors)

The Government Appointed Directors, all being Non-executive Directors, are not subject to election or re-election by Shareholders as their appointments are governed by the SFO.

Code Provision A.4.2 (Retirement by rotation of directors)

The Chief Executive Officer in his capacity as a Director is not subject to retirement by rotation, as his term on the Board is coterminous with his employment as the Chief Executive Officer with HKEX under HKEX's Articles.

HKEX has applied the principles of the Corporate Governance Code to its corporate governance structure and practices as described in this report and on the HKEX Group website [CG](#) / [IR](#) / [OS](#). A checklist detailing HKEX's compliance with the Corporate Governance Code in force during 2021 is available on the HKEX Group website [CG](#). The Board has delegated its corporate governance functions to the Nomination and Governance Committee. A summary of the work of the Committee in 2021/2022 is set out in the Nomination and Governance Committee Report.

HKEX's Culture

HKEX is committed to developing a positive and progressive culture that is built on its Purpose, Vision, and Values; one that allows employees across the Group to thrive, meet their full potential, and that enables the Company to deliver long-term sustainable performance and fulfil its role as a responsible corporate citizen.

Throughout 2021, HKEX continued to strengthen its cultural framework by focusing on four specific areas: client centricity, operational excellence, people first, and positivity, through various initiatives set out in the Business Review and the Governance sections of this Annual Report and the 2021 CSR Report.

More information about HKEX's Purpose, Vision, and Values is available on the HKEX Group website (About HKEX section).



Strategic Planning

HKEX has a rigorous and ongoing strategic planning process to identify and assess the opportunities and challenges that the Group might face and to develop a planned course of action for the Group to generate sustainable long-term value for Shareholders. Details of HKEX's strategic priorities for fulfilling its Purpose and Vision are available in the Chief Executive Officer's Review section of this Annual report and on the HKEX Group website (About HKEX section).

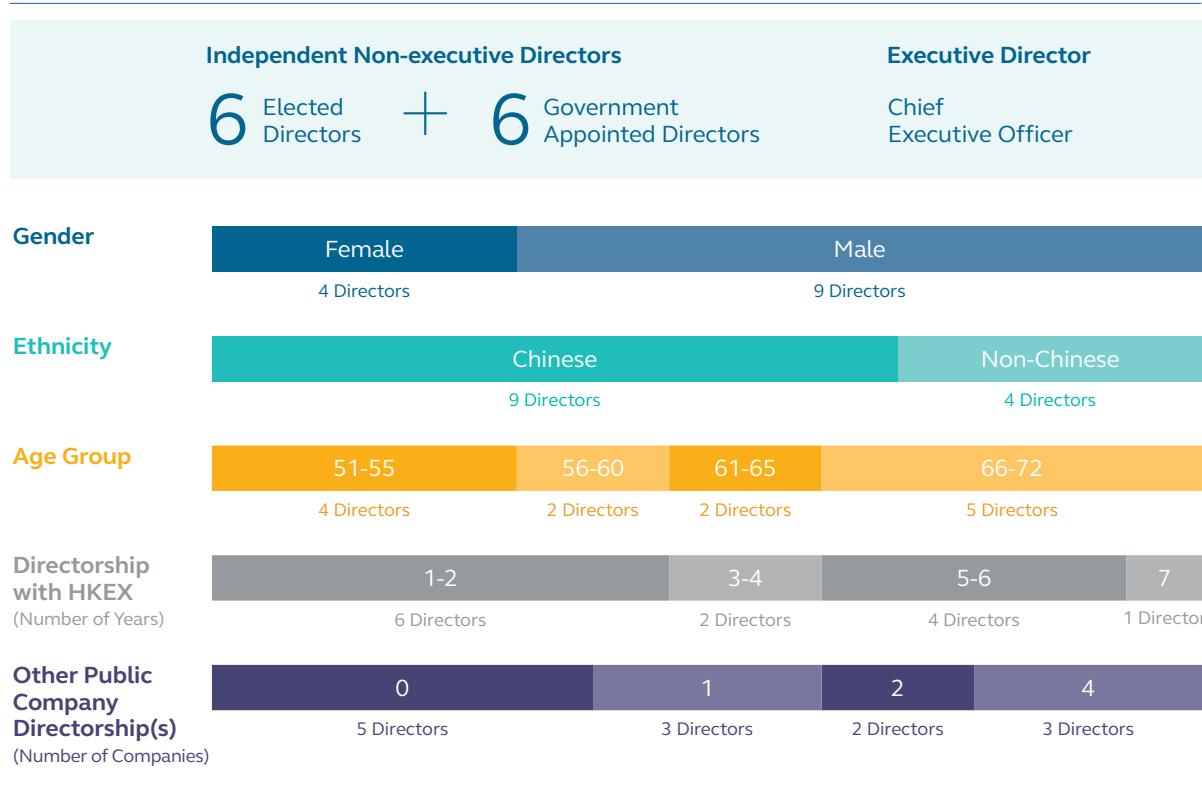
In addition to the mid-year strategy review in March 2021, the Board held a strategy meeting in September 2021 to review HKEX's strategic achievements, and discuss and explore potential strategic moves.

The accomplishments achieved during the year are reported in the Chief Executive Officer's Review and Business Review sections of this Annual Report.

The Board

Board Composition

The Board's structure is governed by HKEX's Articles and the SFO. The Board has an appropriate mix of skills, experience, and diversity that are relevant to HKEX's strategy, governance, and business, and underpin its effectiveness and efficiency. Its approach to achieving diversity is set out in the Board Diversity Policy, which is available on the HKEX Group website [CG](#).



Directors' Skills and Experience

	Executive leadership & strategy/Directorship or senior executive experience with other listed company(ies)	Capital market expertise	International business	Mainland China exposure	Accounting professionals/ financial management expertise	Legal professionals/ regulatory & compliance/ risk management	Digital
INEDs							
Laura M Cha (Chairman)	●	●	●	●		●	
Nicholas Allen	●		●	●	●	●	
Apurv Bagri	●	●	●		●	●	
C H Cheah	●	●	●	●			
Anna Cheung	●	●	●	●	●	●	●
Susan Chow	●		●	●		●	
Rafael Gil-Tienda	●	●	●	●		●	
Benjamin Hung	●	●	●	●			
Nisa Leung	●	●	●	●			●
Hugo Leung	●	●	●	●		●	
Stephen Yiu	●		●	●	●	●	●
Zhang Yichen	●	●	●	●			
Executive Director							
Nicolas Aguzin	●	●	●	●	●	●	●
Coverage (% of entire Board)	100%	77%	100%	92%	38%	69%	31%

The names of the Directors in office during 2021 and up to the date of this report are set out in the Directors' Report contained in this Annual Report. The brief biographies of the current Directors, including their membership at various Board Committees of HKEX, are set out in the Board and Committees section and the Board of Directors and Senior Management section of this Annual Report.

Under HKEX's Articles, the term of office of Non-executive Directors is not more than three years (subject to re-appointment or re-election), although each Government Appointed Director is normally appointed for a term of approximately two years. Staggered terms of service enable the Board to have a good balance of experienced and new Directors. The average tenure of the current Directors as at the date of this report is 3.1 years. The service term of Laura M Cha, Susan Chow, and Benjamin Hung (Government Appointed Directors), and Apurv Bagri (Elected Director) will expire at the conclusion of the 2022 AGM. On 18 February 2022, the Government re-appointed Laura M Cha, Susan Chow, and Benjamin Hung as members of the Board, each for a term of approximately two years from the conclusion of the 2022 AGM until the conclusion of the AGM to be held in 2024. On 24 February 2022, the Board

accepted the nomination by the Nomination and Governance Committee and recommended Apurv Bagri to stand for re-election at the 2022 AGM.

Information about the Board Diversity Policy and the Nomination Policy along with the results of the review of the Board composition and independence, and the nomination of Board candidate during 2021/2022 are set out in the Nomination and Governance Committee Report.

Roles and Responsibilities

Good governance emanates from an effective and accountable board. At HKEX, the Board directly, and indirectly through its committees, leads and provides direction to management by laying down strategies and overseeing their implementation by management. The Board monitors the Group's operating and financial performance, reviews the Group's compensation policies and succession planning, and ensures that a positive and progressive culture, effective governance and CSR policies, and sound internal control and risk management systems are in place. The Board operates under defined terms of reference which set out matters specifically reserved for its decision. The terms of reference are available on the HKEX Group website [OS](#).

For effective oversight and leadership, the Board regularly reviews reports from the Chief Executive Officer and senior executives on the progress of the approved strategies, plans and budgets, and receives updates/advice from the Board committees, external market/industry experts and management on the Group's governance, business performance, and development. In light of the increasingly competitive and complex global environment, the International Advisory Council has been established to provide the Board with expert insight and perspective from around the world. A Mainland China Advisory Group was established in 2021 to advise the Board on the development of China's financial markets and economy. Further details relating to the Board committees, the International Advisory Council, the Mainland China Advisory Group, the Consultative Panels, and HKEX's management functions are set out in the Board Delegation section below.

Board Effectiveness

The Board recognises that conducting regular evaluation of its performance is essential to good corporate governance and Board effectiveness.

Given the changes in the Board composition and the completion of an independent Group risk review during the year, HKEX conducted an internal evaluation of the performance of the Board and its governance committees in 2021, which was led by the HKEX Chairman with the support of the Group Company Secretary. As part of the evaluation process, each Director completed a questionnaire to assess the performance of the Board, the Audit Committee, the Nomination and Governance Committee, the Remuneration Committee, and the Risk Committee, and also the 2021 Strategy Meeting. In addition, the HKEX Chairman interviewed other Directors individually to solicit their views, and her

views were collected by the chairman of the Remuneration Committee. At the subsidiary level, each of OTC Clear, the LME, and LME Clear also conducted an internal evaluation of the performance of its respective board and board governance committees in 2021.

The evaluation results indicated that the directors of HKEX, OTC Clear, the LME, and LME Clear agreed that the respective boards operate effectively and perform well in the governance of the respective companies, and they were satisfied with the composition and operational effectiveness of the relevant board committees. The evaluation results were presented to the HKEX Nomination and Governance Committee and the HKEX Board in October and December 2021 respectively. Recommendations for improvement are being followed up.

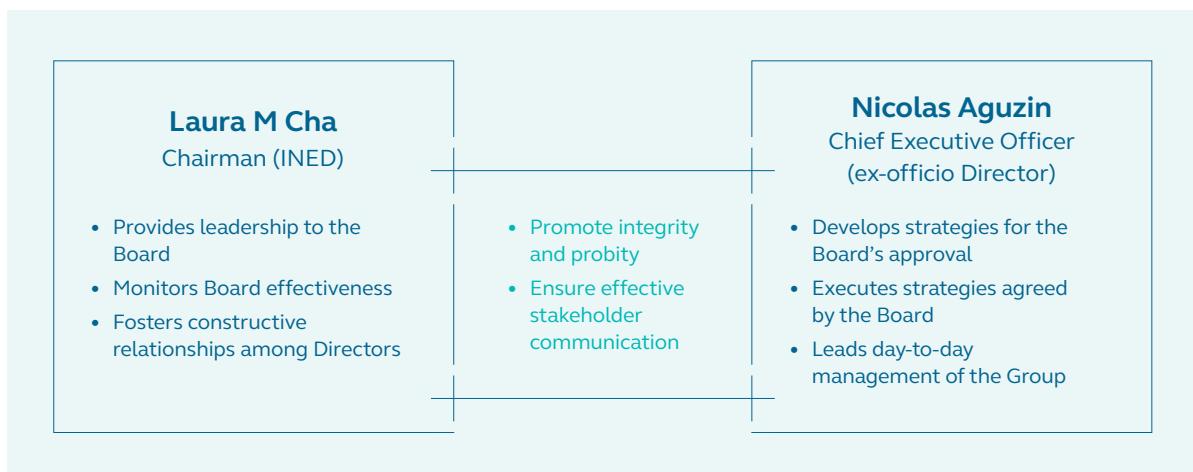
Chairman and Chief Executive Officer

Following Charles Li's retirement as the Chief Executive of HKEX on 31 December 2020, Calvin Tai served as the Interim Chief Executive of HKEX from 1 January to 23 May 2021.

In February 2021, Nicolas Aguzin was appointed as the Chief Executive of HKEX ("Chief Executive Officer") effective 24 May 2021 for a term of three years until 23 May 2024, and the SFC approved his appointment pursuant to Section 70 of the SFO in March 2021.

At HKEX, the roles of the Chairman and the Chief Executive Officer are complementary, but importantly, they are distinct and separate with a clear and well established division of responsibilities. Details of their respective roles and responsibilities are available on the HKEX Group website [CG](#).

Key Responsibilities of Chairman and Chief Executive Officer



The Chairman, the Chief Executive Officer and other Directors do not have any financial, business, family or other material/relevant relationships with each other.

Induction and Development

Upon appointment to the Board, Directors are provided with comprehensive induction training to ensure that they have a thorough understanding of the Group's operations and governance policies, as well as their role and responsibilities. Every new Board member receives a Director's Handbook which contains the Board's terms of reference, an overview of Directors' responsibilities, the Guidelines on Conduct, and information on other key governance matters. The Director's Handbook and more information about induction training for new Directors are available on the HKEX Group website [CG](#).

Ongoing training helps Directors keep abreast of current trends and issues facing the Group, while enabling them to update and refresh the skills and knowledge necessary for the performance of their duties. Directors are invited to attend the Board

knowledge sessions, the Board strategy meetings, and the International Advisory Council meetings held during the year, at which external industry experts, Council members, or senior executives of HKEX are engaged on various topics of interest, in particular on global strategies, market best practices, and the latest market trends and developments.

All Directors are required to provide HKEX with their training records, and to confirm their respective records on a semi-annual basis. The records are maintained by the Group Company Secretary for annual review by the Nomination and Governance Committee. During 2021, the Directors received an aggregate of about 740 hours of training by attending or participating in Board knowledge sessions, management briefings, and events such as conferences, seminars, and workshops on directors' duties and other topics relevant to HKEX's strategy and business.

2021 Directors' Training by Topic

	HKEX's strategy/ business	Economy/ financial markets & products	Director's duties/ ESG practices	Financial reporting/risk management	Legislative/ regulatory compliance	Digital	Average hours of training: 54 ¹
INEDs							
Laura M Cha (Chairman)	●	●	●	●	●	●	
Nicholas Allen ²	●	●	●	●	●	●	
Apurv Bagri	●	●	●	●	●	●	
T C Chan ¹	●	●					●
C H Cheah	●	●	●	●	●	●	
Anna Cheung ²	●	●	●	●	●	●	
Susan Chow	●	●	●	●	●	●	
Anita Fung ¹	●	●					●
Rafael Gil-Tienda	●	●	●	●	●	●	
Fred Hu ¹	●	●					●
Benjamin Hung	●	●	●	●	●	●	
Nisa Leung ²	●	●	●	●	●	●	
Hugo Leung	●	●	●	●	●	●	
John Williamson ¹	●	●					●
Stephen Yiu	●	●	●	●	●	●	
Zhang Yichen ²	●	●	●	●	●	●	
Executive Director							
Nicolas Aguzin ³	●	●	●	●	●	●	
Calvin Tai ¹	●	●	●	●	●	●	

¹ Excludes the training hours received by Mr Chan, Ms Fung, Dr Hu and Mr Williamson, who retired from the Board after the conclusion of the 2021 AGM, and by Mr Tai who served as the Interim Chief Executive of HKEX and an ex-officio member of the Board from 1 January to 23 May 2021.

² Mr Allen, Ms Cheung, Ms Leung and Mr Zhang were appointed as Directors effective 28 April 2021.

³ Mr Aguzin was appointed as the Chief Executive Officer and an ex-officio member of the Board effective 24 May 2021.

Board Process

In addition to the mid-year strategy review in March 2021 and the strategy meeting in September 2021, the Board held nine meetings in 2021 to discuss matters relating to the Group's strategies, business operations, performance, governance, risk management, regulatory compliance, CSR, and human capital. The Chairman also had regular gatherings with other Directors, occasionally without the presence of the Chief Executive Officer, to consider issues in an informal setting.

