

HKEX
香港交易所

Connecting
China
Connecting
the World

Annual Report 2020

Stock code: 388





Our vision is to be the

**Global Markets Leader
in the Asian Time Zone –
Connecting China,
Connecting the World.**

As the leading market for investing into and out of Mainland China, we are focused on further increasing our international and regional relevance, serving as the venue of choice for investors and issuers in the Asian time zone and beyond. Resiliency, sustainability and innovation are the cornerstones of our business.

Contents

Overview

- 4 Strategic and Financial Highlights
- 11 Chairman's Statement
- 15 Chief Executive's Review

Organisation

- 24 Board and Committees
- 26 Board of Directors and Senior Management
- 41 Management Committee

Management Discussion and Analysis

- 44 Business Review
- 72 Financial Review
- 77 10-Year Financial Statistics

Governance

- 80 Corporate Governance Report
- 96 Nomination and Governance Committee Report
- 99 Audit Committee Report
- 102 Risk Committee Report
- 106 Remuneration Committee Report
- 113 Corporate Social Responsibility Committee Report
- 115 Directors' Report

Financials

- 122 Auditor's Report
- 127 Consolidated Income Statement
- 128 Consolidated Statement of Comprehensive Income
- 129 Consolidated Statement of Financial Position
- 130 Consolidated Statement of Changes in Equity
- 131 Consolidated Statement of Cash Flows
- 132 Notes to the Consolidated Financial Statements

Others

- 215 Shareholder Information
- 218 Glossary

Financial figures in this Annual Report are expressed in HKD unless otherwise stated





Overview

Strategic and Financial Highlights

“HKEX had a strong year in 2020, despite the challenging macroeconomic environment. Revenue and other income, and profit both reached record highs for the third consecutive year. Cash Market turnover, Stock Connect and Bond Connect volumes all achieved new highs, and together with a buoyant IPO market, offset the impact of the low interest rate environment on investment income. We continue to execute and deliver on our Strategic Plan, capturing new growth opportunities and we remain fully focused on managing both costs and risks. With robust trading volumes, a strong IPO pipeline, and an expanding product portfolio, I am confident that HKEX will continue to play a vital role connecting investors, corporates and markets around the world, delivering on its vision to be the Global Markets Leader in the Asian Time Zone.”

Calvin Tai
Interim Chief Executive

Strategic Highlights



Corporate

- 23 Mar** Introduced innovative virtual IPO ceremonies to welcome new listings
- 27 May** Signed a licensing agreement with MSCI to launch Asia and emerging markets futures and options
- 27 Jun** 20th Anniversary of HKEX as a listed company
- 3 Jul** 3rd Anniversary of Bond Connect
- 17 Nov** 6th Anniversary of Stock Connect

Regulation

- 16 Mar** HKEX and SFC jointly released guidance on the publication of annual reports in light of the Covid-19 pandemic
- 8 Apr** SFC, HKEX and FSR jointly released consultation conclusions on the introduction of an Uncertificated Securities Market
- 29 Apr** Updated guidance materials for pre-revenue biotech companies
- 7 Aug** Published a consultation paper on review of disciplinary powers and sanctions
- 30 Oct** Published consultation conclusions on corporate weighted voting rights
- 27 Nov** Published a consultation paper on Main Board profit requirement
- 18 Dec** Published consultation conclusions on paperless listing and subscription regime

Corporate Social Responsibility

- 6 Mar** Published guidance materials on ESG reporting
- 17 Jun** Officially launched HKEX Foundation and Charity Partnership Programme
- 1 Dec** Launched STAGE, HKEX's Sustainable and Green Exchange
- 16 Dec** LME moved ahead on sustainability strategy and LMEpassport roll-out
- 17 Dec** Awarded as the Financial Education Champion by the Investor and Financial Education Council