Attendance Record of Directors and Committee Members in 2021¹

	2021 AGM	Board	Audit Committee	Board Executive Committee	CSR Committee	Investment Committee	Listing Operation Governance Committee ²	Nomination and Governance Committee	Panel Member Selection Committee	Remuneration Committee	Risk Committee	Risk Management Committee (statutory)
Number of Meetings	1	9	4	5	4	4	2	5	1	5	5	4
INEDs												
Laura M Cha (Chairman)	1/1	9/9		5/5	4/4		5/5		5/5	5/5	5/5	4/4
Nicholas Allen ³		5/5	2/2									3/3
Apurv Bagri ⁴	1/1	9/9					5/5		3/3			
T C Chan ⁵	1/1	4/4	2/2				3/3	-		2/2		
C H Cheah	1/1	9/9		5/5		4/4	5/5	1/1	5/5			
Anna Cheung ⁶		5/5	2/2	3/3	2/2							
Susan Chow ⁷	1/1	9/9			2/2		2/2			5/5	5/5	4/4
Anita Fung ⁵	1/1	4/4	2/2			2/2		-				
Rafael Gil-Tienda ⁸	1/1	9/9					5/5	-	5/5			
Fred Hu ⁵	1/1	4/4			2/2	2/2			2/2			
Benjamin Hung	1/1	9/9				4/4	5/5					
Nisa Leung ⁹		5/5	1/2					1/1		3/3		
Hugo Leung ¹⁰	1/1	9/9	4/4	5/5		4/4	2/2	1/1		5/5	3/3	
John Williamson ⁵	1/1	4/4	2/2	2/2	2/2				2/2	2/2	1/1	
Stephen Yiu ¹¹	1/1	9/9	4/4		2/2		2/2	1/1		5/5		
Zhang Yichen ¹²		5/5			2/2	2/2		1/1				
Executive Director												
Nicolas Aguzin ¹³		5/5		3/3	2/2							
Calvin Tai ¹⁴	1/1	4/4		2/2	2/2							
Market Professionals												
Peter Brien ¹⁵							2/2					
Clara Chan												4/4
Daisy Cheung ¹⁶												2/4
Miranda Kwok ¹⁷												2/2
Lawrence Lam ¹⁸												2/2
Rico Leung												4/4
Keith Pogson ¹⁵							2/2					
Barbara Shiu ¹⁸												2/2
Sun Yu ¹⁷												2/2
Attendance Rate	100%	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%	94%¹⁹

¹ During 2021, certain members of the Board also performed a regulatory role by serving as members of the Listing Nominating Committee and the Listing Policy Panel, and attending as the chairman, the deputy chairman, or a member of the hearings held by the Listing Appeals Committee of the Exchange.

² The Listing Operation Governance Committee was established on 16 June 2021.

³ Mr Allen was appointed as a Director and a member of the Audit Committee and the Risk Committee on 28 April 2021.

⁴ Mr Bagri was appointed as a member of the Remuneration Committee on 28 April 2021.

⁵ Mr Chan, Ms Fung, Dr Hu and Mr Williamson retired from the Board and the committees on 28 April 2021. Following his retirement as a Director, Mr Williamson was appointed as Senior Advisor to the Board from 29 April 2021 to 28 April 2022.

⁶ Ms Cheung was appointed as a Director and a member of the Audit Committee, the Board Executive Committee and the CSR Committee on 28 April 2021.

⁷ Mrs Chow was redesignated from member to chairman of the Risk Committee on 28 April 2021. She was also appointed as the chairman of the Listing Operation Governance Committee on 16 June 2021, and a member of the CSR Committee on 28 April 2021.

⁸ Mr Gil-Tienda ceased to be a member of the Panel Member Selection Committee on 28 April 2021. No meeting of the Panel Member Selection Committee took place between 1 January and 28 April 2021.

⁹ Ms Leung was appointed as a Director and a member of the Audit Committee, the Panel Member Selection Committee, and the Risk Committee on 28 April 2021.

- 10 Mr Leung was redesignated from member to chairman of the Panel Member Selection Committee and appointed as a member of the Risk Management Committee (statutory) on 28 April 2021. He was also appointed as a member of the Listing Operation Governance Committee on 16 June 2021.
- 11 Mr Yiu was appointed as a member of the Panel Member Selection Committee on 28 April 2021 and ceased to be a member of the CSR Committee on the same date. He was also appointed as a member of the Listing Operation Governance Committee on 16 June 2021.
- 12 Mr Zhang was appointed as a Director and a member of the CSR Committee, the Investment Committee, and the Panel Member Selection Committee on 28 April 2021.
- 13 Mr Aguzin was appointed as a Director and a member of the Board Executive Committee and the CSR Committee with effect from 24 May 2021.
- 14 Mr Tai served as a Director and a member of the Board Executive Committee and the CSR Committee from 1 January to 23 May 2021.
- 15 Mr Brien and Mr Pogson were appointed to the Listing Operation Governance Committee by virtue of their position as the Chairman and Deputy Chairman of the Listing Committee, respectively.
- 16 Mr David Grimme was appointed to the Risk Management Committee (statutory) on 1 January 2022 to replace Ms Cheung.
- 17 Ms Kwok and Mr Sun were appointed to the Risk Management Committee (statutory) on 1 July 2021.
- 18 Mr Lam and Ms Shiu ceased to be members of the Risk Management Committee (statutory) on 1 July 2021.
- 19 The attendance rate calculation took into account the attendance by the alternate member of the committee.

To facilitate effective oversight and decision making by the Board, HKEX has established a Group Escalation and Incident Reporting Policy to set out guidelines on handling critical concerns relating to the Group's operations and performance. A Continuous Disclosure and Communication Policy is in place to ensure timely reporting of inside information to the Board and communication with the Group's stakeholders, which together with other key features of the Board process are available on the HKEX Group website [CG](#).

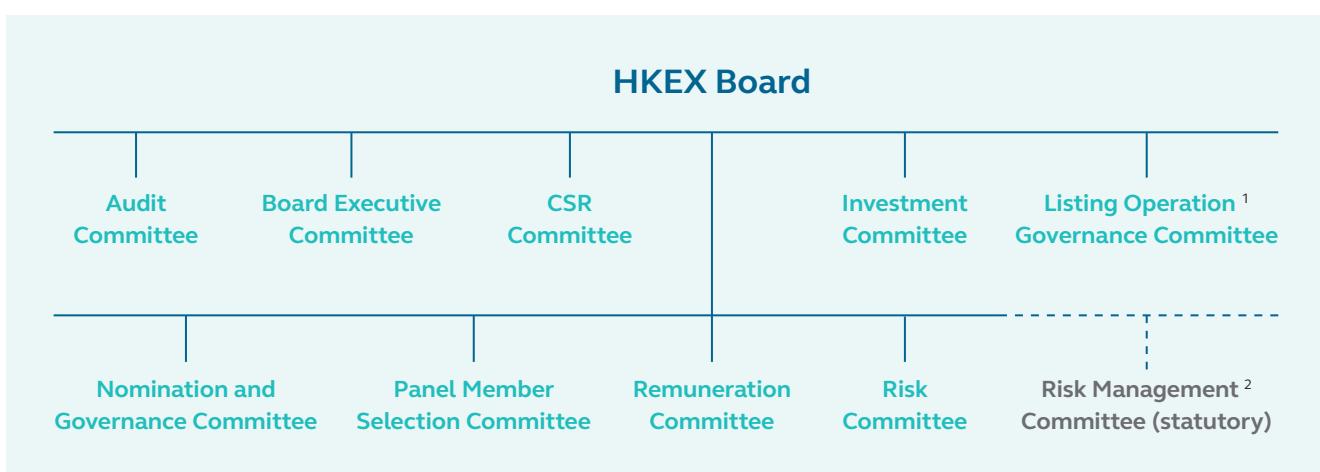
Group Company Secretary

All Directors have access to the advice and services of the Group Company Secretary. The Group Company Secretary reports to the Chairman on Board governance matters, and is responsible for ensuring that Board procedures are followed and for facilitating information flows and communications among Directors, as well as with Shareholders and management.

The Group Company Secretary's biography is set out in the Board of Directors and Senior Management section of this Annual Report. During 2021, the Group Company Secretary attended over 15 hours of professional training.

Board Delegation

Committees



¹ Established on 16 June 2021 to assist the Board in overseeing the operation and management of the Listing Division

² A statutory committee established under Section 65 of the SFO

The Board has delegated authority to various committees to deal with specific matters under defined terms of reference.

The composition and terms of reference of the Board committees are reviewed annually to ensure that they remain appropriate and in line with the Group's business and changes in governance practices. The list of members of the Board committees as at the date of this report is set out in the Board and Committees section of this Annual Report. The attendance record of members of the Board committees in 2021 is set out in "Board Process" above. More information about the Board committees is available on the HKEX Group website [CG / OS](#).

International Advisory Council

HKEX has established an International Advisory Council to provide the Board with insight and expertise from around the world, on business, economics, technology, and finance, drawing on the extensive skills and experience of its members. With the addition of Weijian Shan as a new member in July 2021, the Council comprises seven members, and is chaired by HKEX Chairman. Four Council meetings were held in 2021.

The terms of reference of the Council are available on the HKEX Group website [OS](#).

Members of International Advisory Council

- Laura M CHA (Chairman)
- Stuart GULLIVER
- Mary SCHAPIRO
- Weijian SHAN
- Neil SHEN
- Joseph TSAI
- Marcus WALLENBERG

Mainland China Advisory Group

In 2021, HKEX established the Mainland China Advisory Group (“Advisory Group”) to advise the Board on the development of China’s financial markets and economy. The Advisory Group is chaired by HKEX Chairman, and also includes HKEX Chief Executive Officer, as well as a Director and three other senior industry experts with deep China market knowledge and experience. Two Advisory Group meetings were held in 2021.

The terms of reference of the Advisory Group are available on the HKEX Group website [OS](#).

Members of Mainland China Advisory Group

- Laura M CHA (Chairman)
- Nicolas AGUZIN
- Fred HU
- MA Weihua
- ZHANG Lei
- ZHANG Yichen

Consultative Panels

HKEX has three Consultative Panels which provide market expertise and advice to the Board in relation to the trading and clearing in Hong Kong’s securities and derivatives markets. The composition and terms of reference of the Consultative Panels are available on the HKEX Group website [OS](#).

Number of Panel Meetings Held in 2021

• Cash Market Consultative Panel	2
• Derivatives Market Consultative Panel	4
• Clearing Consultative Panel	2

Management

Senior executives, under the leadership of the Chief Executive Officer, are responsible for the day-to-day management of the Group’s businesses and implementation of the strategies approved by the Board. The Management Committee, a management decision-making body chaired by the Chief Executive Officer with defined authority delegated by the Board, aims to meet at least twice a month. Its membership as at the date of this report is set out in the Management Committee section of this Annual Report, and its duties are available on the HKEX Group website [OS](#). Members of the Senior Management as at the date of this report and their biographies are set out in the Board of Directors and Senior Management section of this Annual Report.

During 2021, several senior executive changes were made to support the Group’s latest strategic focus and replace retired or outgoing executives. Details are set out in the Media Centre (News Release) section of the HKEX Group website. HKEX’s updated organisation structure is available on the HKEX Group website [OS](#).

The Board recognises the importance of continuity in senior executives and identifying leaders with appropriate skills and experience to support delivery of the Group’s strategic initiatives. Succession planning for senior executives is considered by the Nomination and Governance Committee and the Board annually. A mentoring programme pairing selected senior executives with experienced Directors is also in place to enhance succession planning and strengthen link between senior executives and the Board.

Given the competitive business environment in which the Group operates, HKEX arranges professional development programmes for its senior executives to support its long-term growth and success. During 2021, the Senior Management (excluding HKEX Chief Executive Officer) received an aggregate of about 210 hours of training by attending or participating in conferences, seminars, and workshops on various topics, including HKEX's strategy and business, development of the financial markets, regulatory compliance, ESG practices, risk management, digital technology, and leadership and management skills. Other employees of the Group also attended continuous professional development or other training courses through the year. Details are set out in the 2021 CSR Report.

Subsidiary Governance

HKEX is committed to fostering good governance and a strong compliance culture at all levels of the organisation. To ensure an integrated, Group-wide approach towards upholding high governance standards, HKEX regularly reviews and enhances the governance structures and processes of its subsidiaries.

For effective oversight of its subsidiaries, HKEX promotes governance linkages within the Group through common memberships between the Board and the subsidiaries' boards/committees and appointment of HKEX's senior executives to the subsidiaries' boards. A list of HKEX subsidiaries' directors is set out in the Directors' Report contained in this Annual Report. Details about the governance structures of the Group's major subsidiaries (including composition and terms of reference of their boards and committees) are available on the HKEX Group website [OS](#). Induction training and materials have been provided to subsidiaries' non-executive directors to facilitate their understanding of the Group's business and their duties and obligations as a director.

HKEX has implemented a number of Group-wide governance policies, which are subject to regular review, to support its commitment to high standards of business, professional, and ethical conduct, and to ensure best practices across the organisation. In 2021, the Group organised a series of training initiatives, including a Know Your Regulator Series, and e-training for new and existing employees, to reinforce a strong culture of compliance and risk management.

Key governance policies for employees

- Code of Conduct
- Continuous Disclosure and Communication Policy
- Group Anti-Bribery and Anti-Corruption Policy
- Group Anti-Fraud Policy
- Group Compliance Policy
- Group Personal Account Dealing Policy
- Group Prevention of Financial Crime Policy
- Group Whistleblowing Policy

Information about the Group's governance policies and practices is available on the HKEX Group website [CG / CSR](#).

Conflict Management

As a recognised exchange controller, HKEX shall act in the interest of the public with particular regard to the interest of the investing public, and ensure that the interest of the public prevails where it conflicts with HKEX's interest. Given its role of being the exchange controller and a listed company, HKEX has implemented a number of measures to ensure a level playing field with other listed issuers. These include the entering into of an MOU between the SFC and the Stock Exchange, the separation of the regulatory function, and the establishment of a Conflict Committee. More information about HKEX's public and corporate responsibilities and its conflict management measures is available on the HKEX Group website [CG](#).

The HKEX's Guidelines on Conduct as set out in the Director's Handbook serve to provide guidance to Directors and committee members of the Group on avoiding conflicts of interest and on the circumstances under which appropriate action(s) shall be taken by the director in conflict. The Guidelines set out the policy governing the acceptance by the Group's directors of external appointments in listed and unlisted companies, which contain specific safeguards that shall be undertaken by HKEX and each director to avoid potential conflicts of interest. The Director's Handbook is available on the HKEX Group website [CG](#).

Remuneration of Directors and Senior Management

HKEX has formal and transparent procedures for fixing the remuneration packages of individual Directors and senior executives. Information about HKEX's remuneration policies and the Remuneration Committee, including its work in 2021/2022, is set out in the Remuneration Committee Report.

Directors' Securities Transactions and Interests in HKEX

Compliance with Model Code

HKEX has adopted the Model Code as its own code of conduct regarding Directors' securities transactions. In response to a specific enquiry by the Company, all Directors confirmed that they complied with the Model Code at all applicable times during 2021.

Directors' Interests and Short Positions in Shares and Underlying Shares of HKEX

The interests and short positions of Directors, including the Chief Executive Officer, in the shares and underlying shares of HKEX (within the meaning of Part XV of the SFO) as at 31 December 2021 as recorded in the register required to be kept under Section 352 of the SFO, or as otherwise notified to HKEX and the SFC under the Model Code, are set out below.

Long Positions in Shares and Underlying Shares of HKEX

Name of Director	Number of shares/underlying shares held					% of HKEX ¹ shares in issue
	Personal interests	Family interests	Corporate interests	Other interests	Total	
Nicolas Aguzin	213,692 ²	–	–	–	213,692	0.02
Anna Cheung	300	–	–	–	300	0.00
Stephen Yiu	–	2,000 ³	–	–	2,000	0.00

1 Based on 1,267,836,895 HKEX shares in issue as at 31 December 2021

2 Represents Mr Aguzin's interest in Awarded Shares and shares acquired out of the dividends from the Awarded Shares, which remained unvested under the Share Award Scheme as at 31 December 2021. Details of Mr Aguzin's interest in Awarded Shares are set out in the Remuneration Committee Report.

3 Mr Yiu's spouse was the beneficial owner of those shares.

Save as disclosed above, none of the Directors had any interests or short positions in the shares, underlying shares or debentures of HKEX or any of its associated corporations (within the meaning of Part XV of the SFO) as at 31 December 2021 as recorded in the register required to be kept under Section 352 of the SFO, or as otherwise notified to HKEX and the SFC under the Model Code.

Apart from the Awarded Shares as disclosed in the Remuneration Committee Report and notes 15 and 43 to the Consolidated Financial Statements, during 2021, none of the Directors (including their spouses and children under the age of 18) had any interests in or was granted any right to subscribe for the securities of HKEX or its associated corporations (within the meaning of Part XV of the SFO), or had exercised any such rights.

Other Persons' Interests and Short Positions in Shares and Underlying Shares of HKEX

Minority Controllers

As at the date of this report, other than the Government which has been a Minority Controller since 7 September 2007, 12 entities have been approved by the SFC as Minority Controllers. According to the Participant Shareholding Report as at 31 December 2021, these Minority Controllers in aggregate held approximately 77 per cent of HKEX shares in issue. More information about Minority Controllers is set out on the HKEX Group website [CG](#).

Other persons' interests and short positions in the shares and underlying shares of HKEX (within the meaning of Part XV of the SFO) as at 31 December 2021 as recorded in the register required to be kept under Section 336 of the SFO are set out below.

Long Positions in Shares and Underlying Shares of HKEX

Name	Capacity	Number of shares/ underlying shares held	Total	% of HKEX ¹ shares in issue
JPMorgan Chase & Co. (JPMC)	Interest of corporation controlled by JPMC	4,440,679	82,086,975 ²	6.47
	Investment manager	36,765,176		
	Person having a security interest in shares	282,220		
	Trustee	39,848		
	Approved lending agent	40,559,052		
HKSAR Government (for the account of the Exchange Fund)	Beneficial owner	74,840,961 ³	74,840,961	5.90

Short Positions in Shares and Underlying Shares of HKEX

Name	Capacity	Number of shares/ underlying shares held	Total	% of HKEX ¹ shares in issue
JPMC	Interest of corporation controlled by JPMC	7,661,923	7,661,923 ⁴	0.60

¹ Based on 1,267,836,895 HKEX shares in issue as at 31 December 2021

² It included an aggregate interest in 3,247,931 underlying shares through JPMC's holding of certain listed derivatives (physically settled: 935,200 shares; cash settled: 98,800 shares; convertible instruments: 230,061 shares) and unlisted derivatives (physically settled: 326,996 shares; cash settled: 1,656,874 shares).

³ Based on Hong Kong Monetary Authority's notification to HKEX on 4 June 2018

⁴ It included an aggregate interest in 7,611,658 underlying shares through JPMC's holding of certain listed derivatives (physically settled: 1,017,800 shares; cash settled: 1,671,290 shares) and unlisted derivatives (physically settled: 2,614,237 shares; cash settled: 2,308,331 shares).

Save as disclosed above, no other persons had any interests or short positions in the shares or underlying shares of HKEX as at 31 December 2021 as recorded in the register required to be kept under Section 336 of the SFO, or as otherwise notified to HKEX and the Stock Exchange.

Senior Management

All employees of the Group are obliged to follow the Company's restrictions on dealing in securities, futures contracts, and other derivatives, which are on terms no less stringent than the Model Code, as set out in the Group Personal Account Dealing Policy. Senior Management's interests in the shares and underlying shares of HKEX as at 31 December 2021 are set out below.

Senior Management ¹	Number of shares held	Number of shares that remained unvested under the Share Award Scheme	Derivatives (number of underlying shares)
Bonnie Y Chan	4,988	11,739	–
Vanessa Lau	35,842	12,506	–
Calvin Tai	116,945	30,135	–
Richard Wise	–	29,440	–

1 HKEX Chief Executive Officer's interest in the shares and underlying shares of HKEX as at 31 December 2021 is set out in the "Directors' Securities Transactions and Interests in HKEX" above.

2 Details of the Senior Management's interests in the Awarded Shares are set out in the Remuneration Committee Report.

Continuing Connected Transactions

In June 2000, the SFC granted a waiver to HKEX from strict compliance with the Main Board Listing Rules with respect to certain continuing connected transactions as referred to in (A), (B) and (C) below. The waiver has remained valid since then. The following table sets out the types of the continuing connected transactions subject to the waiver, and details of any of these continuing connected transactions entered into by the Group during 2021.

- A. Transactions between HKEX or its subsidiaries and HKEX's connected person(s) arising from or in connection with the use of the facilities provided by the Group for the trading, clearing and/or settlement of securities and futures products, and transactions, and all services offered by the Group which are ancillary, incidental or otherwise related to the foregoing:
 - The Group did not enter into any of the above transactions with HKEX's connected persons during 2021.
- B. Transactions between HKEX or its subsidiaries and HKEX's connected person(s) arising from or in connection with the listing of securities on the Stock Exchange, and all services offered by the Group which are ancillary, incidental or otherwise related to the foregoing:
 - Laura M Cha, the Chairman, was interested in the transactions entered into by HKR International Limited and Hanison Construction Holdings Limited, which are listed on the Stock Exchange and are Mrs Cha's associates by virtue of the Main Board Listing Rules.
- C. Transactions between HKEX or its subsidiaries and HKEX's connected person(s) arising from or in connection with the HKSCC arrangement on behalf of CCASS Participants for: (i) carrying out "buy-in" when a CCASS Participant has failed to deliver securities on time for settlement under the CNS System or the Isolated Trades System operated by CCASS; (ii) the purchase or sale of securities in connection with the liquidation of the positions of a CCASS Participant that has been declared by HKSCC to be in default; and (iii) the sale of entitlements of securities held through CCASS (collectively referred to as Buy-in Transactions):
 - The Group did not enter into any Buy-in Transactions with HKEX's connected persons during 2021.

The Board has delegated authority to the Audit Committee to review the above continuing connected transactions pursuant to Rule 14A.55 of the Main Board Listing Rules. The results of the Audit Committee's review are set out in the Audit Committee Report.

The Company's external auditor was engaged to report on the above continuing connected transactions of the Group in accordance with Hong Kong Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information", and with reference to Practice Note 740 (Revised) "Auditor's Letter on Continuing Connected Transactions under the Hong Kong Listing Rules" issued by the HKICPA. The external auditor has issued an unqualified report containing its findings and conclusions in respect of the transactions disclosed above in accordance with Rule 14A.56 of the Main Board Listing Rules. The Company has provided a copy of the report to the SFC and the Stock Exchange.

Related Party Transactions

During 2021, the Group entered into certain transactions with "related parties" as defined under the applicable accounting standards. Related party transactions are disclosed in note 50 to the Consolidated Financial Statements. They include the following connected transactions under the Main Board Listing Rules.

Related party transactions which constitute connected transactions

Payment of membership fee by an associate of a Director to the LME as covered in note 50(a) to the Consolidated Financial Statements

Compensation to the Chief Executive Officer and the directors of HKEX's subsidiaries and remuneration to HKEX's Non-executive Directors, which formed part of the "Key management personnel compensation" described in note 50(b) to the Consolidated Financial Statements

Compliance with Main Board Listing Rules

This was a connected transaction exempt from the connected transaction requirements under Rule 14A.76(1) of the Main Board Listing Rules.

These were continuing connected transactions exempt from the connected transaction requirements under Rule 14A.76(1) or 14A.95 of the Main Board Listing Rules.

Accountability and Audit

Financial Reporting

The Board, which is responsible for overseeing the preparation of annual financial statements, receives monthly management accounts and updates on the Group's performance, financial position, and prospects. HKEX publishes its annual, interim, and quarterly results within three months, two months, and 45 days respectively after the relevant period ends. In preparing the financial statements for the year ended 31 December 2021, the Board adopted appropriate accounting policies consistently, made prudent and reasonable judgements and estimates, and ensured that the financial statements were prepared on a going concern basis and show a true and fair view of the consolidated financial position of the Group as at 31 December 2021 and of the Group's consolidated financial performance and cash flows for the year then ended.

Risk Management and Internal Control

The Board has the overall responsibility for evaluating and determining the nature and extent of the risks (including ESG-related risks) it is willing to take in achieving the Group's strategic objectives, maintaining sound and effective risk management and internal control systems (including those for

ESG-related risks) and reviewing their effectiveness to safeguard Shareholders' investment and the Group's assets. To this end, management continues to allocate resources for internal control and risk management systems based on the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework 2013 and International Organisation for Standardisation (ISO) 31000 Risk Management – Principles and Guidelines to provide reasonable, though not absolute, assurance against material misstatement or loss and to manage rather than eliminate the risk of failure to achieve business objectives. Details of the Group's risk governance structure and the Group Risk Management Framework are set out in the Risk Committee Report. Details of the Group's key control procedures and internal audit functions are available on the HKEX Group website [CG](#).

The Board reviews the adequacy and effectiveness of the Group's risk management and internal control systems at least quarterly, through the Risk Committee and the Audit Committee. Information about the Risk Committee and the Audit Committee, including their work in 2021/2022, is set out in their respective reports contained in this Annual Report.



Independence of External Auditor

HKEX has engaged PricewaterhouseCoopers as its external auditor. An analysis of remuneration for audit and non-audit services provided by PricewaterhouseCoopers and details of the Audit Committee's work in assessing the independence of PricewaterhouseCoopers and ensuring audit effectiveness are set out in the Audit Committee Report.

Information about HKEX's policies and procedures in safeguarding and supporting the independence and objectivity of the external auditor is available on the HKEX Group website [CG](#).

Shareholder Relations

The Board gives high priority to maintaining balanced, clear, and transparent communications with Shareholders and other investors to facilitate their understanding of the Group's performance and prospects, as well as the market environment in which it operates. HKEX has an ongoing dialogue with Shareholders and other investors through various communication channels set out in the Shareholders Communication Policy and takes any areas of concern into consideration when formulating its business strategies. The effectiveness of HKEX's engagements with Shareholders is assessed during the annual evaluation of the Board's performance as set out in the "Board Effectiveness" above.

Investor Engagement and Communications

HKEX's investor relations team focuses on effective communication with and provision of relevant public information to investors and analysts to support the appropriate valuation of HKEX equity. Through an extensive engagement programme, institutional investors and analysts can interact with the Chairman, the Chief Executive Officer and other senior executives for updates on the development of the Group's strategic initiatives and operations, as well as HKEX's corporate governance policies. During 2021, around 150 meetings (mainly virtual) were held with institutional investors and analysts in Hong Kong, Mainland China, and overseas. To facilitate effective investor relations, regular shareholding analyses were conducted under Section 329 of the SFO to gain a better view of changes in HKEX's shareholding structure.

Investor Relations Activities in 2021

- Small group/one-to-one meetings
- Non-deal roadshows
- Analyst briefings
- Investor conferences

Investor Relations Contact Details

Email: investorrelations@hkex.com.hk

Tel: (852) 2840 3330

Investment community views are communicated regularly to the Board, including sell-side consensus rating and target price for HKEX shares and summaries of questions and feedback from investors and analysts. During 2021, investors' major areas of interest included:

- (i) HKEX Strategic Plan 2019-2021 and the new Chief Executive Officer's strategic direction;
- (ii) Updates on financial performance of the Group;
- (iii) ESG related topics, including board diversity, carbon policy, Chief Executive Officer succession plan, and HKEX Foundation; and
- (iv) Latest developments regarding the Group's initiatives, including Stock Connect, product development, IPO market and listing regime reform, development of the ETF market, FICC strategy, market microstructure enhancements, and data strategy.

To foster investors' understanding of the Group's governance performance, HKEX continues to provide related information to international and local ESG rating agencies regularly and upon request.

Shareholder Engagement and Communications

Corporate communications	<ul style="list-style-type: none">HKEX ensures prompt dissemination of corporate communications to enable Shareholders and other stakeholders to keep abreast of the Group's business and developments so that they can make informed decisions.The HKEX Group website has been adopted as the designated company website for publication of HKEX's announcements, notices and other corporate communications. As at 31 December 2021, about 78 per cent of Shareholders had opted to receive corporate communications via electronic means.
Financial key dates	<ul style="list-style-type: none">The financial calendar highlighting important dates for Shareholders in 2022 is set out in the Shareholder Information section of this Annual Report and is also available on the HKEX Group website IR.
Dividend information	<ul style="list-style-type: none">HKEX's dividend policy is set out in the Shareholder Information section of this Annual Report. Information about HKEX's dividend record is available on the HKEX Group website IR.
General meetings	<ul style="list-style-type: none">One or more Shareholders representing at least 5 per cent of the total voting rights of all Shareholders having a right to vote at general meetings may request the Board to call a general meeting. The request must state the general nature of the business to be dealt with, and it may include the text of a resolution that may properly be moved and is intended to be moved at the meeting. Such requests must be sent to the Group Company Secretary at HKEX's registered office, or by email to ssd@hkex.com.hk.Under HKEX's Articles, if a Shareholder wishes to propose a person for election as a Director at a general meeting, he or she should give written notice of the nomination to the Group Company Secretary at HKEX's registered office. Details of the procedures for nominating candidates to stand for election as a Director at the 2022 AGM are set out in the circular to Shareholders to be sent together with this Annual Report.Shareholders may put forward proposals at general meetings by sending written notice of their proposals to the Group Company Secretary at HKEX's registered office, or by email to ssd@hkex.com.hk. Details of the procedures for putting forward proposals by Shareholders are set out on the HKEX Group website CG.
Policies and guidelines	<ul style="list-style-type: none">The Shareholders Communication Policy ensures that Shareholders and the investment community are provided with ready, equal, and timely access to information about HKEX (including its financial performance, strategic goals and plans, material developments, governance and risk profile), and also allows them to engage actively with HKEX. The policy sets out various communication channels including, among others, the HKEX Group website, investor briefings and Shareholders' meetings, through which Shareholders, both individual and institutional, may communicate with and provide feedback to HKEX from time to time. The policy is regularly reviewed to ensure its effectiveness and is posted on the HKEX Group website CG.The Shareholders' Guide with answers to the frequently asked questions of Shareholders with regard to their interests in HKEX shares is also available on the HKEX Group website CG.
Shareholding analysis	<ul style="list-style-type: none">Based on publicly available information and within the Directors' knowledge as at the date of this report, approximately 100 per cent of the HKEX shares were held by the public. HKEX's market capitalisation and shareholding distribution as at 31 December 2021 are set out in the Shareholder Information section of this Annual Report.

Further information about the Group's stakeholder engagement activities in 2021 is set out in the 2021 CSR Report.

The Board is grateful to Shareholders and other stakeholders for their continued support and welcomes their views as well as any questions they may have about the management and governance of the Group. Shareholders and other stakeholders may at any time send their enquiries and concerns to the Board by addressing them to the Group Company Secretary and sending them by post to the Secretarial Services Department, HKEX, 8/F, Two Exchange Square, 8 Connaught Place, Central, Hong Kong, or by email to ssd@hkex.com.hk.

2021 Annual General Meeting

HKEX uses the AGM as a forum to establish constructive dialogue with Shareholders. Separate resolutions are proposed on each substantially separate issue, with all resolutions considered in a poll conducted by HKEX's registrar and verified by an independent scrutineer. Electronic voting is used at the AGMs to enhance efficiency and transparency of the vote counting process.

Shares voted at the 2021 AGM:

49.1%
of total issued shares

All the Directors in office on the meeting date, including the Chairman and the chairmen of the Audit Committee and other Board committees, attended the 2021 AGM along with key senior executives and the external auditor, and answered questions raised by Shareholders at the meeting. In light of the Covid-19 situation, a live webcast of the 2021 AGM was arranged and made available on the HKEX Group website for viewing by Shareholders who were not able to attend the meeting.

The voting results and the minutes of the 2021 AGM are available on the HKEX Group website [IR](#).

Key Matters Resolved at the 2021 AGM¹

- Receipt of the 2020 audited financial statements
- Election of Nicholas Allen, Anna Cheung and Zhang Yichen as Directors
- Re-appointment of PricewaterhouseCoopers as the Company's auditor
- Granting a general mandate to buy back HKEX shares (not exceeding 10 per cent of the number of shares in issue)
- Granting a general mandate to issue HKEX shares (not exceeding 10 per cent of the number of shares in issue and at a price not exceeding a discount of 10 per cent)

¹ The full text of the resolutions is set out in the Notice of the 2021 AGM.

2022 Annual General Meeting

The 2022 AGM will be held on Wednesday, 27 April 2022 at 4:30 pm at the HKEX Connect Hall on the 1st Floor, One and Two Exchange Square, Central, Hong Kong. The Notice of the 2022 AGM, which constitutes part of a circular to Shareholders, will be sent together with this Annual Report. The Notice, the circular which sets out details of the business to be conducted at the 2022 AGM, and the proxy form will be available on the HKEX Group website [IR](#). The results of the voting on the proposed resolutions will be published on the HKEX Group website [IR](#) shortly after the 2022 AGM is held.

In light of the uncertain development of the current Covid-19 situation, Shareholders are encouraged to appoint the chairman of the 2022 AGM as their proxy to vote on the resolutions, instead of attending the meeting in person. In accordance with prevailing guidelines published by the Government and/or regulatory authorities, HKEX will implement additional precautionary measures at the 2022 AGM to ensure the safety of the Shareholders attending the meeting. Details of the measures will be set out in the circular to Shareholders, and any further updates will be announced as appropriate.

Changes after Closure of Financial Year

This report takes into account the changes that occurred between the end of 2021 and the date of the approval of this report.

On behalf of the Board
FU Yat Hung, David
Group Company Secretary
Hong Kong, 24 February 2022

Nomination and Governance Committee Report

The Nomination and Governance Committee

The Nomination and Governance Committee (NGC) is delegated with the authority by the Board to review the Board's composition and diversity, formulate and implement the policy for nominating Board candidates for election by Shareholders, make recommendations to the Board on the appointment of Directors and members to the Board committees, and assess INED's independence and commitment. The NGC is also responsible for succession planning for Directors and senior executives, leadership training and development, and oversight of matters relating to corporate governance. Its terms of reference are available on the HKEX Group website [OS](#).

The NGC comprises five INEDs whose names and biographies are set out in the Board and Committees section of this Annual Report. The NGC held five meetings in 2021. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2021/2022

- Endorsed the appointment of Nicolas Aguzin as the Chief Executive of HKEX
- Reviewed the results of the internally led evaluations of the boards of HKEX, OTC Clear, the LME, and LME Clear and their respective governance committees
- Reviewed the composition of the Board and its committees
- Nominated Board candidates for election/re-election by Shareholders at AGMs
- Recommended the appointment of Directors to the Board committees and the Consultative Panels
- Reviewed the independence of the INEDs
- Reviewed the external appointments of Directors
- Reviewed the time commitment of Directors for performance of their responsibilities
- Reviewed succession planning of the Board and the senior executives
- Reviewed the NGC's terms of reference
- Reviewed the training and continued professional development of the Directors and Senior Management
- Endorsed the annual Corporate Governance Report

Changes in Non-executive Directors during 2021

In February 2021, the Government appointed Nisa Leung and re-appointed Rafael Gil-Tienda and Stephen Yiu to the Board, each for a term of approximately two years from the close of the 2021 AGM until the conclusion of the AGM in 2023.

At the 2021 AGM, Nicholas Allen, Anna Cheung, and Zhang Yichen were elected by Shareholders for a term of approximately three years from 28 April 2021 until the conclusion of the AGM in 2024. T C Chan, Anita Fung, Fred Hu, and John Williamson retired from the Board after the conclusion of the 2021 AGM.