HKEX
香港交易所
A warm welcome to
JD.com, Inc.
京东集团股份有限公司
9618

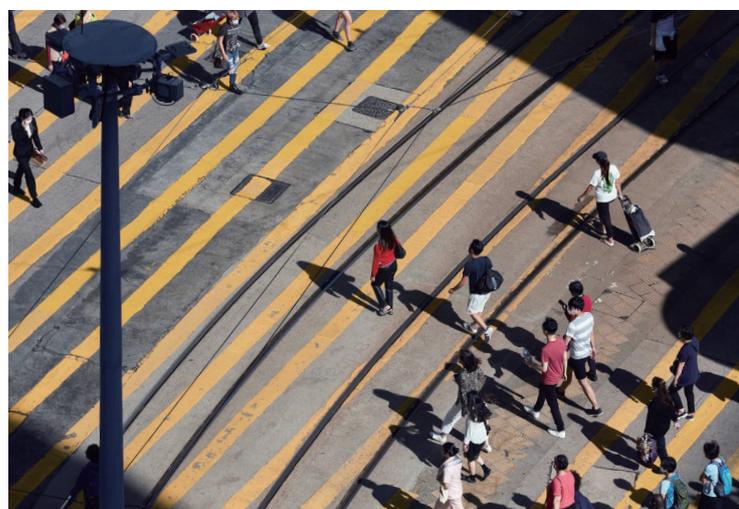


Market Operations

- 1 Feb** New rules on optimising its warehouse network introduced by LME
- 11 May** Implemented the first phase enhancements of Volatility Control Mechanism
- 15 Jun** OTC Clear completed the first trade via client clearing
- 9 Jul** LME commenced publishing off-warrant stocks data to deliver increased transparency of global metal availability
- 13 Jul** Structured product listing cycle shortened to three trading days
- 19 Oct** Launched a range of enhancements to the Pre-Opening Session
- 16 Nov** Published a concept paper on FINI, a proposal to digitalise Hong Kong's IPO settlement process
- 23 Nov** Introduced Synapse, a settlement acceleration platform for Stock Connect, to be launched in 2022
- 26 Nov** QME launched a natural gas trading platform in Mainland China
- 27 Nov** SEHK, SSE and SZSE agreed to include Hong Kong-listed pre-revenue biotech companies and A-shares listed on Shanghai's STAR Market in Stock Connect trading

Products and Services

- 27 Mar** HKEX welcomed the first Iron Ore Futures ETF
- 1 Jun** Introduced new spread tables and continuous quoting market making obligations for ETPs
- 5 Jun** HKEX welcomed the listing of the first commodity L&I product
- 8 Jun** Launched USD and CNH Silver Futures
- 6 Jul** Launched the first tranche of MSCI Futures
- 9 Jul** OTC Clear launched clearing services for HONIA-based interest rate products
- 10 Jul** Launched Master SPSA service to enhance Stock Connect
- 27 Jul** HKEX welcomed the first Hong Kong-listed A share L&I products
- 23 Oct** HKEX welcomed the first Hong Kong/Mainland ETF cross-listing
- 23 Nov** Launched Hang Seng TECH Index Futures
- 18 Dec** QME launched its first on-exchange cement contract



Financial Highlights

Record financial results for the third consecutive year.

Revenue and Other Income

2020 revenue and other income was up 18 per cent against 2019:

- Core business revenue was up 24 per cent compared with 2019, reflecting higher trading and clearing fees driven by record headline ADT.
- Stock Connect revenue and other income reached a record high of \$1,926 million, up 91 per cent against 2019.

Net investment income dropped 18 per cent against 2019, due to the lower fair value gains on collective investment schemes and lower interest income.

2020 EBITDA²

EBITDA was 19 per cent higher than 2019, with EBITDA margin² at 77 per cent, 2 per cent higher than 2019.

Operating Expenses

Operating expenses were 11 per cent higher than 2019. Excluding HKEX Foundation charitable donations¹, operating expenses were up 8 per cent, attributable to annual payroll adjustments and increased headcount arising from the acquisition of BayConnect in June 2019, and higher IT costs and professional fees.

Profit Attributable to Shareholders

Profit attributable to shareholders rose by 23 per cent, to a record high of \$11,505 million.

¹ HKEX Foundation was established to deepen HKEX's connectivity and long-standing commitment to our communities. From 2H 2020 onwards, the donation income from the Stock Code Balloting Charity Scheme were received by HKEX Foundation, and the amounts previously paid by the issuers directly to the Hong Kong Community Chest were paid by HKEX Foundation. As a result, HKEX recorded donation income of \$106 million, under revenue and other income, and HKEX Foundation charitable donations of \$112 million, under operating expenses in 2020.

² 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 and other non-recurring costs arising from the proposed combination with LSEG. EBITDA margin is calculated based on EBITDA divided by revenue and other income less transaction-related expenses.

Key Financials

	2020 \$m	2019 \$m	Change
Revenue and other income			
Core business revenue	16,856	13,582	24%
HKEX Foundation donation income ¹	106	–	N/A
Net investment income	2,228	2,729	(18%)
	19,190	16,311	18%
Operating expenses ¹	4,439	3,997	11%
EBITDA	14,641	12,263	19%
Profit attributable to shareholders	11,505	9,391	23%
Basic earnings per share	\$9.11	\$7.49	22%
First interim dividend per share	\$3.71	\$3.72	(0%)
Second interim dividend per share	\$4.46	\$2.99	49%
	\$8.17	\$6.71	22%
Dividend payout ratio	90%	90%	–

Key Market Statistics

	2020	2019	Change
ADT of equity products traded on the Stock Exchange ³ (\$bn)	110.9*	69.2	60%
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	18.6	18.0	3%
ADT traded on the Stock Exchange ^{3,4} (Headline ADT) (\$bn)	129.5*	87.2	49%
ADT of Northbound Trading of Stock Connect ³ (RMBbn)	91.3*	41.7	119%
ADT of Southbound Trading of Stock Connect ^{3,4} (\$bn)	24.4*	10.8	126%
ADV of derivatives contracts traded on the Futures Exchange ('000 contracts)	607	626	(3%)
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	526*	442	19%
Chargeable ADV ⁵ of metals contracts traded on the LME ('000 lots)	571	617	(7%)
ADT of Bond Connect (RMBbn)	19.8*	10.7	85%

* New record highs in 2020

³ Includes buy and sell trades under Stock Connect

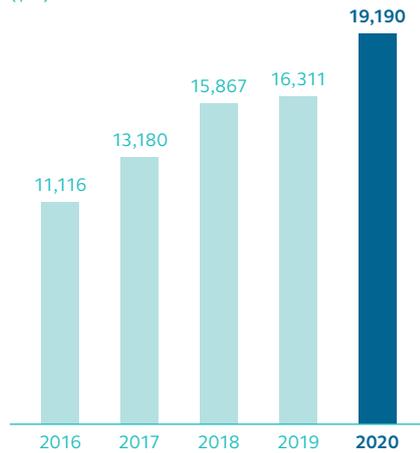
⁴ ADT of Southbound Trading is included within Headline ADT.