Board Composition and Diversity

HKEX sees increasing diversity at the Board level as an essential element in attaining its strategic objectives and achieving sustainable and balanced development for the Group. Since 2013, HKEX has

followed the Board Diversity Policy, which is available on the HKEX Group website [CG](#). The Policy highlights the benefits of diversity with respect to the Board's effectiveness and decision-making process, its succession planning and development, and attainment of HKEX's strategic objectives, and sets out the Board's commitment to gender diversity and other diversity aspects. During 2021, two new female Directors (representing 50 per cent of the new Non-executive Directors) joined the Board, bringing the female representation to four or about 30 per cent of the Board. The Board targets to maintain at least the current level of female representation, with the ultimate goal of achieving gender parity. In considering the Board's succession, the NGC would engage independent professional search firm(s) to help identify potential candidates for Non-executive Directors, as and when appropriate. The Board will continue to take opportunities to increase the proportion of female members over time as and when suitable candidates are identified.



To further enhance Board diversity while maintaining an appropriate balance between continuity of experience and Board refreshment, HKEX sets out in the Nomination Policy a non-exhaustive list of criteria for the NGC to assess suitability of a proposed Non-executive Director candidate and a maximum tenure of nine consecutive years for Non-executive Directors to be eligible for the Board's nomination for re-election by Shareholders. The Nomination Policy is available on the HKEX Group website [CG](#).

During 2021, the NGC reviewed the structure, size, and diversity of the Board as well as the selection criteria for Non-executive Director candidate(s) and the Board Diversity Policy, to ensure that the Board's composition complies with the Main Board Listing Rules and reflects an appropriate mix of skills, experience, and diversity that are relevant to HKEX's strategy, governance, and business and contribute to the Board's effectiveness and efficiency. Information about the Board's current composition, including a Directors' skill matrix, is set out in the Corporate Governance Report contained in this Annual Report.

Nomination of Candidate

The service term of Laura M Cha, Susan Chow, and Benjamin Hung (Government Appointed Directors), and Apurv Bagri (Elected Director) will expire at the conclusion of the 2022 AGM.

On 18 February 2022, the Government re-appointed Laura M Cha, Susan Chow, and Benjamin Hung as members of the Board, each for a term of approximately two years from the conclusion of the 2022 AGM to be held on 27 April 2022 until the conclusion of the AGM to be held in 2024.

On 23 February 2022, the NGC nominated Apurv Bagri to the Board for it to recommend to Shareholders for re-election at the 2022 AGM. Mr Bagri, who is a member of the NGC, abstained from voting at the Committee meeting when his own nomination was being considered.

The nomination was made in accordance with the Nomination Policy and took into account the approved selection criteria for Non-executive Director candidate(s). These include, among others, the candidates' market knowledge and experience, reputation for integrity, and the diversity aspects (including without limitation, gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge and length of service), with due regard for the benefits of diversity, as set out in the Board Diversity Policy. The NGC also took into account Mr Bagri's vast experience in the non-ferrous metals futures trading business, as well as his contribution to the Board and firm commitment to his role. The NGC was satisfied with the independence of Mr Bagri with reference to the criteria laid down in the Main Board Listing Rules.

Mr Bagri does not hold any cross-directorships or have any significant links with other Directors through involvement in other companies or bodies. He does not have any service contracts with any member of the Group that are not determinable by the Group within one year without compensation (other than statutory compensation). His particulars will be set out in the circular to Shareholders to be sent together with this Annual Report and posted on the HKEX Group website [IR](#).

Board Independence

Independent Directors enhance the effectiveness and decision-making of the Board by providing objective judgement and constructive challenge to management.

Non-executive Directors' independence is assessed upon appointment, annually, and at any other time where the circumstances warrant reconsideration.

Assessment upon Director's Appointment

Independence confirmations by Nicholas Allen, Anna Cheung, Nisa Leung, and Zhang Yichen were submitted in writing to the SFC upon their appointment to the Board in April 2021.

Ongoing Assessment

- Each INED is required to inform HKEX as soon as practicable if there is any change in his or her personal particulars that may affect his or her independence. No such notification was received during 2021.
- Details of the Director's interests in the Group's business are set out on pages 88 and 89 of this Annual Report.

On 23 February 2022, the NGC assessed the annual independence confirmation received from each INED, having regard to the criteria under Rule 3.13 of the Main Board Listing Rules.

Annual Assessment

- As a good corporate governance practice, every NGC member abstained from assessing his/her own independence.
- Particular attention was given to assessing the independence of the Government Appointed Directors (including Laura M Cha, who is an Executive Councillor) given that the Government is a Minority Controller of HKEX.
- The NGC affirmed that all INEDs continued to demonstrate strong independence in judgement and were free from any business or other relationship which could interfere with their ability to discharge their duties effectively, and they therefore all remained independent.

The NGC also reviewed and considered that the following key features or mechanisms under HKEX's Board and governance structure are effective in ensuring that independent views and input are provided to the Board.

Board and Committees' structure	<ul style="list-style-type: none">• Since its listing, HKEX has been steered by a Board, comprising a majority of Non-executive Directors. The HKEX Chief Executive Officer is the only Executive Director on the Board, and all the remaining 12 Directors, including the HKEX Chairman, are INEDs, who are independent of and not related to each other and any members of the Senior Management.• Members of all governance related committees are INEDs.• Separation of the role of the Chairman and the Chief Executive Officer ensures that there is a balance of power and authority.
Non-executive Directors' tenure	<ul style="list-style-type: none">• The Nomination Policy sets a maximum tenure of nine consecutive years for Non-executive Directors to be eligible for nomination by the Board to stand for re-election by Shareholders.
Non-executive Directors' remuneration	<ul style="list-style-type: none">• Non-executive Directors receive fixed fee(s) for their role as members of the Board and Board Committee(s) as appropriate, and are not entitled to participate in the Share Award Scheme. Information about the Directors' remuneration is set out in the Remuneration Committee Report.
Appointment of Non-executive Directors	<ul style="list-style-type: none">• Independent search firm(s) will be engaged to help identify potential candidates for appointment of Non-executives Directors.• In assessing suitability of the candidates, the NGC will review their profiles, including their qualification and time commitment, having regard to the Board's composition, the Directors' skill matrix, the list of selection criteria approved by the Board, the Nomination Policy and the Board Diversity Policy.

Annual review of Non-executive Directors' commitment and independence	<ul style="list-style-type: none"> The NGC reviews annually each Director's time commitment to HKEX's business. Directors' attendance records in 2021 are disclosed in the Corporate Governance Report contained in this Annual Report. Non-executive Directors' independence is assessed upon appointment, annually, and at any other time where the circumstances warrant reconsideration.
Conflict management	<ul style="list-style-type: none"> The HKEX's Guidelines on Conduct as set out in the Director's Handbook provide guidance to Directors and committee members of the Group on avoiding conflicts of interest and on the circumstances under which appropriate action(s) shall be taken by the director in conflict.
Professional advice	<ul style="list-style-type: none"> To facilitate proper discharge of their duties, all Directors are entitled to seek advice from the Group Company Secretary or the in-house legal team as well as from independent professional advisers at the Company's expense.
Board evaluation	<ul style="list-style-type: none"> The quality and efficiency of discussions at Board meetings are assessed during the annual evaluation of the Board's performance.

Laura M CHA

Chairman of the Nomination and Governance Committee

Hong Kong, 23 February 2022

Audit Committee Report

The Audit Committee

The Audit Committee (AC) is delegated by the Board with the authority to provide independent oversight of the Group's financial reporting and internal control systems, and of the adequacy of the external and internal audits. The AC is provided with sufficient resources to perform its duties, including support, as necessary, from the Internal Audit Department (IAD), the external auditor, legal counsel, regulatory compliance and management, in examining all matters relating to the Group's adopted accounting principles and practices, and in reviewing all material financial, operational and compliance controls. The AC's terms of reference are available on the HKEX Group website [OS](#).

The AC comprises five INEDs whose names and biographies are set out in the Board and Committees section of this Annual Report. None of the AC members are employed by or otherwise affiliated with the auditor of HKEX. The AC held four meetings in 2021. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2021/2022

- Reviewed the Group's quarterly, half-yearly, and annual financial reports and results announcements to ensure integrity, transparency and consistency of the financial disclosures
- Reviewed and endorsed the proposed adoption of new accounting standards for financial years ending on or after 31 December 2022
- Reviewed, with both the external auditor and management, the audit approach and methodology applied, in particular to the Key Audit Matters included in the Auditor's Report
- Approved revisions to the Group Internal Audit Charter
- Approved the internal audit plan for 2022 and conducted quarterly review of the internal audit activities
- Reviewed the results of the external consultant's report on the Quality Assurance Review of Group Internal Audit and approved the implementation plan for their recommendations
- Reviewed significant issues raised by IAD, the external auditor, external consultants, and management's response to their recommendations
- Approved amendments to the Group Anti-Bribery and Anti-Corruption Policy, the Group Whistleblowing Policy and HKEX External Whistleblowing Policy
- Reviewed quarterly reports and updates on legal and regulatory compliance matters, anti-bribery and anti-corruption matters and whistleblowing disclosures
- Reviewed the adequacy and effectiveness of the Group's internal control systems and its accounting, financial reporting, and internal audit functions
- Reviewed and endorsed the revised Group Procurement Policy
- Reviewed the continuing connected transactions and the related disclosures in the Annual Report
- Reviewed and monitored the relationship with the external auditor, including overseeing its appointment, independence, remuneration, tenure, rotation of the engagement partner and engagement for non-audit services
- Reviewed the effectiveness of the external audit process
- Approved the 2021 external audit engagement letters and fees
- Reviewed the AC's terms of reference

Review of Financial Results

The AC reviewed the 2021 Consolidated Financial Statements in conjunction with the external auditor. Based on this review and discussions with management, the AC was satisfied that the Consolidated Financial Statements were prepared in accordance with applicable accounting standards and fairly present the Group's financial position and results for the year ended 31 December 2021. The AC therefore recommended that the Consolidated Financial Statements for the year ended 31 December 2021 be approved by the Board.

Review of Key Audit Matters

The AC reviewed and discussed with the external auditor and management the following key audit matters for the audit of the 2021 Consolidated Financial Statements.

Key Audit Matters	Assessment by the AC
Goodwill impairment assessment	The AC was satisfied that sufficient analysis (including the sensitivity analysis on key assumptions) had been performed in this area to conclude that there was no impairment allocated to the group of Cash Generating Units within the respective Commodities and Post Trade operating segments. The assessment was also an area of focus for the external auditor as detailed in the Auditor's Report on page 122.
IT systems and controls over financial accounting and reporting	The external auditor's key audit matters included IT systems and controls since the Group's financial accounting and reporting processes are highly dependent on their design and operating effectiveness. The AC noted and agreed with the external auditor that the key IT systems could be relied on to ensure the accuracy and completeness of revenue recognition during the financial accounting and reporting processes. The findings of the external auditor are set out in the Auditor's Report on page 123.

Review of Internal Control Systems

The AC reviewed the adequacy and effectiveness of the Group's policies and procedures regarding internal control systems (including the financial, operational, IT, risk management, information security, outsourcing, legal, compliance and those controls designed to detect material fraud) by reviewing the work of the IAD, the Group's external auditor, and external consultants, and regular reports from management including those on risk management, regulatory compliance, and legal matters.

In conjunction with the Risk Committee, the AC reviewed and concurred with the management confirmation that for the year ended 31 December 2021, the Group's risk management and internal control systems were adequate and effective with reference to the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework 2013 and International Organisation for Standardisation (ISO) 31000 Risk Management – Principles and Guidelines. The AC is satisfied that the Group has complied satisfactorily with the requirements of the Corporate Governance Code in respect of risk management and internal control systems, and that the Group has satisfactorily maintained appropriate levels and control measures in response to the Covid-19 pandemic.

Review of Accounting, Financial Reporting and Internal Audit Functions

The AC reviewed and was satisfied with the adequacy of the resources, staff qualifications and experience, training programmes and budget of the Group's accounting, financial reporting and internal audit functions.

Review of Continuing Connected Transactions

During 2021, the Group entered into certain continuing connected transactions as disclosed in the Corporate Governance Report contained in this Annual Report. The AC, under the authority delegated by the Board, reviewed these continuing connected transactions pursuant to Rule 14A.55 of the Main Board Listing Rules. The AC confirmed that the transactions were entered into by the Group in accordance with the requirements of the Main Board Listing Rules and the conditions of the waiver granted by the SFC that:

- (i) continuing connected transactions are entered into in the Group's ordinary and usual course of business, and on normal commercial terms or on terms no more favourable than terms available to independent third parties;
- (ii) continuing connected transactions other than Buy-in Transactions are conducted in accordance with the rules and regulations of the relevant Group company governing such transactions, and where the rules and regulations do not govern those transactions in full, in accordance with the standard terms and conditions of the relevant Group company relating to such transactions;
- (iii) continuing connected transactions in respect of Buy-in Transactions are conducted in accordance with the standard terms and conditions of HKSCC applicable generally to all buy-in brokers and at the mutually agreed commission rates payable by HKSCC in respect of Buy-in Transactions generally; and
- (iv) continuing connected transactions are entered into according to the relevant agreements governing each of the continuing connected transactions on terms that are fair and reasonable and in the interests of Shareholders as a whole.

The Company's external auditor was engaged to report on the transactions in accordance with Rule 14A.56 of the Main Board Listing Rules. The AC reviewed the unqualified report issued by the external auditor dated 21 February 2022.

Independence of External Auditor

The AC is mandated to monitor the independence of the Group's external auditor, PricewaterhouseCoopers (PwC), to ensure its objectivity in auditing the financial statements. In general, the external auditor has to refrain from engaging in non-assurance services required by the Group except for limited tax-related services or specifically approved items. All services provided by PwC must be approved by the AC. To ensure that the policy of restricting the non-audit work done by the external auditor is followed strictly by all entities within the Group, appropriate policies and

procedures have been established which set out: (i) the classification of services as pre-approved, not pre-approved and prohibited; and (ii) the approval process for services that have not been pre-approved. To strengthen the independence of the external auditor, HKEX has adopted a five-year rotation policy regarding the engagement partner of the auditor. As the engagement partner for the 2021 audit has served on the audit of the Group since 2017, a new engagement partner will be assigned to HKEX in 2022.

With respect to the independence of the Group's external auditor, the AC received confirmation from and discussed with PwC on its independence and objectivity.

During the year, the AC reviewed PwC's statutory audit scope and non-audit services and approved its fees. Under the approval procedures for audit fees, all audit fees for entities within the Group were coordinated and presented by PwC Hong Kong and were approved by the AC.

External Auditor's Services and Fees

	2021 \$m	2020 \$m
Audit services	18	19
Non-audit services		
• Tax advisory and compliance	2	2
• Other services	–	1
Total	20	22

Re-appointment of External Auditor

The AC was satisfied with PwC's work, its independence, objectivity, qualifications, expertise, resources and the effectiveness of the audit process, and therefore recommended the re-appointment of PwC (which has indicated its willingness to continue in office) as the Group's external auditor for 2022 for Shareholders' approval at the 2022 AGM.

YIU Kin Wah, Stephen

Chairman of the Audit Committee

Hong Kong, 21 February 2022

Risk Committee Report

Risk Statement

Effective risk management is important to the Group's achievement of its strategic goals. The Group manages risk across multiple risk domains, including but not limited to financial, business and strategic, operational (including IT and cyber security), ESG, and legal and regulatory risks. Business operations are managed in line with risk appetite tolerances set by the Board.

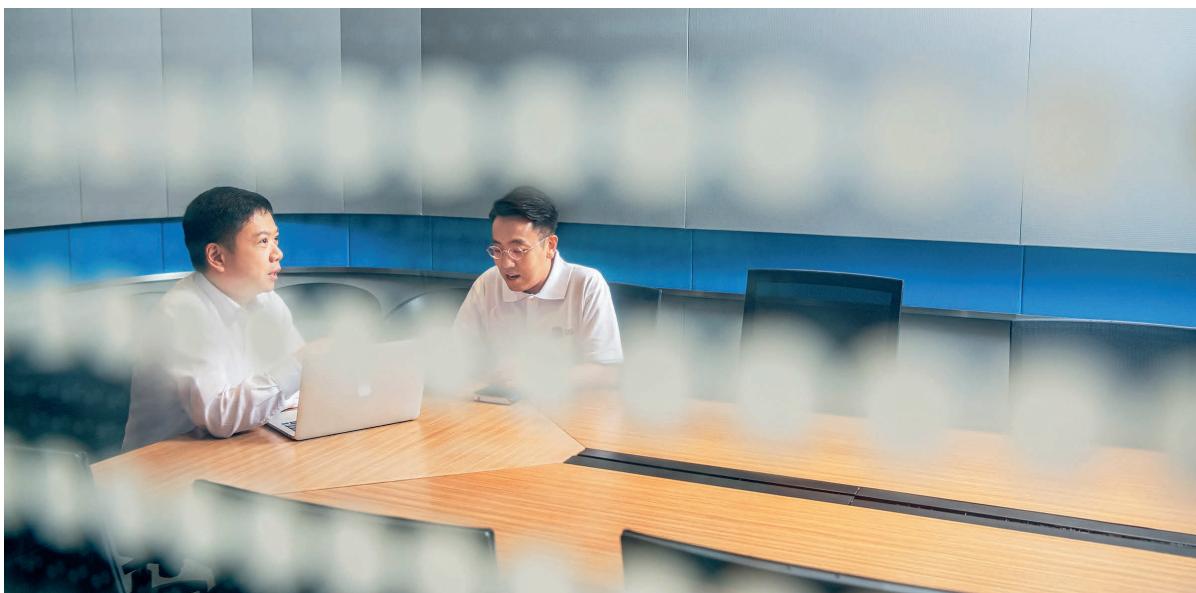
The Group seeks to ensure it achieves its strategic goal of being the global markets leader in the Asian time-zone; building upon our role as the leading venue for investing into and out of Mainland China, while increasing our international relevance to China, and our Asia relevance to the global markets. This includes acting in the interest of the public with particular regard to the interest of the investing public, maintaining stakeholder trust, and supporting the integrity of the financial system. The Group recognises its role as a market infrastructure provider and manager of systemic risk, and that its long-term sustainability is dependent on its pursuit of strategic goals while simultaneously managing risks, having sufficient capital and liquidity, ensuring continuity of operations, and protecting its reputation.