⁵ Chargeable ADV excludes administrative trades (Admin Trades) and other non-chargeable trades. Admin Trades were introduced in 2017 to meet requirements resulting from MiFID II.

Revenue and Other Income

\$19,190 million
+18%

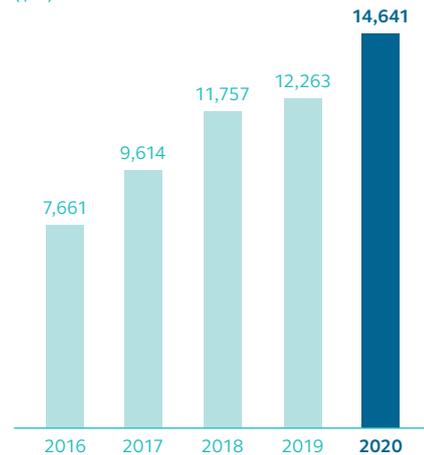
(\$m)



EBITDA

\$14,641 million
+19%

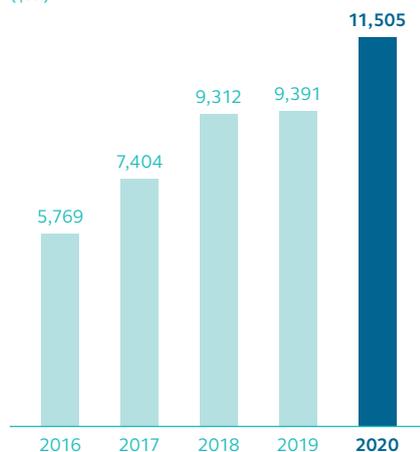
(\$m)



Profit Attributable to Shareholders

\$11,505 million
+23%

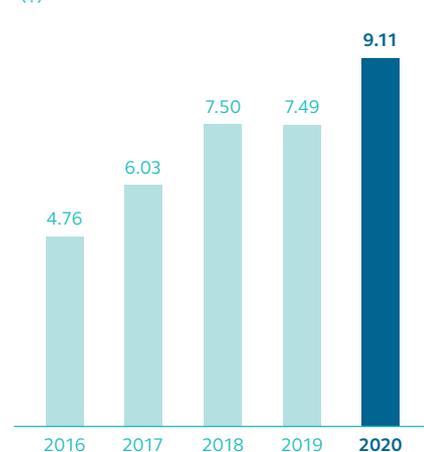
(\$m)



Basic Earnings Per Share

\$9.11
+22%

(\$)



Chairman's Statement

“2020 was a milestone year for HKEX, marked by the 20th anniversary of our own listing, and record trading activity on our markets. Throughout, HKEX demonstrated its resilience and strength, providing fully functioning, well-regulated markets, deftly adapting to change, innovating and reinforcing its relevance at the heart of the global financial community.”



\$11,505
million

**Record profit
attributable to
shareholders**

2020 was a milestone year for HKEX, marked by the 20th anniversary of our own listing, and record trading activity on our markets. The year will be one that will be remembered for the many challenges arising from the Covid-19 global pandemic, escalating geopolitical tensions, and economic fragility. Throughout, HKEX demonstrated its resilience and strength, providing fully functioning, well-regulated markets, deftly adapting to change, innovating and reinforcing its relevance at the heart of the global financial community. This ensured that despite the prevailing macro environment, HKEX had a productive and successful year, and that the business enters 2021 well-placed for capitalising on the opportunities ahead.

Our Performance

Total revenue and other income of the Group for the year ended 31 December 2020 reached a record high of \$19.2 billion, up 18 per cent from 2019, resulting in a record profit attributable to shareholders of \$11,505 million, up 23 per cent.

The Group's strong financial performance reflected the resilience and adaptability of our businesses during a challenging year. Our securities market in Hong Kong set new trading activity records in 2020, and trading volumes on both Stock Connect and Bond Connect reached new highs. Driven by the strong growth momentum in biotech and new economy company fundraisings, HKEX ranked second globally for IPO fundraisings in 2020, raising a total of \$400.2 billion, the highest amount since 2010.

Since March 2020, for only the second time in its 140 year history, the LME has conducted its markets and pricing electronically, seamlessly responding to the challenges of the global pandemic. Whilst the chargeable average daily volume of metals contracts traded on the LME fell by 7 per cent from 2019, the trading fees for 2020 increased by 5 per cent, driven by the fee tariff increment effective 1 January 2020.

Dividend

The Board declared payment of a second interim dividend of \$4.46 per share, wholly in cash, which, together with the first interim dividend of \$3.71 per share paid in September 2020, results in a record full-year dividend of \$8.17 per share.