The Group aims to maintain sufficient capital and liquidity to meet its regulatory obligations, which require it to have financial resources to cover potential losses and liquidity needs for a range of stress scenarios taking into account extreme but plausible market conditions. As a business, the Group also aims to maintain sufficient capital over and

above that required to meet its regulatory obligations in order to fund its strategic development objectives while ensuring the appropriate balance between risk and shareholder returns. The Group applies risk management measures to strategic initiatives that are designed to limit the Group's exposure to potential losses. It also seeks to maintain liquid financial resources to meet unforeseen cash outflows. The Group strives to maintain stakeholder trust by avoiding business practices that could lead to reputational damage or harm to the Group. The Group, therefore, seeks to operate within all relevant rules and regulations and to avoid disruptions to its business operations that would have a negative impact on stakeholders.

The Risk Committee

The Risk Committee is delegated by the Board to oversee the Group's overall Risk Management Framework and to advise the Board on the Group's risk-related matters. The Committee is also responsible for reviewing the Group's risk and compliance policies and, in conjunction with the Audit Committee, assessing the adequacy and effectiveness of the Group's risk management and internal control systems. The Committee's terms of reference are available on the HKEX Group website [OS](#). The Committee comprises six INEDs whose names and biographies are set out in the Board and Committees section of this Annual Report. The Committee held five meetings in 2021. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.



Summary of Work in 2021/2022

- Approved the update of the independent risk review and reviewed the independent risk review remediation plan update;
 - Approved the HKSCC, HKCC, and SEOCH minimum capital requirements;
 - Approved the VaR Platform (previously known as NextGen Risk Management (NGRM)) project implementation proposals and HKSCC Guarantee Fund Cap for NGRM; and reviewed the NGRM assurance update;
 - Approved updates to the Personal Account Dealing Policy;
 - Endorsed revisions of Risk Committee's terms of reference and Committee's terms of reference compliance assessment; and approved revisions to terms of reference of the Executive Risk Committee and the Clearing Risk Committee;
 - Endorsed the establishment of the Listing Operation Governance Committee;
 - Endorsed the approach to reviewing investment portfolio limit;
 - Endorsed the proposed revision of the Information Security Risk Appetite Statement;
 - Reviewed the Group Chief Risk Officer Report and introduced divisional risk roundtable updates as a standing agenda point;
 - Reviewed the system capacity update;
 - Reviewed the business continuity drill update;
 - Reviewed the report on market impacts regarding the US Executive Order;
 - Reviewed the proposed share purchase mechanics for the HKEX Employees' Share Award Scheme;
 - Reviewed IMF Financial Sector Assessment Program Report – HKCC;
 - Reviewed the subsidiary governance framework;
 - Reviewed the Mainland business activities;
 - Reviewed the new Group Business Continuity Management Policy and Group Anti-Fraud Policy;
 - Reviewed the information security improvement update;
 - Reviewed the Clearing Risk Committee report;
 - Reviewed the HKEX Compliance Monitoring Programme (CMP), the CMP reports on Secretarial Services Department and on Cash Market Regulatory Reports and Commitments; and the assessment of state of regulatory compliance of Hong Kong entities;
 - Reviewed the results of the Group's quarterly Group Risk Management processes that cover HKEX, the LME Group, and QME, including risk heatmaps and dashboards, summaries of assurance activities, emerging risks and clearing house liquidity, capital adequacy, and solvency levels; and
 - Reviewed the management confirmation on the adequacy and effectiveness of the Group's risk management and internal control systems.
-

Operating an adequate and effective risk management and internal control system is essential to achieving the Group's strategic objectives and maintaining service delivery targets. The Risk Committee is responsible for overseeing the Group's risk management approach, policy and framework. The Group operates a consistent methodology using the Group Risk Management Framework for the identification, assessment, reporting and management of risks. Risk identification and management is the responsibility of Group Management. There were no material internal control defects or significant areas of concerns identified during 2021, and the Group has satisfactorily maintained appropriate levels and control measures in response to the Covid-19

pandemic. The risk management and internal control systems adopted by the Group remain adequate and effective in evaluating, determining and managing significant risks that the Group may take in achieving its strategic objectives.

An independent strategic risk review concluded in Q1 2021 has holistically examined the Group's risk organisation, processes and practices and identified areas of required investment to ensure Risk Management remains resilient with respect to the Group's evolving strategy. The Board and the Risk Committee have kept abreast of the progress made in the remediation plan to address the recommendations stipulated in the independent risk review report.

Risk Governance

The Group's risk governance structure is based on a "Three Lines of Defence" model, with oversight and directions from the Board, the Risk Committee, and Group Management through the Executive Risk Committee.



Group Risk Management

The Group Risk Management Framework, approved by the Risk Committee, mandates a consistent and effective approach applied across the Group to manage the risks associated with its business and operations. The framework is based on the International Organisation for Standardisation (ISO) 31000 Risk Management – Principles and Guidelines. The following diagram illustrates the key processes adopted under the Group Risk Management Framework.



Principal Risks

The Group faces a number of principal risks and uncertainties that, if not properly managed, could create an exposure for the Group. Thorough risk assessment and mitigation help ensure these risks are well managed and governed effectively. The Group focuses on addressing the following principal risks.

Principal Risks	Description	Key Mitigations
Business and Strategic Risk	The risk of material adverse changes to the Group's business performance, development prospects and/or ability to deliver its strategy, caused by changes in the business, economic, competitive, regulatory, or political environment in which the Group operates.	<ul style="list-style-type: none"> Proactive monitoring of global exchange industry trends, competitors, climate change and innovations; Proactive monitoring of and preparation for global and local changes in regulations affecting the Group; Responsive project controls to allow strategic flexibility and timely resource allocation; and Proactive monitoring of geopolitical developments, including sanctions impacts.
Credit Risk	The risk that a counterparty will not settle an obligation in full value, either when due or at any time thereafter.	<ul style="list-style-type: none"> Default management and recovery procedures in place; Operate a credit risk management function; Stress tested collateral and margin deposits; and Default contingent market risk managed through collateral management and margin collection.
Market Risk	The risk resulting from adverse movements in market rates or prices such as foreign exchange rates, interest rates, or equity prices impacting the Group's investment portfolio (Investment Market Risk), or from a defaulted member's portfolio.	<ul style="list-style-type: none"> Investment capital at risk limited by investment policies, restrictions, and guidelines; Investment portfolio stress limits; and Exposure to foreign exchange risk through subsidiaries limited due to HKD/USD peg.
Liquidity Risk	The risk of being unable to settle obligations as they fall due whether relating to HKEX's cash flow and/or regulatory requirements for clearing coverage confidence levels under extreme but plausible market conditions.	<ul style="list-style-type: none"> Investment policy, restrictions, and guidelines in place covering Corporate Funds, Margin Funds, and Clearing House Funds; and Clearing liquidity risk management requirements met through established stress testing practices.
Operational Risk	The risk of financial or reputational loss or inability to deliver services and products due to inadequate or failed internal processes, IT systems, or external events.	<ul style="list-style-type: none"> ESG programmes; Service delivery controls covering people, process, third parties and technology; Organisational leadership structure and operating model changes; and Site and data centre security and continuity arrangements, including Covid-19 pandemic response plans and split team operations.
Information Security and Technology Risk	The risk of financial or reputational loss or inability to deliver services and products due to computer hardware or software unauthorised access, use, disclosure, disruption, modification, or destruction of organisational data and/or systems.	<ul style="list-style-type: none"> Defence-in-depth cyber controls including segregation of critical systems; Enhanced information security risk appetite statement; Completed a review on cyber defence readiness; Improvement plan to uplift cyber maturity; Low latency, highly resilient IT service design; and Regular system performance monitoring, active capacity planning, maintenance and drills (including disaster recovery).

Principal Risks	Description	Key Mitigations
Legal and Compliance Risk	The risk of loss resulting from breach of or non-compliance with applicable laws, regulations, or contractual obligations.	<ul style="list-style-type: none"> • Internal and where appropriate external legal advice sought and compliance reviews conducted on business activities and new initiatives; • Legal review of contracts; • Appointment of new Group Chief Compliance Officer and Group Data Protection Officer; • Compliance Monitoring Programme; • Working constructively with regulators; and • Internal compliance policies and training on their application to ensure staff compliance with laws and regulations.
Listing Risk	The risk of reputational damage resulting from a failure on the part of SEHK to comply fully with its statutory obligations or the provisions of, or obligations under, the January 2003 MOU with the SFC.	<ul style="list-style-type: none"> • Existing checks and balances under three-tiered regulatory structure (including the Listing Committee) and establishment of a new Listing Operation Governance Committee; • Listing Division Market Contingency Plan to deal with potential business disruption events; • Monitoring of unusual movements in price or trading volume of issuers' listed securities; and • Segregation from other parts of HKEX using Chinese Wall arrangements to avoid leakage of inside information.
Model Risk	The risk of adverse consequences arising from actions and decisions taken on the basis of incorrect or miscalculated model outputs and reports.	<ul style="list-style-type: none"> • Model risk governance framework; and • Internal model validation capacity.

CHOW WOO Mo Fong, Susan
 Chairman of the Risk Committee
 Hong Kong, 15 February 2022

Remuneration Committee Report

The Remuneration Committee

The Remuneration Committee (RC) is delegated with the authority by the Board to establish, review, and make recommendations to the Board on the Group's remuneration policy and practices. The RC ensures that all employees and Executive and Non-executive Directors are appropriately remunerated in accordance with the Group's strategy as well as its long-term and short-term performance. Its terms of reference are available on the HKEX Group website [OS](#).

The RC comprises five INEDs whose names and biographies are set out in the Board and Committees section of this Annual Report. The RC held five meetings in 2021. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2021/2022

- Recommended the revised Share Purchase Mechanics for the Share Award Scheme, which were subsequently approved by the Board in August 2021
- Recommended to the Board the compensation arrangement and the 2021 performance related incentive pay for HKEX Chief Executive Officer
- Reviewed the results of HKEX 2021 People Survey
- Recommended the 2021 corporate scorecard for the Group
- Recommended the 2021 performance cash incentive and share award pools as well as the 2022 salary adjustment budget for the Group's employees
- Determined the 2021 performance cash incentive and share award for HKEX's selected senior executives, taking into account their individual performance and market benchmarking information
- Reviewed the remuneration of non-executive directors of HKEX, the LME, LME Clear and OTC Clear
- Reviewed the RC's terms of reference

Non-executive Directors' Remuneration

Objective

To remunerate Non-executive Directors at an appropriate level for their commitment to HKEX and to attract and retain high calibre and experienced individuals to oversee HKEX's business and development

Policy

- To conduct regular reviews with reference to companies with comparable business or scale and recommend remuneration adjustments, if appropriate
- To seek the Board's endorsement and Shareholders' approval of any recommended changes

Annual review for 2022/2023

- Aon was engaged to conduct a detailed study of market practices on chairman's and non-executive directors' fees for HKEX and its certain subsidiaries in February 2021, with benchmarks covering listed exchanges, selected major banks, and constituent companies of the FTSE 100 Index and the HSI.
- Taking into account market information provided by the consultant and noting that there had not been any increase in Non-executive Directors' fees for the last three years, the RC (none of the RC members participated in the decision on his/her remuneration) recommended increases in the fees payable to Non-executive Directors, as set out in the following table. The adjustment of Non-executive Directors' remuneration will be proposed to the Board for it to recommend to Shareholders for their approval at the 2022 AGM. More information is set out in the circular to Shareholders to be sent together with this Annual Report and posted on the HKEX Group website [IR](#).

Non-executive Directors' Remuneration Review for 2022/2023

	Proposed Fee for 2022/2023 onwards \$	Current Fee for 2021/2022 \$
Board		
– Chairman	3,500,000	3,300,000
– Other Non-executive Director	920,000	850,000
Audit Committee		
– Chairman	300,000	250,000
– Other member	180,000	160,000
Remuneration Committee		
– Chairman	300,000	250,000
– Other member	180,000	160,000
Risk Committee		
– Chairman	300,000	250,000
– Other member	180,000	160,000
Board Executive Committee		
– Chairman	250,000	250,000
– Other member	170,000	160,000
Corporate Social Responsibility Committee		
– Chairman	250,000	200,000
– Other member	170,000	160,000
Investment Committee		
– Chairman	250,000	250,000
– Other member	170,000	160,000
Listing Operation Governance Committee¹		
– Chairman	250,000	250,000
– Other member	170,000	160,000
Nomination and Governance Committee		
– Chairman	250,000	200,000
– Other member	170,000	160,000

¹ The Listing Operation Governance Committee was established in June 2021 to assist the Board in overseeing the operation and management of the Listing Division. The chairman and each member of the Committee are entitled to a fee of \$250,000 and \$160,000 respectively for 2021/2022 (subject to Shareholders' approval).

Non-executive Directors are not entitled to participate in the Share Award Scheme.

Further details of the Directors' emoluments are set out in note 15 to the Consolidated Financial Statements.



Employees' Remuneration

Objective

To ensure that employees are remunerated equitably and competitively with consideration of the achievement of their individual performance goals, the key business objectives at corporate level, and the market conditions

Policy

- To recommend, based on up-to-date market information, the appropriate salary adjustments, if any, for the Board's approval
- To evaluate the corporate performance based on a set of pre-determined indicators and to recommend the appropriate level of performance cash incentive and share award pools for the year, if any, to the Board
- To consult with HKEX Chief Executive Officer about the performance of the members of the Senior Management and other senior executives and to ensure that they are remunerated equitably and in accordance with the established guidelines
- To review and recommend the remuneration of HKEX Chief Executive Officer to the Board. As a good corporate governance practice, HKEX Chief Executive Officer is not involved in the Board's discussion and decision.

Review for 2021/2022

- Based on the RC's recommendation, the Board approved in October and December 2021:
 - (i) a base salary adjustment and promotion increase effective January 2022. The salary adjustment took into consideration the competitive positioning, the cost of living and the projected pay increase in the financial services industry;
 - (ii) a discretionary performance cash incentive for eligible employees in recognition of their contributions in 2021;
 - (iii) a discretionary award for the allocation of HKEX shares pursuant to the Share Award Scheme for 460 selected employees and for selected employees to be recruited in 2022; and
 - (iv) the compensation arrangement and the 2021 performance related incentive pay for HKEX Chief Executive Officer.

- The performance cash incentive and share award pools for the Group's employees were determined based on the overall achievements with respect to the following on the corporate scorecard:

Performance measures

Financial	<ul style="list-style-type: none"> Relative to selected peers of other global exchanges: <ul style="list-style-type: none"> Performance in principal market activities Relative to budget and prior year: <ul style="list-style-type: none"> Revenue and profit performance Profit margin EBITDA margin Relative to budget: <ul style="list-style-type: none"> Absolute expenses excluding incentives
Strategic and Business Development	<ul style="list-style-type: none"> China Anchored: <ul style="list-style-type: none"> Strengthen stakeholder engagement and lobbying efforts to support Mainland business initiatives Enhance infrastructure to increase usage of Connect programmes Globally Connected: <ul style="list-style-type: none"> Attract a more diverse range of quality issuers to Hong Kong and improve efficiencies in the IPO value chain Develop Hong Kong into a preferred offshore risk management centre for China and regional exposure Broaden distribution channels for derivatives market and Southbound Stock Connect Expand the LME's customer base and liquidity Technology Empowered: <ul style="list-style-type: none"> Focus on delivering core systems and enhancing technology resources and capabilities Leverage technologies and encourage innovation ESG/Green: <ul style="list-style-type: none"> Develop leadership into ESG as a corporate, a regulator and a market operator
Market Quality	<ul style="list-style-type: none"> Balance need for issuer/product quality and appropriate investor protections, with innovation and progressive development Maintain fair, orderly and resilient markets, and enhance market efficiency Enhance stakeholder engagement Rationalise revenue model and fee structure to ensure long-term competitiveness and sustainability
Risk and Compliance	<ul style="list-style-type: none"> Implement recommendations from the independent risk review, and strengthen risk governance, internal control systems and compliance culture Ensure regulatory compliance and improve regulatory dialogue Strengthen quantitative risk management Enhance technology risk management
Organisation Development	<ul style="list-style-type: none"> Attract, develop and retain talent, and develop a succession plan Strengthen organisational structure and enhance business and headcount efficiency Embed HKEX culture and values and strengthen employee engagement and collaboration Share and promote HKEX reputation, embedding strategic, leadership, operational and CSR/sustainability elements

Weighting for performance cash incentive and share award in 2021

Performance cash incentive



Share award



- Employees had to undergo a thorough annual performance appraisal process in which their performances were assessed according to the pre-determined and agreed work objectives before they were given their performance ratings (on a five-point scale) for the year. An additional multi-rater appraisal process was applied to employees at management level to ensure the assessment was multi-dimensional.
- Distribution to individual employees are guided by divisional and individual performances, where managers may make adjustments to account for other factors, including overall total compensation position (i.e., base salary plus the performance cash incentive and share award, if applicable), internal pay levels and external remuneration benchmarks.
- Under the HKEX Clawback Policy, incentive payments to the most senior level of executives of the HKEX Group, whether in form of cash or share-based awards, are subject to clawback under special circumstances according to the policy, including but not limited to where there has been a material misstatement or omission in the financial reports of the HKEX Group, or if the relevant senior executive has engaged in serious negligence, fraud, or misconduct. Any clawback action may be determined by the RC in respect of any short-term incentives paid and/or any share award granted to a senior executive within the period of three years immediately preceding the date on which the RC determines such action.