Strategic Update

Against a challenging backdrop, we made significant progress in delivering on our stated strategy to be China Anchored, Globally Connected and Technology Empowered. Our efforts to enhance the competitiveness and attractiveness of our markets have further strengthened our ability to capture future growth opportunities and sustain our success. Of particular note for 2020 was our agreement with MSCI to strengthen our derivatives franchise, with the introduction of MSCI Asia and Emerging Markets Index futures and options to Hong Kong's markets; the announcement of the launch of HKEX Synapse, a new integrated settlement platform; our proposals to streamline the Hong Kong's IPO settlement cycle through the introduction of FINI; and our efforts to support the global strength of our IPO market, especially for biotech and new economy companies.

We recently became a minority shareholder of Guangzhou Futures Exchange Co., Ltd., a newly established futures exchange in the Guangdong-Hong Kong-Macao Greater Bay Area, which will focus on serving the real economy and green development initiatives.

Further details on these initiatives and a range of other strategic developments, market and product initiatives are set out in the Chief Executive's Review and Business Review sections of this Annual Report.

Market Quality

Market quality and sustainability are central to our role as a leading global exchange group. Through the promotion of market integrity, efficiency and resilience we support the health of our markets and we know that this is pivotal to ensuring the broader long-term success of Hong Kong as an international financial centre.

In 2020, we continued to improve our market microstructure. This included enhancements to our Pre-Opening Session and Volatility Control mechanisms in our Hong Kong securities market; and a shortened structured products listing cycle to three trading days. Following a thorough review of the Hong Kong derivatives market trading suspension on 5 September 2019, we also introduced a number of new measures and enhancements to our systems and processes to provide better risk management, oversight and communication in the event of any future major market incidents.

Underscoring our strong commitment to sustainability, in December we launched HKEX's Sustainable and Green Exchange (STAGE), Asia's first multi-asset sustainable investment product platform which has been very well received by the market. STAGE, by providing greater information, access and transparency on a wide range of sustainable-themed products in Asia, has positioned us strongly at the forefront of the development of sustainable and green finance market in Hong Kong and the region. Our commitment to championing sustainability extends to all areas of our business. As part of its strategy, the LME announced a number of sustainable initiatives, including launch plans for a digital credential register, LMEpassport, to provide greater visibility on sustainability criteria including emissions.

During the year, we issued market consultations on proposals to enhance the Exchange's disciplinary regime and the profit requirement for Main Board listings. After carefully considering market feedback, the Exchange also published conclusions to its consultation on Corporate Weighted Voting Rights (WVR) beneficiaries, and introduced new grandfathering arrangements to enable qualifying issuers with Corporate WVR to seek secondary listings in Hong Kong. We also announced amendments to the Listing Rules for the implementation of a paperless listing and subscription regime.

Specific details of the Group's performance, achievements, and market initiatives in 2020 are set out in the Chief Executive's Review and Business Review sections of this Annual Report.

Corporate Responsibility

At HKEX, we recognise that our responsibilities go beyond our status as a stock exchange group. Our commitment to being a responsible corporate leader and our role in the community are integral parts of our business, our strategy and of our future.

In 2020, we conducted internal evaluations of the performance of the boards of HKEX and its subsidiaries, OTC Clear, the LME and LME Clear. The evaluations concluded that all four boards operate effectively, and identified areas for enhancement.

In June, we were proud to launch the HKEX Foundation, and its flagship HKEX Charity Partnership Programme deepening our commitment and connectivity with our communities and anchoring our purpose as an organisation: "Supporting the prosperity of all".

>\$100
million

The HKEX Foundation has raised more than \$100 million since its launch.

The HKEX Foundation has raised more than \$100 million since its launch, and the monies raised were distributed to community projects that address some of the most pressing needs in our society. Our inaugural \$20 million commitment to HKEX's Charity Partnership Programme, in celebration of HKEX's 20th anniversary of its own listing, will support 10 community projects, focusing on financial literacy, diversity and inclusion, poverty relief, and environmental sustainability, aiming to deliver positive and sustainable impact on local communities. During 2020, the HKEX Foundation also made emergency relief donations of \$10 million in response to the Covid-19 pandemic; made awards in Hong Kong, Mainland China and the UK; introduced a new Hong Kong university scholarship programme; and made direct donations to a number of important projects, campaigns and charities. The LME also continued to promote gender diversity and inclusion across the markets and communities, through a wide range of advocacy and training programmes. Details can be found in our 2020 CSR Report, which is available on the HKEX Group website together with this Annual Report.

Outlook

Looking ahead, global financial markets will continue to be shaped by the impact of the Covid-19 pandemic, ongoing geopolitical tensions, US-China trade relations and the anticipated economic recovery. This backdrop presents HKEX with both considerable opportunities, as well as challenges.

Set against this, our role will continue to be ever more relevant in international markets and future global economic prosperity. Our resilience, our ability to connect investors around the world, our unique position as both destination market and gateway to China and our commitment to sustainability make us very well positioned to benefit from future growth opportunities.

On behalf of the Board, I would like to express gratitude to our International Advisory Council members for their insight and guidance during the year, and also to Ms Anita Fung, Mr Chan Tze Ching, Dr Fred Hu and Mr John Williamson, who will retire after the conclusion of the 2021 AGM, for their invaluable contributions to HKEX during their tenures of service. I also thank my fellow Board members for their support and commitment throughout 2020.

I would also like to convey the Company's deep thanks to Mr Charles Li, who retired as HKEX Chief Executive on 31 December 2020, following more than a decade of outstanding contribution and leadership to the Company and to Hong Kong's financial markets. During Mr Li's tenure as Chief Executive, HKEX successfully transformed from a regional stock exchange into one of the world's premier market infrastructure groups.

We welcomed Mr Calvin Tai to his new role as the Interim Chief Executive of HKEX on 1 January 2021. The Group will benefit from Mr Tai's broad knowledge of global markets, his thorough understanding of our businesses and his commitment to the success of Hong Kong's financial community.

I also take this opportunity to offer the Board's heartfelt appreciation to our dedicated staff for their hard work, commitment and professionalism during this most challenging of years, ensuring the full functioning of our markets and the continued success of our business. Our appreciation also extends to our Shareholders and other valued stakeholders for their ongoing support, trust and confidence in us.

Laura M CHA
Chairman

Hong Kong, 24 February 2021

Chief Executive's Review

“The year 2020 was a challenging but productive one for HKEX. We remained focused on our unique ability to connect East with West, providing access to capital, utilising technology and driving innovation. This has made our markets and our business more competitive, reinforcing our leading position as the go-to international financial market in Asia.”



The year 2020 was a challenging but productive one for HKEX. We reported record financial results and record trading volumes, and launched an array of new initiatives and products. This was despite the market turbulence brought about by the global pandemic that challenged every community around the world, one that continues to influence the way we live and work today. However, strong HKEX foundations, a clear strategy and robust operations and processes ensured that we made good progress on the delivery of our Strategic Plan against all three strategic pillars: China Anchored, Globally Connected, and Technology Empowered. We remained focused on our unique ability to connect East with West, providing access to capital, utilising technology and driving innovation. This has made our markets and our business more competitive, reinforcing our leading position as the go-to international financial market in Asia.

Outstanding Market Performance

Market Highlights in 2020

- Stock Connect Northbound and Southbound reached record turnovers of RMB21,088.6 billion and \$5,508.1 billion respectively, and record ADT of RMB91.3 billion and \$24.4 billion respectively for the year.
- Bond Connect turnover also saw record-high with ADT reaching RMB19.8 billion, increasing 85 per cent from 2019.
- Our IPO market ranked second globally, with total IPO funds reaching \$400.2 billion (64 per cent from 50 New Economy companies).
- Hong Kong now ranks as the second largest fundraising market for biotech companies, which together with WVR and secondary listings, raised a total of \$164.9 billion in 2020.
- Hong Kong again took the crown as the world's largest structured products market, for the 14th consecutive year.

Our primary market had another excellent year. Hong Kong ranked second in the world's IPO fundraising league table in 2020: 154 company listings¹ raised \$400.2 billion in total, a 27 per cent increase on 2019 and the highest amount raised in a single year since 2010. Of these listings, 64 per cent of funds raised were from 50 New Economy companies, including 22 Weighted Voting Rights (WVR), biotech and/or secondary-listed companies which raised IPO funds of \$164.9 billion (2019: \$117.3 billion raised by 10 companies). Hong Kong was the

second-largest biotech fundraising centre in the world, achieving this accolade in only 2 years since the launch of our new listing regime in 2018². The Group welcomed some of the world's biggest IPOs of the year, including the secondary listings of JD.com and NetEase in June, raising \$35 billion and \$24 billion respectively. The IPO pipeline remains very strong going into 2021.

HKEX announced a number of Listing Rule amendments during the year, enhancing the attractiveness and

¹ Includes 8 transfers of listings from GEM to Main Board and listing by introduction; and excludes investment vehicle(s) pursuant to Chapters 20 and 21 of the Main Board Listing Rules and very substantial acquisition(s)

² Refers to the Main Board Listing Rules Chapters 8A, 18A and 19C

efficiency of the Hong Kong markets whilst at the same time ensuring appropriate investor protections. These amendments included the extension of the current WVR regime to accommodate secondary listings by issuers with corporate WVR structures that meet certain requirements, enhancements to the Chapter 37 Professional Debt Regime, and the implementation of a paperless listing and subscription regime, among others. During the year, we released several market consultations including proposals to increase profit requirements for Main Board Listings, and enhancements to the existing disciplinary regime.

Our secondary markets remained very strong in 2020. The full-year 2020 ADT for the Cash Market reached \$129.5 billion, an increase of 49 per cent compared with 2019, recording many days with turnover in excess of \$200 billion. Total market turnover in 2020 reached \$32,110.1 billion, a new

record and a 50 per cent increase on 2019. The market capitalisation of the securities market reached \$47,523.0 billion at the end of December 2020, marking an increase of 25 per cent compared with the end of December 2019.