Further details of HKEX's remuneration policy and structure are available on the HKEX Group website [CG](#).

As at 31 December 2021, the Group had 2,146 permanent employees and 161 temporary employees.

A performance development process is in place to ensure that employees' performance objectives are defined, their performance progress is tracked, and training and development opportunities are identified for them. Employee training details are set out in the 2021 CSR Report.

Emoluments for 2021

Executive Director

	2021					2020	2021
	Salary \$	Performance ¹ cash incentive \$	Other ² benefits \$	Retirement ³ benefit costs \$	Director's fee \$	Total ⁴ \$	Total ⁴ \$
HKEX Chief Executive (since 24 May 2021)							
Nicolas Aguzin ⁶	6,048,392	16,500,000	156,870	756,049	- 23,461,311	-	47,761,948
HKEX Interim Chief Executive (from 1 January to 23 May 2021)							
Calvin Tai ⁷	2,750,323	2,938,356	31,991	343,790	- 6,064,460	-	2,643,066

Senior Management

	2021					2020	2021
	Salary \$	Performance ¹ cash incentive \$	Other ² Benefits \$	Retirement ³ benefit costs \$	Total ⁴ \$	Total ⁴ \$	Share ^{1,5} award benefits \$
Bonnie Y Chan	4,320,000	5,500,000	65,503	432,000	10,317,503	9,025,544	2,283,311
Vanessa Lau	3,360,000	4,000,000	39,923	420,000	7,819,923	7,301,424	2,793,649
Calvin Tai (full year) ⁷	6,960,000	7,500,000	89,184	870,000	15,419,184	12,080,969	6,815,108
Richard Wise ⁸	3,480,000	3,250,000	5,924,351	348,000	13,002,351	702,031	9,631,341

- 1 The 2021 performance cash incentive compensation and share awards to the Senior Management (including Executive Director) are subject to the Group's Clawback Policy.
- 2 Other benefits include leave pay, insurance premium, club membership, relocation allowance, cash allowance, sign-on bonus, compensation for loss of deferred payment earned through previous employment, and payment in lieu of pension contributions, as applicable.
- 3 An employee who retires before normal retirement age is 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 by 18 per cent annually thereafter and reaches 100 per cent after completion of seven years of service. An employee who retires at or after normal retirement age is eligible for the total balance of the employer's contribution.
- 4 Excludes the amounts approved by the Board for the allocation of HKEX shares pursuant to the Share Award Scheme, details of which are set out in the Share Award Scheme section below
- 5 These represent the amortised fair value of the Awarded Shares that was charged to the Consolidated Income Statement for the year ended 31 December 2021.
- 6 Mr Aguzin was appointed as Chief Executive of HKEX and an ex-officio member of the Board with effect from 24 May 2021 for a term of three years until 23 May 2024. Under the terms of his employment contract with HKEX, Mr Aguzin's compensation package includes a basic salary of \$10 million per annum. He is eligible to receive performance-related discretionary cash incentive and share awards to be recommended by the Remuneration Committee and approved by the Board. Upon joining HKEX on 24 May 2021, Mr Aguzin has been awarded 211,756 HKEX shares under the Share Award Scheme (see the Share Award Scheme section below), of which 50% will vest on the first anniversary of the date of grant and the remaining 50% on the second anniversary of the date of grant, as compensation for loss of unvested long-term incentives earned through his service with his previous employer.
- 7 Mr Tai served as Interim Chief Executive of HKEX and an ex-officio member of the Board from 1 January to 23 May 2021. Under a letter of appointment entered into with HKEX, Mr Tai's compensation package for his role as Interim Chief Executive included a basic salary of \$7.0 million per annum. He is eligible to receive performance-related discretionary cash incentive and share awards to be recommended by the Remuneration Committee and approved by the Board. Following his cessation as Interim Chief Executive of HKEX on 23 May 2021, Mr Tai continues in his roles as Chief Operating Officer and Co-President (up to 31 July 2021)/President (since 1 August 2021) of HKEX. Mr Tai's emoluments for 2021 as shown under the Senior Management table above include his salary, performance cash incentive, other benefits and retirement benefit costs for his service at HKEX for the entire year of 2021, i.e., his service as Interim Chief Executive of HKEX from 1 January to 23 May 2021 and as the Chief Operating Officer and Co-President/President throughout 2021.
- 8 Mr Wise joined HKEX in November 2020.

Further details of the five top-paid employees are set out in note 16 to the Consolidated Financial Statements.

Share Award Scheme

HKEX has adopted the Share Award Scheme to recognise the contributions of certain employees and help in retaining them for the Group's operations and further development. The Scheme was adopted by the Board on 14 September 2005 (Adoption Date) and shall be valid until 31 December 2025. The maximum number of HKEX shares which can be awarded under the Scheme is 3 per cent (i.e., 31,871,575 shares) of HKEX shares in issue as at the Adoption Date and the maximum number of shares which can be awarded to a selected employee in the Scheme is 1 per cent (i.e., 10,623,858 shares). The rules of the Scheme are available on the HKEX Group website [CG](#).

On 7 December 2021, the Board approved a total sum of \$376.9 million for the allocation of HKEX shares to be awarded to selected employees (including the Executive Director) as Employee Share

Awards in recognition of their contributions in 2021 ("2021 Awarded Sum"). The Awarded Shares for the 2021 Award Sum had not been allocated to the selected employees (including the Executive Director) as of 31 December 2021.

Since the Adoption Date and up to the date of this report, a total of 14,469,540 shares had been awarded under the Scheme, representing about 1.4 per cent of the number of HKEX shares in issue on the Adoption Date.

As at 31 December 2021, taking into account the shares acquired out of the dividends from the shares held under the trust, there were 2,370,901 shares held in trust under the Scheme (excluding shares vested but not yet transferred to awardees).

Further details of the Scheme are set out in note 43 to the Consolidated Financial Statements.

Details of the interests of HKEX Chief Executive Officer and the Senior Management in the Awarded Shares are set out below.

	Date of ² award	Number of Awarded Shares	Number of shares ¹						Reference awarded sum \$	Vesting period ⁴
			As at 1 Jan 2021	Shares acquired during the year out of the dividends	Vested during the year	Lapsed during the year	As at 31 Dec 2021			
HKEX Chief Executive Officer										
Nicolas Aguzin	2 Jun 2021	211,756 ⁵	-	1,936	-	-	213,692		24 May 2022 – 24 May 2023	
	-	-	-	-	-	-	-	38,500,000	7 Dec 2023 – 7 Dec 2024	
Senior Management										
Bonnie Y Chan	13 May 2021	11,633	-	106	-	-	11,739		9 Dec 2022 – 9 Dec 2023	
	-	-	-	-	-	-	-	5,500,000	7 Dec 2023 – 7 Dec 2024	
Vanessa Lau	31 Dec 2018	9,590	5,043	93	5,136	-	-		7 Dec 2020 – 7 Dec 2021	
	31 Dec 2019	8,535	8,737	162	4,448	-	4,451		12 Dec 2021 – 12 Dec 2022	
	13 May 2021	7,983	-	72	-	-	8,055		9 Dec 2022 – 9 Dec 2023	
	-	-	-	-	-	-	-	4,000,000	7 Dec 2023 – 7 Dec 2024	
Calvin Tai	31 Dec 2018	26,459	13,917	259	14,176	-	-		7 Dec 2020 – 7 Dec 2021	
	31 Dec 2019	23,526	24,085	450	12,267	-	12,268		12 Dec 2021 – 12 Dec 2022	
	13 May 2021	17,706	-	161	-	-	17,867		9 Dec 2022 – 9 Dec 2023	
	-	-	-	-	-	-	-	7,500,000	7 Dec 2023 – 7 Dec 2024	
Richard Wise	4 Dec 2020	42,500 ⁶	42,500	540	13,600	-	29,440		8 Feb 2021 – 8 Feb 2024	
	-	-	-	-	-	-	-	3,250,000	7 Dec 2023 – 7 Dec 2024	

1 Includes shares acquired out of the dividends from the Awarded Shares according to the Scheme

2 This refers to the date on which the trustee allocated the Awarded Shares to the selected employees from the shares purchased with the awarded sum determined by the Board.

3 This refers to the amount approved by the Board in 2021 for the allocation of the HKEX shares to be awarded to the selected employees. The allocation of Awarded Shares had not been made by the trustee as of 31 December 2021.

4 Save for the awards granted referred to in notes 5 and 6 below, the Awarded Shares and the related income are vested in two equal tranches in the second and third year after the grant.

5 The award was granted under the Scheme pursuant to the employment contract entered into by Mr Aguzin with the Company. The Awarded Shares and the related income (if any) are vested in two equal tranches on the first and second anniversary of the date of grant.

6 The award was granted as part of the hiring agreement with a special vesting schedule.

Rafael GIL-TIENDA

Chairman of the Remuneration Committee

Hong Kong, 16 February 2022

Corporate Social Responsibility Committee Report

The CSR Committee

The Corporate Social Responsibility (CSR) Committee is delegated with the authority by the Board to provide direction and oversee the development and implementation of the CSR initiatives of the Group in relation to corporate sustainability, environmental protection, philanthropy and community engagement. Its terms of reference are available on the HKEX Group website [OS](#).

The CSR Committee comprises four INEDs and the HKEX Chief Executive Officer, whose names and biographies are set out in the Board and Committees section of this Annual Report. The CSR Committee held four meetings in 2021. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2021/2022

- Reviewed and endorsed the following items:
 - the revised HKEX Shareholders Communication Policy;
 - the revision of the Stock Code for Charity Scheme;
 - the annual CSR Report; and
 - the work plan and budget for philanthropic and volunteering initiatives for 2022
- Reviewed and received the quarterly reports on the Group's CSR activities and charitable donations, covering:
 - donations in relation to the HKEX Charity Partnership Programme and the HKEX Impact Funding Scheme;
 - donations to The Community Chest of Hong Kong; and
 - other donations to the Group's charity partners
- Reviewed and discussed HKEX's CSR initiatives, alongside global trends in CSR development
- Reviewed the progress of HKEX's green initiatives against relevant targets, including HKEX's climate strategy and action plan, paper reduction, supply chain sustainability and other green initiatives
- Reviewed the CSR Committee's terms of reference

CSR Policies, Performance and Reporting

HKEX is committed to promoting and progressing its financial markets and the communities they support; and to continually seeking to reinforce its position as an active and responsible corporate leader. HKEX's CSR policies and CSR management approach are available on the HKEX Group website [CSR](#).

Reflecting the nature of its business, the Group is not aware of any existing environmental laws or regulations that would have a material impact on the Group. The Group, however, continues to adopt enhanced measures to reduce energy and other resource utilisation, minimise waste and increase recycling, encouraging its employees to adopt environmentally responsible behaviours whilst also promoting environmental protection in its supply chain and marketplace. In 2021, the Group joined the Glasgow Financial Alliance for Net Zero (GFANZ) and the Net Zero Financial Service Providers Alliance (NZFSPA) as part of the global financial community's commitment to accelerating the transition to a net-zero global economy, supporting global efforts to meet the goals of the Paris Agreement on climate change. During the year, HKEX continued its "Go Green with HKEX" campaign to raise environmental

awareness across its workplace and the broader community. A company-wide drive to reduce paper consumption in Hong Kong offices saw a 43 per cent decrease in the quantum of paper printed in 2021 compared with those in 2019.

As a responsible corporate citizen, the Group actively contributes to the community by making charitable donations to, and collaborating with, a wide range of charity partners. In 2021, HKEX, through the HKEX Foundation, continued the funding of community projects through the HKEX Charity Partnership Programme and the newly launched HKEX Impact Funding Scheme in Hong Kong; it also enhanced its commitments to its University Scholarship Programme. During 2021, the Group donated a total of \$106 million to various projects and initiatives in its communities including the donation of \$69 million to The Community Chest of Hong Kong. In addition, the LME donated approximately \$5.6 million to two charities, Pact and The Impact Facility, both aimed at addressing child labour and children's rights issues in African mining communities. These donations were made from LME enforcement proceeds – money previously collected from LME members in fines or penalties.

During 2021, the CSR Committee received and reviewed the CSR quarterly reports, which summarised the CSR initiatives undertaken by the Group. Details of the Group's CSR performance in 2021 are disclosed in the 2021 CSR Report.

Communication with Shareholders

Effective engagement with Shareholders is a vital component of HKEX responsibilities to this key stakeholder group. Throughout the year, HKEX has continued to deliver timely, balanced, clear, and transparent communications with its Shareholders and other investors. Details of the Group's shareholders and investors engagement and communication activities are set out in the Corporate Governance Report of this Annual Report and further details can be found on the Investor Relations section of the HKEX Group website [IR](#).

An HKEX Shareholders Communication Policy, which is available on the HKEX Group website [CG](#), sets out the Group's objective for ensuring Shareholders, and in appropriate circumstances, the wider investment community, are provided with ready, equal and timely access to balanced and understandable information about the Group: this ensures that Shareholders can exercise their rights in an informed manner, and allows them and the investment community to engage actively with the Group.

The CSR Committee reviewed the Group's shareholders and investor engagement and communication activities conducted in 2021 and was satisfied with the implementation and effectiveness of the Shareholders Communication Policy.

Relationships with other Major Stakeholders

The Group also actively engages with all its other major stakeholder groups including its employees, suppliers and partners through a variety of different channels with the aim of developing mutually beneficial relationships and promoting knowledge sharing, transparency and sustainability.

Employees are remunerated equitably and competitively. Learning and development opportunities are provided to equip staff members so that they can perform the best and achieve personal and corporate goals. In addition to ongoing talent

development programmes and workshops for employees at all levels, the Group this year launched iLearn, a new online platform which provides tailored learning resources for individual employees. In 2021, the Group delivered over 25,000 hours of training to its employees across different divisions and departments. The Group also undertook its biennial People Survey to gather employees' feedback on their views of the Company, their working environment and their levels of engagement. During the year, the Group continued to host a number of wellness programmes in Hong Kong and in London, supporting employee safety, health and mental well-being.

The Group this year also completed a wide ranging independent brand audit, soliciting views from more than 500 local, regional and international stakeholders on such areas as the Group's business offering, communications and sustainability credentials. This valuable insight will feed into the Group's ongoing strategic planning, ensuring that our commitment to CSR and good corporate citizenship remains pivotal to our strategic and organisational planning.

HKEX is committed to ensuring strong ethical supply chain management and seeks to use suppliers that reflect its values and commitment to being a good corporate citizen. During 2021, 26 key suppliers providing professional consultancy, employee benefits, information technology and property management services to the Group have completed a questionnaire regarding their own CSR performance. The Group was not aware that any of its key suppliers had reported any significant actual, or potential, negative impact on their own business ethics, environmental protection, human rights or labour practices, nor any of them had any non-compliance incident in respect of these areas.

Laura M CHA

Chairman of the CSR Committee

Hong Kong, 22 February 2022

Directors' Report



The Directors are pleased to present this Annual Report together with the audited consolidated financial statements for the year ended 31 December 2021.

Principal Activities

HKEX is a recognised exchange controller under the SFO. HKEX operates the only recognised stock and futures markets in Hong Kong through its wholly-owned subsidiaries, SEHK and HKFE, and is the frontline regulator of listed issuers in Hong Kong. In collaboration with the Shanghai and Shenzhen stock exchanges, HKEX operates Stock Connect, which gives investors in Hong Kong and the Mainland access to each other's stock markets. HKEX also provides market data through HKEX Information Services Limited.

HKEX operates HKSCC, HKCC, SEOCH, and OTC Clear, the only recognised clearing houses in Hong Kong. HKSCC, HKCC, and SEOCH provide integrated clearing and settlement services, while OTC Clear provides clearing and settlement services for over-the-counter interest rate and foreign exchange derivatives transactions. HKSCC also provides depository and nominee services.

HKEX owns the LME and LME Clear in the UK. The LME provides facilities for the trading of futures and options contracts on base and other metals. It is a recognised investment exchange under the Financial Services and Markets Act 2000 (FSMA). LME Clear provides clearing services for the exchange contracts

of the LME. It is a recognised clearing house under the FSMA and an authorised CCP under the UK European Market Infrastructure Regulation (EMIR).

HKEX owns 90.01 per cent of QME, which is a commodity trading platform in the Mainland.