Hong Kong again took the crown as the world's largest structured products market, for the 14th consecutive year, with total securitised derivatives (DWs, CBBCs and Inline Warrants) turnover of \$4,597.3 billion, an increase of 4 per cent compared with 2019; derivatives turnover in the year set a new high of 282,225,200 contracts. Contract volumes of many structured products set new records in 2020, including but not limited to mini HSI Futures, and weekly HSI and HSCEI options. The newly launched Hang Seng TECH Index Futures and Options gained strong traction, providing investors with new risk management tools for Hong Kong-listed technology companies.

Average Daily Turnover on Cash Market



Average Daily Number of Contracts Traded on Derivatives Market



Strategic Development Review

China Anchored

The internationalisation of the RMB continues apace, and the gradual opening-up of China offers significant opportunities for global investors. Hong Kong, as the largest offshore RMB centre, is uniquely placed to act as a global connector between international and Mainland Chinese markets. During 2020, HKEX played an active role in support of Mainland outbound portfolio diversification, as well as enabling global access to Mainland securities investments through two-way cross-border facilitation.

We celebrated the sixth anniversary of Shanghai-Hong Kong Stock Connect and the fourth anniversary of Shenzhen-Hong Kong Stock Connect in 2020, both of which have fundamentally changed and enhanced regional capital markets. As at the end of 2020, total cumulative turnover on Northbound and Southbound Stock Connect were over RMB40 trillion and \$14 trillion respectively, having recorded many record volumes throughout the year. The success of the programme is evidenced by a significant increase in quantity of cross-border holdings: as at 31 December 2020, Hong Kong and international investors held a total of RMB2.3 trillion in A-shares, compared with RMB86.5 billion as at 31 December 2014, the year Stock Connect was first introduced. Meanwhile, Mainland investors held HK\$2.1 trillion worth of Hong Kong-listed shares, up from HK\$13.1 billion as at 31 December 2014.

Working closely with regulators and onshore exchanges, we are committed to continuing to add breadth and depth to our landmark Mutual Market Access programme. Eligible pre-revenue biotech companies listed in Hong Kong and A-shares listed on the Shanghai Stock Exchange's Sci-Tech Innovation Board (STAR Market) were included in the Southbound and Northbound trading of Stock Connect in December 2020 and February 2021 respectively. Starting in January 2021 and subject to certain conditions, Mainland annuity funds were also given the green light to invest in Hong Kong market via Stock Connect. We signed a Memorandum of Understanding (MOU) with the Shenzhen Stock Exchange (SZSE) in relation to an ETF Cross-Listing Scheme, and welcomed two ETFs listed each on the SEHK and SZSE to our markets in October 2020.

Bond Connect demonstrated excellent momentum during 2020, with daily and monthly turnover setting multiple new records throughout the year. A number of enhancements were introduced, including fee reductions, trading hour extensions and the expansion in the number of foreign exchange settlement banks. Bond Connect's successful operations were one of the key factors leading to the inclusion of Mainland bonds in major global indices, including FTSE Russell's scheduled inclusion of Chinese sovereign bonds in its benchmark bond index in 2021. Throughout the year, Bond Connect has continued to be embraced by international investors; as at the end of 2020, 2,352 global institutional investors across 34 jurisdictions had been on-boarded, compared with 1,601 across 31 jurisdictions at the end of 2019. Total net inflows as at end-2020 reached RMB1.2 trillion, compared with RMB133.4 billion at end-2017, the year it was launched.

In 2020, Qianhai Mercantile Exchange (QME) launched the Mainland's third natural gas spot trading platform and first on-exchange cement contracts, actively expanding product offerings beyond base metals. Driven by this series of new initiatives, as well as expanded pipeline transportation and warehousing capacity, total trading volume in 2020 reached RMB13.2 billion, compared with RMB1.6 billion in 2019. We are also pleased to announce that HKEX recently became one of the founding shareholders of the newly set up Guangzhou Futures Exchange, marking another milestone in our commitment to the Greater Bay Area.

Globally Connected

In response to structural shifts in the investment management industry and evolving investment trends, we have provided enhanced product offerings to cater to the different trading strategies of our broad client base. We also introduced a large number of microstructure enhancements to drive market efficiency and reduce market friction. From July to September, we launched 38 MSCI Asia and Emerging Market Index Futures, representing a major step forward in the expansion of HKEX's derivatives product offering, strongly supported by new trading hours arrangements and enhanced incentives for liquidity providers and proprietary traders. Other new launched products include the first listings of Iron Ore Futures ETF, Commodity L&I products, A share L&I products, and Hang Seng TECH Index Futures and Options.

OTC Clear became the first clearing house to offer clearing services for interest rate products benchmarked to the Hong Kong Dollar Overnight Index Average (HONIA). Notional amount cleared was US\$149.0 billion, 25 per cent lower than 2019.

Despite having to move to electronic trading in the wake of the pandemic, the LME continued to operate robust and efficient markets, with deep liquidity, for participants from the metals and financial trading communities around the world. Of note during 2020, was the introduction of cash-settled contracts, the launch of Silver Futures, the expansion of a new ferrous suite of contracts, greater engagement with the battery materials and electric vehicle industries and a commitment to develop a transparent lithium pricing solution. As part of our efforts to make metals a cornerstone of a sustainable future, a new digital credentials register, LMEpassport, is gradually being rolled out across the LME's physically settled metals, requiring certificates of analysis (CoAs), starting in 2021.