A list of HKEX's principal subsidiaries as at 31 December 2021 and their particulars are set out in note 27 to the Consolidated Financial Statements. More information about the Group's activities is available in the About HKEX section of the HKEX Group website.

Business Review

The Group's revenue is primarily derived from business activities conducted in Hong Kong and the UK. An analysis of the Group's performance for 2021 by operating segment is set out in note 4 to the Consolidated Financial Statements.

A fair review of the Group's business, including the important events affecting the Group that have occurred since the end of 2021 and the likely future developments in the Company's business, is set out in the Chief Executive Officer's Review, Business Review, and Financial Review sections of this Annual Report. Principal risks and uncertainties facing the Group were reviewed by the Board as delineated in the Risk Committee Report. Details about the Group's financial risk management are set out in note 53 to the Consolidated Financial Statements.

The following table outlines the relevant laws and regulations that have a significant impact on the Group's business, and the compliance measures adopted and implemented by the Group during 2021.

Primary Legislation/Regulations¹	Key Scope	Compliance Measures
Exchange and clearing business in Hong Kong		
SFO	<p>HKEX is a recognised exchange controller and has duties under section 63(1) to ensure that the statutory duties placed on the recognised exchange companies (under section 21) and recognised clearing houses (under section 38) under its control are complied with.</p> <p>SEHK and HKFE are recognised exchange companies; and HKSCC, HKCC, SEOCH, and OTC Clear are recognised clearing houses (RCHs).</p>	<p>A corporate governance structure² is in place to enable HKEX to balance its public functions and its commercial profit making objectives.</p> <p>The Regulatory Compliance Department is responsible for ensuring compliance with rules and regulations in line with the corporate governance structure.</p>
PFMI	<p>As RCHs, HKSCC, HKCC, SEOCH, and OTC Clear are required to observe the applicable PFMI on an ongoing basis pursuant to the guidelines issued by the SFC.</p>	<p>Rule amendments by SEHK, HKFE, and each of the RCHs are approved by the SFC under section 24 (for recognised exchange companies) and section 41 (for RCHs).</p> <p>Fees imposed by SEHK, HKFE, and each of the RCHs are approved by the SFC under section 76.</p>
Exchange and clearing business in the UK		
Part XVIII of the FSMA and Part I and Part II of the FSMA (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001	The LME is a recognised investment exchange under Part XVIII of the FSMA and is required to ensure that its rules, procedures, and practices are adequate for the protection of investors and for the maintenance of an orderly market.	The LME follows the rules and guidance on recognition and notification requirements as set out in the FCA's Handbook, as well as having implemented the applicable MiFID II requirements.
Markets in Financial Instruments Directive 2014/65/EU, Markets in Financial Instruments Regulation 600/2014 and associated legislation (together, MiFID II)	<p>Until 31 December 2020, the LME was an EU regulated market required to comply with applicable EU MiFID II requirements. Since 1 January 2021, the LME has become a third country venue for EU MiFID II purposes, but continues to comply with MiFID II requirements as they form part of UK law.</p> <p>The right of the LME to provide access to its systems to entities in European Economic Area (EEA) jurisdictions now depends on the domestic rules applicable in individual Member States and the LME has obtained either applicable licences or dispensations in all relevant Member States. Further detail regarding the position in respect of the EEA jurisdictions that are relevant to the LME's current membership is set out in the LME's Notice of 4 January 2021 to its Members in relation to certain updates to the LME jurisdictions document.</p>	<p>As required by the FCA and on behalf of the LME board, the Audit and Risk Committee of the LME has to satisfy itself formally on an annual basis that the LME continues to meet these recognition requirements.</p> <p>The LME conducts a detailed analysis, covering the arrangements and controls in place for each requirement. This is supported by a compliance monitoring programme. During the second half of 2021, the LME conducted a comprehensive internal review of its compliance monitoring framework, in light of the amendments made to domestic legislation pursuant to the European Union (Withdrawal) Act 2018, to ensure that it continues to operate effectively.</p>

Primary Legislation/Regulations¹	Key Scope	Compliance Measures
Part 4A of FSMA & Benchmarks Regulation (known as BMR)	<p>Since 3 December 2019, the LME has been authorised by the FCA to administer a number of prices that are categorised as benchmarks under the BMR, and is required to comply with applicable requirements under the BMR and certain FCA rules in connection with the administration of these benchmarks.</p>	<p>To ensure compliance with the applicable BMR and FCA requirements, the LME has implemented a robust compliance framework around its benchmark determination processes, including a governance framework and a compliance monitoring programme, and has employed a dedicated member of personnel to oversee its benchmark activity.</p>
	<p>As “supervised entities” under the BMR, the LME and LME Clear, when using a “benchmark” (within the meaning of the BMR), are required to maintain fallback plans that identify steps to be taken where the relevant benchmark ceases to be provided or is no longer reflective of the market which it is intended to measure.</p>	<p>Mandatory BMR documentation is publicly available on the LME website.</p> <p>The LME’s benchmarks are subject to an annual external audit against BMR requirements.</p>
Senior Managers Regime (SMR)	<p>As a benchmark administrator, the LME became subject to the SMR with effect from 7 December 2020. The SMR aims to ensure individual accountability at senior management level for regulated activities. Broadly, this requires the LME to ensure that its senior managers are registered as “senior management function” holders in relation to specified functions; certain prescribed responsibilities are allocated accordingly; and the code of conduct requirements are applicable to relevant staff.</p>	<p>Compliance with the relevant requirements continues to be monitored via the compliance monitoring programme. The LME’s benchmarks are subject to an annual external audit against BMR requirements.</p>
Regulation on OTC Derivatives, Central Counterparties and Trade Repositories (known as EMIR) and MiFID II	<p>As of 1 January 2021, the EMIR and MiFID II requirements form part of UK domestic law. Under the UK EMIR, LME Clear is authorised as a CCP and LME Clear is required to comply with the applicable EMIR requirements and MiFID II requirements accordingly.</p> <p>LME Clear was, until 31 December 2020, an authorised CCP under the EU EMIR. Since 1 January 2021, LME Clear has become a recognised third country CCP in relation to its arrangements with EEA Clearing Members.</p>	<p>To ensure compliance with EMIR, LME Clear has implemented robust governance arrangements and a comprehensive risk management framework.</p> <p>LME Clear’s Rules and Procedures have been developed to reflect the legal framework which applies to LME Clear, including primarily the requirements of EMIR and MiFID II.</p> <p>All documentation required in relation to LME Clear’s compliance with EMIR and MiFID II is publicly disclosed on the LME website.</p>
FSMA	<p>LME Clear is a recognised clearing house under Part XVIII of the FSMA and is required to ensure that its rules, procedures and practices are adequate for the protection of investors and for the maintenance of an orderly operation.</p>	<p>LME Clear provides a high degree of legal certainty for each material aspect of its activities by setting out the rights and obligations of LME Clear and those of its Members in its Rules and Procedures (the Rules). The Rules support and allow LME Clear to conduct such material aspects appropriately and effectively, ensure Members understand the full extent of their obligations when using LMEmercury and clarify the protection provided to investors.</p> <p>Any changes to the Rules are notified to the Bank of England which, when appropriate, will approve the change. The Rules are publicly disclosed on the LME website.</p>

Primary Legislation/Regulations¹	Key Scope	Compliance Measures
Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (SFR)	LME Clear's secure payment system is a designated system and is required to meet the SFR requirements. In addition, as of 1 January 2021, LME Clear was approved as a third-country system under French law for the purposes of the Settlement Finality Directive.	LME Clear has adopted, as part of its Rules and Procedures, a Settlement Finality Rule (Rule 11) and related Settlement Finality Procedures which define the system and the point of irrevocability and finality of instructions as well as the participants in the system. The procedures explaining how the system meets the SFR requirements are available on the LME website.
PFMI	LME Clear, as financial market infrastructure, is required to observe the applicable PFMI on an ongoing basis.	LME Clear's approach to observing each applicable PFMI is summarised in its disclosure document, which is available on the LME website. LME Clear performs a self-assessment on an annual basis against the PFMI. This assessment is shared with LME Clear's primary regulator, the Bank of England.
Spot commodity trading platform in the PRC		
The Interim Measures of Shenzhen Municipality for the Supervision and Administration of Trading Venues (Shenzhen Interim Measures)	QME is a spot commodity trading platform in Shenzhen and is required to comply with the applicable rules under the Shenzhen Interim Measures on an ongoing basis.	QME's own compliance function, which became accountable to the Group Chief Compliance Officer with effect from November 2021, ensures that the operations and activities within its business scope comply with the relevant laws, rules and regulations.
Operations in Hong Kong, the UK and the PRC		
Prevention of Bribery Ordinance (Chapter 201 of the Laws of Hong Kong)	HKEX, SEHK, HKFE, HKSCC, HKCC, and SEOCH are public bodies under the Prevention of Bribery Ordinance and are subject to prohibitions on bribery (under sections 4 to 8) and corrupt transactions with agents (under section 9).	HKEX has adopted the Group Anti-Bribery and Anti-Corruption Policy ("Policy") to ensure that employees within the Group comply with the HK Prevention of Bribery Ordinance, the UK Bribery Act 2010, the PRC Criminal Law, and the PRC Anti-Unfair Competition Law, where applicable. The Policy is reviewed annually to ensure that it remains appropriate. During 2021, enhancements were made to the Policy to further strengthen the HKEX anti-bribery framework.
Bribery Act 2010	The Group's subsidiaries in the UK, persons who are British citizens or who are ordinarily resident in the UK, and any persons who by an act or omission in the UK formed part of the relevant bribery offence are subject to the Bribery Act provisions (under sections 1, 2 and 6). The LME, LME Clear, and any other Group companies carrying on business in the UK are "relevant commercial organisations" for the purposes of section 7 of the Bribery Act 2010.	
PRC Criminal Law and PRC Anti-Unfair Competition Law	QME and other PRC subsidiaries of HKEX are subject to prohibitions on bribery under the PRC Criminal Law and the PRC Anti-Unfair Competition Law.	

- 1 On the corporate level, all of the Group companies comply with the laws of the place in which the companies are incorporated, the Main Board Listing Rules, and the SFO, where they are applicable.
 2 HKEX's corporate governance structure is available on the HKEX Group website, and its principal corporate governance practices are set out in the Corporate Governance Report, the Nomination and Governance Committee Report, the Audit Committee Report, the Risk Committee Report, the Remuneration Committee Report, and the CSR Committee Report.

Disclosures related to the Group's environmental policies and performance, and relationships with major stakeholders are included in the CSR Committee Report.

Major Customers and Suppliers

During the year ended 31 December 2021, the combined value of the Group's contracts with its five largest suppliers, which were not of a capital nature, was less than 30 per cent of the total value of supplies purchased. The Group's five largest customers combined contributed less than 30 per cent of its total revenue and other income during the year ended 31 December 2021.

Results and Appropriations

The Group's results for the year ended 31 December 2021 are set out in the Consolidated Income Statement.

The Board has declared a second interim dividend of \$4.18 per share for 2021 (2020 second interim dividend: \$4.46 per share), which will be payable in cash, to Shareholders whose names appear on HKEX's Register of Members on 14 March 2022.

The 2021 first interim dividend of \$4.69 per share (2020 first interim dividend: \$3.71 per share) was declared by the Board and paid to the Shareholders in cash on 13 September 2021 in the total sum of \$5.9 billion (2020: \$4.7 billion). This included the dividends of \$12 million (2020: \$12 million) paid to shares held in trust under the Share Award Scheme.

Including the first interim dividend, the total dividends for 2021 amount to \$8.87 per share (2020: \$8.17 per share), which represents a payout ratio of 90 per cent (2020: 90 per cent) of the profit attributable to Shareholders, excluding the financial results of HKEX Foundation, for the year ended 31 December 2021. Dividends for shares held in trust under the Share Award Scheme amount to \$22 million (2020: \$21 million). More information about HKEX's dividend policy and the 2021 second interim dividend is set out in note 19 to the Consolidated Financial Statements and the Shareholder Information section of this Annual Report.

Donations

The Group's charitable donations during 2021 amounted to \$106 million (2020: \$113 million). The Group has never made any political donations.

More information about the Group's charitable donations is set out in the CSR Committee Report.

Share Capital

Details of the movements in share capital of the Company during 2021 are set out in note 42 to the Consolidated Financial Statements. No HKEX shares were issued during 2021.

Equity-linked Agreements

No equity-linked agreements were entered into by the Company during 2021 or subsisted at the end of 2021.

Reserves

As at 31 December 2021, HKEX's distributable reserves, calculated under Part 6 of the Companies Ordinance (Chapter 622 of the Laws of Hong Kong), amounted to \$9.9 billion (31 December 2020: \$8.1 billion).

Details of the movements in the reserves of the Group and HKEX during 2021 are set out in the Consolidated Statement of Changes in Equity and notes 43 to 46 and note 54(a) to the Consolidated Financial Statements.

Purchase, Sale or Redemption of HKEX's Listed Securities

During 2021, neither the Company nor any of its subsidiaries purchased, sold, or redeemed any HKEX shares, except that the trustee of the Share Award Scheme, pursuant to the terms of the rules and trust deed of the Share Award Scheme, purchased on the Stock Exchange a total of 1,454,300 HKEX shares at a total consideration of \$681 million.

Directors

The following is the list of Directors during 2021 and up to the date of this report (unless otherwise stated). Brief biographies of the Directors as at the date of this report are set out in the Board of Directors and Senior Management section of this Annual Report. Their interests in HKEX shares are set out in the Corporate Governance Report. Information about Directors' appointments, retirements, and remuneration is set out in the Nomination and Governance Committee Report and the Remuneration Committee Report.

INEDs

Laura May-Lung CHA (Chairman)
Nicholas Charles ALLEN (Elected on 28 April 2021)
Apurv BAGRI
CHAN Tze Ching, Ignatius (Retired on 28 April 2021)
CHEAH Cheng Hye
CHEUNG Ming Ming, Anna (Elected on 28 April 2021)
CHOW WOO Mo Fong, Susan
FUNG Yuen Mei, Anita (Retired on 28 April 2021)
Rafael GIL-TIENDA (Re-appointed on 28 April 2021)
HU Ziliu, Fred (Retired on 28 April 2021)
HUNG Pi Cheng, Benjamin
LEUNG Nisa Bernice Wing-Yu (Appointed on 28 April 2021)
LEUNG Pak Hon, Hugo
John Mackay McCulloch WILLIAMSON (Retired on 28 April 2021)
YIU Kin Wah, Stephen (Re-appointed on 28 April 2021)
ZHANG Yichen (Elected on 28 April 2021)

Executive Director

Alejandro Nicolas AGUZIN (Chief Executive) (Appointed on 24 May 2021)
TAI Chi Kin, Calvin (ex-Interim Chief Executive) (Appointed on 1 January 2021 and ceased directorship on 23 May 2021)

The following is the list of directors of HKEX's subsidiaries during 2021 and up to the date of this report (unless otherwise stated).

Alejandro Nicolas AGUZIN ^{1,2}	Gay HUEY EVANS	Marco Andrea STRIMER
BA Shusong	Marye Louise HUMPHERY ³	Antony John STUART
BAO Haijie	JIM Wai Kee	TAI Chi Kin ²
John Leo BUCKLEY	Romnesh LAMBA ³	Herta VON STIEGEL
Julie CARRUTHERS	LAU Bik Yun, Vanessa ²	WANG Guiju
Laura May-Lung CHA ¹	LEUNG Chung Kwong, Richard	WANG Tong ³
Matthew James CHAMBERLAIN	LEUNG Sing Man, Sandra	WANG Xiaokun
CHEUNG Kin Chung	LI Jieyi	John Mackay McCulloch WILLIAMSON
CHEUNG Ming Ming, Anna ¹	MAO Zhirong	WONG Chak Wai ³
CHOW WOO Mo Fong, Susan ¹	Julien Claude Jean-baptiste MARTIN	XU Minbo
Victoria Robyn COWLEY	Robin Michael MARTIN ³	YIU Ka Yan, Wilfred
DONG Feng	Keith Samuel NOYES	YIU Kin Wah, Stephen ¹
DUAN Fei	Lisa Florence O'CONNOR ³	Craig YOUNG
Adrian John Winston FARNHAM	POON Tim Fung	ZHANG Huizi
FUNG Hau Chung, Andrew ³	SHEK Yuen Leung ³	ZHU Jing
Rafael GIL-TIENDA ¹	Adam Barclay SINGER	ZHU Xiaojun
Hugh Edward GRAHAM	Gerard Armstrong SMITH ³	
HU Ziliu, Fred ³	SO Ying Ying, Glenda	

¹ Member of the Board as at the date of this report

² Member of Senior Management as at the date of this report

³ No longer a director of any subsidiaries of HKEX as at the date of this report

Directors' Interests in Transactions, Arrangements and Contracts

Details of the continuing connected transactions and related party transactions are set out in the Corporate Governance Report and note 50 to the Consolidated Financial Statements.

Notwithstanding the above, no transaction, arrangement, or contract that is significant in relation to the Group's business to which the Company or any of its subsidiaries was a party and in which a person who at any time in 2021 was a Director or his or her connected entity had, directly or indirectly, a material interest was entered into in 2021 or subsisted at any time during 2021.

Directors' Rights to Acquire Shares or Debentures

Pursuant to the Share Award Scheme, HKEX shares are awarded to the Company's Executive Director. Calvin Tai served as the Company's Interim Chief Executive and Executive Director from 1 January to 23 May 2021. Nicolas Aguzin was appointed as the Company's Chief Executive Officer and Executive Director with effect from 24 May 2021. Details of the interests of Mr Aguzin and Mr Tai in the Awarded Shares are set out in the Remuneration Committee Report and note 43 to the Consolidated Financial Statements.

Save for the above, neither HKEX nor any of its subsidiary undertakings was a party to any arrangements to enable Directors to acquire benefits by means of the acquisition of shares in, or debentures of, HKEX or any other body corporate at any time during 2021 or at the end of 2021.

Management Contracts

No contract, other than employment contracts, concerning the management and administration of the whole or any substantial part of the Company's business was entered into or existed during 2021.

Permitted Indemnity Provision

Pursuant to the HKEX's Articles, subject to the provisions of the statutes, every Director shall be entitled to be indemnified by the Company against all costs, charges, losses, expenses, and liabilities incurred by him or her in the execution and discharge of his or her duties or in relation thereto.

The Directors and Officers Liability Insurance (D&O Insurance) undertaken by the Company provides such indemnities to all the directors of the Company and its subsidiaries. The relevant provisions in the HKEX's Articles and the D&O Insurance were in force during the financial year ended 31 December 2021 and as of the date of this report.

Auditor

The financial statements for the year ended 31 December 2021 have been audited by PricewaterhouseCoopers, which retires and, being eligible, offers itself for re-appointment at the 2022 AGM. A resolution to re-appoint PricewaterhouseCoopers and to authorise the Directors to fix its remuneration will be proposed at the 2022 AGM.

All references above to other sections, reports or notes in this Annual Report form part of this report.

Approved by the Board on 24 February 2022

Laura M CHA

Chairman

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			At 31 Dec 2020		
		Current \$m	Non-current \$m	Total \$m	Current \$m	Non-current \$m	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
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
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.

Adoption of new/revised HKFRSs

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 Concessions¹

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		CBBCs, DWs & others	Total	Equity		CBBCs, DWs & others	Total
	Main Board	GEM			\$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.

Name of Director	2021							
	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)

Name of Director	2020							
	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
<u>Mandatorily measured at fair value</u>			
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
<u>Mandatorily measured at fair value</u>			
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	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	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	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)

	Other Intangible Assets				
	Goodwill \$m	Tradenames \$m	Customer relationships \$m	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

	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) Sale 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.

	Foreign currency	At 31 Dec 2021			At 31 Dec 2020		
		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.

Recurring fair value measurements:	At 31 Dec 2021				At 31 Dec 2020			
	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:

Description	Fair value		Valuation technique	Unobservable inputs	Range
	At 31 Dec 2021 \$m	At 31 Dec 2020 \$m			
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

Type of financial instruments	At 31 Dec 2021					
	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	Related amounts not offset in the consolidated statement of financial position		
				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)

Type of financial instruments	At 31 Dec 2020					
	Gross amounts set off in the consolidated statement of financial position		Net amounts presented in the consolidated statement of financial position ³	Related amounts not offset in the consolidated statement of financial position		
	Gross amounts \$m	financial position \$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

Shareholder Information

Financial Calendar 2022

Announce 2021 final results	24 February
2022 AGM	27 April
Announce 2022 first quarter results	April
Announce 2022 interim results	August
Announce 2022 third quarter results	October

For Shareholders to Attend and Vote at 2022 AGM

Latest time to lodge transfer documents for registration with HKEX's registrar	At 4:30 pm on 21 April 2022
Closure of HKEX's Register of Members	22 to 27 April 2022 (both dates inclusive)
Record date	27 April 2022

Dividend Policy

HKEX adopts a dividend policy of providing Shareholders with regular dividends. In general, HKEX will declare/propose dividends semi-annually when the Board approves the interim results and the annual results.

In determining the appropriate amount of dividend, the Group actively and regularly reviews and manages its capital structure to ensure an optimal capital structure and shareholder returns by considering:

- the expected capital requirements and capital efficiency;
- regulatory capital requirements of its regulated entities;
- prevailing and projected profitability;
- projected operating cash flows; and
- projected capital expenditures and strategic investment opportunities.

The normal target payout ratio is 90 per cent of the Group's profit attributable to Shareholders of the year, excluding the financial results of HKEX Foundation.

2021 Dividends

First interim dividend	\$4.69 per share
Second interim dividend	\$4.18 per share
Dividend payout ratio	90 per cent *

* Based on the Group's profit attributable to Shareholders for the year ended 31 December 2021, excluding the financial results of HKEX Foundation

The second interim dividend for 2021 will be payable wholly in cash.

Key Dates for 2021 Second Interim Dividend

Ex-dividend date	9 March 2022
Latest time to lodge transfer documents for registration with HKEX's registrar	At 4:30 pm on 10 March 2022
Closure of HKEX's Register of Members	11 to 14 March 2022 (both dates inclusive)
Record date	14 March 2022
Despatch of dividend warrants	23 March 2022

Share Information

HKEX shares are listed on the Stock Exchange and are eligible for Southbound Trading under Stock Connect. HKEX is currently a constituent stock of the HSI and a number of sustainability indices as disclosed on the HKEX Group website [IR](#).

Listing

As at 31 December 2021

• Number of issued shares	1,267,836,895 shares
• Market capitalisation	\$577.4 billion
Board lot size	100 shares

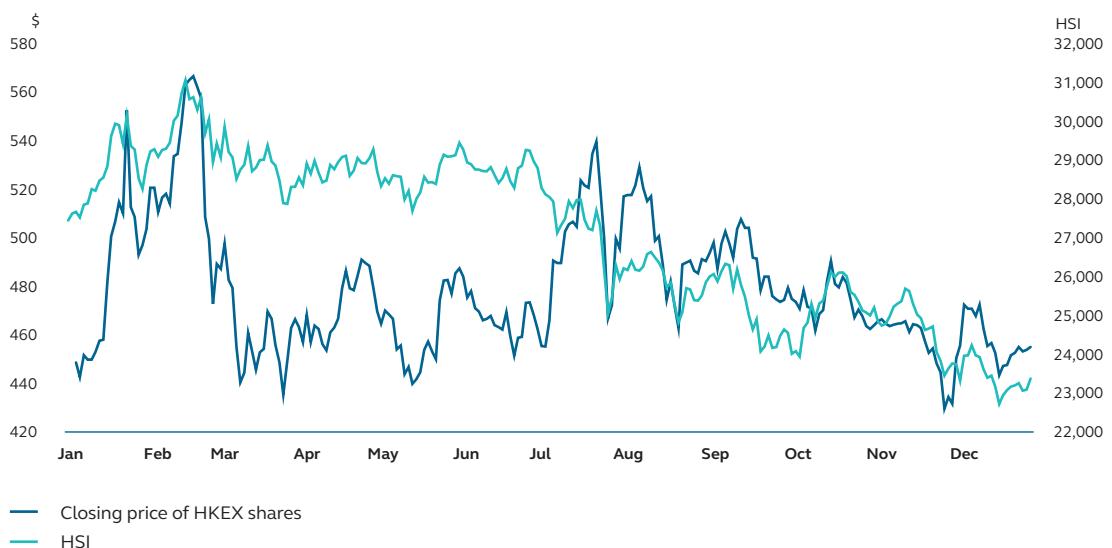
Stock Codes

Stock Exchange	388
Bloomberg	388 HK Equity
Reuters	0388.HK
ISIN	HK0388045442
SEDOL1	6267359 HK

American Depository Receipt

Ticker Symbol	HKXCY
CUSIP	43858F109

HKEX Share Price Performance vs HSI in 2021



Shareholding Distribution as at 31 December 2021 (based on HKEX's Register of Members)

Size of shareholding	Number of Shareholders	% of ¹ Shareholders	Number of shares held	% of HKEX shares in issue
1 – 1,000	2,334	50.1	976,792	0.1
1,001 – 5,000	1,427	30.7	3,525,750	0.3
5,001 – 10,000	342	7.3	2,572,584	0.2
10,001 – 100,000	434	9.3	12,933,200	1.0
100,001 and above	118	2.5	1,247,828,569	98.4
Total	4,655	100.0	1,267,836,895	100.0

¹ Percentage is for reference only, and may not add up to the total due to rounding.

Details about HKEX's major Shareholders are disclosed in the Corporate Governance Report contained in this Annual Report.

Electronic Communication

This Annual Report is printed in English and Chinese, and is available in the Investor Relations (Regulatory Disclosure) section of the HKEX Group website [IR](#).

Shareholders are encouraged to access HKEX's corporate communications electronically via the HKEX Group website to help protect the environment. Shareholders may at any time change their choice of language or means of receiving HKEX's corporate communications free of charge by giving not less than seven days' notice to HKEX's registrar.

Registration for News Alerts

Shareholders who would like to be notified when HKEX publishes its corporate communications on the HKEXnews website can register for the News Alerts service in the Market Data section of the HKEX Market website (www.hkex.com.hk). Further information about Shareholder communications can be found in the Corporate Governance Report contained in this Annual Report.

HKEX's Registrar – Hong Kong Registrars Limited

For corporate communications:

By post: 17M Floor, Hopewell Centre
183 Queen's Road East
Wan Chai, Hong Kong
By email: hkex.ecom@computershare.com.hk

For transfer of shares:

Address: Shops 1712-1716, 17th Floor
Hopewell Centre
183 Queen's Road East
Wan Chai, Hong Kong
Tel: +852 2862 8555
Fax: +852 2865 0990/+852 2529 6087

Feedback on Annual Report

HKEX values feedback on this Annual Report as well as its reporting of the Group's financial and governance performance. Shareholders may give their comments via the online form at www.hkexgroup.com/Investor-Relations/Regulatory-Disclosure/Regulatory-Reports or email at ssd@hkex.com.hk.

Glossary

2021 AGM • AGM held on 28 April 2021 at 4:30 pm at the HKEX Connect Hall on the 1st Floor, One and Two Exchange Square, Central, Hong Kong

2022 AGM • AGM to be held on 27 April 2022

ADT • Average daily turnover value

ADV • Average daily volume (in number of contracts/lots)

AGM(s) • HKEX's annual general meeting(s)

Autohome • Autohome Inc.

Awarded Shares • Shares awarded under the Share Award Scheme

Baidu • Baidu, Inc.

BayConnect • BayConnect Technology Company Limited

BBS • Bronze Bauhinia Star

Bilibili • Bilibili Inc.

Board • HKEX's board of directors

Bond Connect • A mutual bond market access programme between Hong Kong and Mainland China, under which Northbound trading enables overseas investors to invest in the China Interbank Bond Market, and Southbound trading enables Mainland institutional investors to invest in offshore bonds through the Hong Kong bond market

Cash Market • HKEX's securities related business excluding stock options

CBBCs • Callable Bull/Bear Contracts

CCASS • Central Clearing and Settlement System

CCP • Central counterparty

Chief Executive Officer or CEO • HKEX's Chief Executive

ChinaClear • China Securities Depository and Clearing Corporation Limited

CNH • Offshore RMB traded outside Mainland China

CNS • Continuous Net Settlement

Corporate Governance Code • Refers to Appendix 14 to the Main Board Listing Rules

CPs • Clearing Participants

CSR • Corporate Social Responsibility

Derivatives Market • HKEX's derivatives related business including stock options

Director(s) • HKEX's director(s)

DWs • Derivative warrants

e-IPO • Electronic Initial Public Offering

Elected Directors • Directors elected by the Shareholders at general meetings

EPs • Exchange Participants

ESG • Environmental, Social and Governance

ETF(s) • Exchange Traded Fund(s)

ETP(s) • Exchange Traded Product(s), which include(s) ETFs and L&I Products

EU • European Union

Euro • The official currency of the Eurozone

Exchange or SEHK or Stock Exchange • The Stock Exchange of Hong Kong Limited

FCA • Financial Conduct Authority

FIC • Fixed income and currency

FICC • Fixed income, currency, and commodities

Financial Secretary • Financial Secretary of the HKSAR

FINI • Fast Interface for New Issuance

Fintech • Financial technology

FSR • Federation of Share Registrars Limited

Futures Exchange or HKFE • Hong Kong Futures Exchange Limited

GBM • Grand Bauhinia Medal

GBS • Gold Bauhinia Star

GEM Listing Rules • Rules Governing the Listing of Securities on GEM of The Stock Exchange of Hong Kong Limited

Government • HKSAR Government

Government Appointed Director(s) • Director(s) appointed by the Financial Secretary pursuant to Section 77 of the SFO

Greater Bay Area • Guangdong-Hong Kong-Macao Greater Bay Area

Group or HKEX Group • HKEX and its subsidiaries

Headline ADT • ADT of equity products, DWs, CBBCs and warrants traded on the Stock Exchange

HKCC • HKFE Clearing Corporation Limited

HKEX Foundation • HKEX Foundation Limited

HKEX or the Company • Hong Kong Exchanges and Clearing Limited

HKEX's Articles • HKEX's Articles of Association

HKFRS(s) • Hong Kong Financial Reporting Standard(s)

HKICPA • Hong Kong Institute of Certified Public Accountants

HKSAR • Hong Kong Special Administrative Region of the People's Republic of China

HKSCC • Hong Kong Securities Clearing Company Limited

HSCEI • Hang Seng China Enterprises Index

HSI • Hang Seng Index

HUTCHMED (China) • HUTCHMED (China) Limited

INED(s) • Independent Non-executive Director(s) of HKEX

Innovation Lab • HKEX Innovation and Data Lab

IPO(s) • Initial Public Offering(s)

Iron Ore Futures • TSI Iron Ore Fines 62 per cent Fe CFR China Futures

IT • Information Technology

January 2003 MOU • Memorandum of Understanding Governing Listing Matters between the SFC and SEHK, dated 28 January 2003 (as supplemented by the addendum dated 9 March 2018)

JP • Justice of the Peace

L&I Products • Leveraged and Inverse Products

LGBT+ • Lesbian, gay, bisexual and transgender plus

Li Auto • Li Auto Inc.

Listing Committee • Listing Committee of the Main Board and GEM

Listing Rule(s) • Main Board Listing Rules and GEM Listing Rules

LME • The London Metal Exchange

LME Clear • LME Clear Limited

LME Group • HKEX Investment (UK) Limited, LMEH, the LME and LME Clear

LMEH • LME Holdings Limited

LMEmercury • LME Clear's clearing system which enables its Members to view their risk positions in real time

London Metal Mini Futures • London Aluminium/Zinc/Copper/Nickel/Tin/Lead Mini Futures

LSEG • London Stock Exchange Group plc

Main Board Listing Rules • Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited

MiFID II • Markets in Financial Instruments Directive II

Model Code • Model Code for Securities Transactions by Directors of Listed Issuers, Appendix 10 to the Main Board Listing Rules

MOU • Memorandum of Understanding

MSCI • MSCI Inc.

Northbound Trading or Stock Connect

Northbound • Hong Kong and overseas investors trading in eligible securities that are listed on the Shanghai Stock Exchange or the Shenzhen Stock Exchange through Stock Connect

OTC • Over-the-counter

OTC Clear • OTC Clearing Hong Kong Limited

PFMI • “Principles for financial market infrastructures” published by the Committee on Payment and Settlement Systems (now known as the Committee on Payments and Market Infrastructures) and the International Organization of Securities Commissions

PRC • The People’s Republic of China

QME • Qianhai Mercantile Exchange Co., Ltd.

RMB • Renminbi

SBS • Silver Bauhinia Star

Senior Management • Chief Executive Officer and other members of senior management of HKEX as set out in the Board of Directors and Senior Management section of this Annual Report

SEOCH • The SEHK Options Clearing House Limited

SFC • Securities and Futures Commission

SFO • Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong)

Shanghai-Hong Kong Stock Connect • A mutual market access programme that links the stock markets in Shanghai and Hong Kong, enabling investors in Hong Kong and Mainland China to trade and settle shares listed on the other market via the exchange and clearing house in their home market

Shareholder(s) • HKEX’s shareholder(s)

Share Award Scheme or the Scheme • The HKEX Employees’ Share Award Scheme

Shenzhen-Hong Kong Stock Connect • A mutual market access programme that links the stock markets in Shenzhen and Hong Kong, enabling investors in Hong Kong and Mainland China to trade and settle shares listed on the other market via the exchange and clearing house in their home market

Southbound Trading or Stock Connect

Southbound • Mainland investors trading in eligible securities that are listed on the Stock Exchange through Stock Connect

SPAC • Special purpose acquisition companies

SSE • Shanghai Stock Exchange

STAGE • HKEX’s Sustainable and Green Exchange

STAR Market • Sci-Tech Innovation Board of SSE

Stock Connect • Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect

SZSE • Shenzhen Stock Exchange

TCFD • The Task Force on Climate-related Financial Disclosures

Trip.com • Trip.com Group Limited

UK • United Kingdom

US • United States of America

US\$/USD • United States dollar

Weibo • Weibo Corporation

XPeng • XPeng Inc.

\$/HK\$/HKD • Hong Kong dollar

\$bn/bn • Hong Kong dollar in billion/billion

\$m • Hong Kong dollar in million

£/GBP • Pound sterling

1H, 2H • First half, second half (of the year)

Q1, Q2, Q3, Q4 • First quarter, second quarter, third quarter, fourth quarter (of the year)



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