Technology Empowered

We have continued to focus on capturing the benefits of the accelerating pace of technological innovation in our industry. Throughout an extremely challenging year, we were able to maintain robustness and stability in all of our major trading, clearing, settlement and market data dissemination systems despite notable market volatility, and deploying flexible working arrangements for HKEX staff. Utilising various digital channels, we expanded outreach and engagement to issuers and market participants, including a selection of new e-Forms in place of physical submissions and the design and launch of an innovative "virtual listing ceremony" for new issuers.

A number of key initiatives were also announced or launched during the year:

- We launched a concept paper on FINI (Fast Interface for New Issuance), to reduce the time between IPO pricing, and trading, by as much as 80 per cent, from its current average of more than five business days, to as little as one business day, deploying technology to drive efficiency, alleviate funding lock-ups and digitalise Hong Kong's IPO franchise.

- We announced HKEX Synapse, a settlement acceleration platform for Northbound Stock Connect, which will utilise smart contract technology to automate and streamline post trade processes. With target implementation in 2022, we hope to encourage more Stock Connect trading through offering increased post trade automation and enhanced risk management for investors.
- We announced the adoption of a pioneering paperless listing and subscription regime, and online display of certain documents, to be rolled out in 2021.
- The LME suspended Ring trading to safeguard the wellbeing of members and adhere to social distancing guidelines in 2020. Reflecting the smooth transition experience to electronic pricing as a result, in January 2021, the LME published proposals to permanently move towards becoming an electronic venue (including the Ring and the inter-office market). It also plans to fully rebuild its electronic trading platform, LMEselect, to refresh trading infrastructure and add an all-new onscreen options market.
- The market-wide soft launch of the Orion Risk Platform (previously known as NextGen Risk Management) in January 2021 will significantly consolidate and improve the robustness of our post trade risk management measures. The platform creates a single risk engine for risk monitoring and risk exposure calculation across all markets, together with a centralised Report Access Platform for convenient data retrieval.

Our Innovation Lab applied innovative technologies to core business functions, including deployment of Robotic Process Automation (RPA) across the business, and the application of artificial intelligence to support regulatory reviews and market surveillance. Internally across all offices, during the year we utilised an enhanced range of digital tools to deliver operational efficiency and flexibility in our working environment.

Pandemic Response

As well as enhancing our technological capabilities, this year we rolled out a number of programmes to support our stakeholders and communities during the pandemic. Working closely with the SFC, we provided guidance for listed issuers on disclosure of results announcements during the early phase of the Covid-19 outbreak, and subsequently released guidance in relation to exemptions to general meetings in April in accordance with local pandemic development.

During a year of many challenges, HKEX was fully committed to supporting our communities and being a responsible corporate leader. We made emergency relief donations of \$10 million in Hong Kong, Mainland China and the UK. We also offered \$10,000 invoice credits as relief measure to each of the eligible Exchange Participants (EPs) in August, with an option to donate to the HKEX Foundation, HKEX's charitable and philanthropic entity.

In December 2020 we were pleased to launch our new GO BEYOND graduate internship programme, which will provide up to 50 recent graduates with a unique six-month internship at the heart of Asian capital markets. The programme seeks to support young talent in a difficult market and to develop and strengthen Hong Kong's competitiveness, as one of the region's major financial services employers.

Strategic Outlook

2021 looks to be another year of uncertainty. However, the availability of a portfolio of vaccines, China's faster than expected economic rebound and a global commitment to far reaching sustainability goals, all give cause for optimism.

2021 will be the third and final year of the current Strategic Plan. Alongside strong risk management, and a resolute focus on costs, as always, we will remain ardently focused on the successful execution of the plan to capture further growth opportunities in the region and beyond, helping realise our vision to be the "Global Markets Leader in the Asian Time Zone".

Appreciation

The Group has demonstrated extraordinary resilience in 2020. This would not have been possible without our HKEX Group staff, who have worked tirelessly during a year of many challenges, not only supporting our business, but the broader communities in which we operate. My sincere thanks to each of them for their contributions.

I would like to express our gratitude to the senior executives who have recently left the Company, including former Chief Executive Mr Charles Li, for their contribution and service throughout the years. We too, are pleased to have welcomed a number of new executives to HKEX, including Mr Richard Wise, new Group Chief Risk Officer, and Ms Glenda So, new Head of Post Trade to the Group.

I would also like to thank the SFC, the Hong Kong Monetary Authority, market participants, our partners, friends and stakeholders for their unending support. Finally, I would like to thank my fellow members of the Board for their trust and unwavering support. We are well placed to meet the opportunities and challenges ahead.

TAI Chi Kin, Calvin

Director and Interim Chief Executive
Co-President & Chief Operating Officer

Hong Kong, 24 February 2021



Organisation



Board and Committees



Board

INEDs

Laura May-Lung CHA *¹ GBM, GBS, JP (Chairman)
 Apurv BAGRI
 CHAN Tze Ching, Ignatius BBS, JP
 CHEAH Cheng Hye²
 CHOW WOO Mo Fong, Susan *³
 FUNG Yuen Mei, Anita * BBS, JP
 Rafael GIL-TIENDA *
 HU Zulu, Fred
 HUNG Pi Cheng, Benjamin *⁴ BBS, JP
 LEUNG Pak Hon, Hugo²
 John Mackay McCulloch WILLIAMSON
 YIU Kin Wah, Stephen *

Executive Director

TAI Chi Kin, Calvin⁵ (Interim Chief Executive)
 LI Xiaojia, Charles⁶ SBS (ex-Chief Executive)

Group Company Secretary

FU Yat Hung, David⁷
 MAU Kam Shing, Joseph⁸

Committees

Audit Committee

YIU Kin Wah, Stephen (Chairman)
 CHAN Tze Ching, Ignatius
 FUNG Yuen Mei, Anita
 LEUNG Pak Hon, Hugo⁹
 John Mackay McCulloch WILLIAMSON

Board Executive Committee¹⁰ (formerly known as Executive Committee)

Laura May-Lung CHA¹¹ (Chairman)
 CHEAH Cheng Hye⁹
 LEUNG Pak Hon, Hugo⁹
 LI Xiaojia, Charles⁶
 TAI Chi Kin, Calvin⁵
 John Mackay McCulloch WILLIAMSON

Corporate Social Responsibility Committee

Laura May-Lung CHA¹¹ (Chairman)
 HU Zulu, Fred¹²
 LEUNG Pak Hon, Hugo¹³
 LI Xiaojia, Charles⁶
 TAI Chi Kin, Calvin⁵
 John Mackay McCulloch WILLIAMSON
 YIU Kin Wah, Stephen

Committees (Continued)

Investment Committee

CHEAH Cheng Hye⁹ (Chairman)
 FUNG Yuen Mei, Anita
 HU Zulu, Fred
 HUNG Pi Cheng, Benjamin⁹
 LEUNG Pak Hon, Hugo⁹

Nomination and Governance Committee

Laura May-Lung CHA¹¹ (Chairman)
 Apurv BAGRI
 CHAN Tze Ching, Ignatius
 CHEAH Cheng Hye⁹
 Rafael GIL-TIENDA
 HUNG Pi Cheng, Benjamin¹²

Panel Member Selection Committee

CHAN Tze Ching, Ignatius (Chairman)
 CHEAH Cheng Hye⁹
 FUNG Yuen Mei, Anita
 Rafael GIL-TIENDA
 LEUNG Pak Hon, Hugo⁹

Remuneration Committee

Rafael GIL-TIENDA (Chairman)
 Laura May-Lung CHA⁹
 CHEAH Cheng Hye⁹
 CHOW WOO Mo Fong, Susan¹²
 HU Zulu, Fred
 John Mackay McCulloch WILLIAMSON

Risk Committee

John Mackay McCulloch WILLIAMSON¹⁴ (Chairman)
 Laura May-Lung CHA^{9,15} (ex-Chairman)
 CHAN Tze Ching, Ignatius
 CHOW WOO Mo Fong, Susan¹²
 LEUNG Pak Hon, Hugo⁹
 YIU Kin Wah, Stephen

Risk Management Committee (statutory)^Δ

Laura May-Lung CHA¹¹ (Chairman)
 CHAN Ka Chai, Clara **¹⁶
 CHAN Tze Ching, Ignatius¹³
 CHEUNG Wai Hing, Daisy **¹⁷
 CHOW WOO Mo Fong, Susan¹²
 GAO Yingxin **¹⁸
 LAM Yuk Kun, Lawrence **
 LAU Chung Kin, Clement **¹⁹
 LEUNG Chung Yin, Rico **²⁰
 Barbara SHIU **
 John Mackay McCulloch WILLIAMSON¹⁴

* Government Appointed Director

** Appointed by the Financial Secretary

Δ Established under Section 65 of the SFO

1 Re-appointed as Director and Chairman effective 7 and 19 May 2020 respectively until the conclusion of the AGM to be held in 2022

2 Re-elected as Director from 7 May 2020 until the conclusion of the AGM to be held in 2023

3 Appointed as Director from 7 May 2020 until the conclusion of the AGM to be held in 2022

4 Re-appointed as Director from 7 May 2020 until the conclusion of the AGM to be held in 2022

5 Appointment effective 1 January 2021

6 Retired on 31 December 2020

7 Appointment effective 1 April 2020

8 Retired on 31 March 2020

9 Re-appointment effective 7 May 2020

10 Change of name effective 3 February 2020

11 Re-appointment by virtue of being HKEX's Chairman effective 19 May 2020

12 Appointment effective 7 May 2020

13 Appointment ceased on 7 May 2020

14 Appointment effective 2 January 2020

15 Resignation from Chairman to member effective 2 January 2020

16 Appointment by virtue of being Executive Director (Monetary Management) of the Hong Kong Monetary Authority effective 17 October 2020

17 Appointment by virtue of being the Chairman of Hong Kong Interbank Clearing Limited effective 1 January 2020

18 Appointment by virtue of being the Chairman of Hong Kong Interbank Clearing Limited ceased on 1 January 2020

19 Appointment by virtue of being Executive Director (Monetary Management) of the Hong Kong Monetary Authority ceased on 17 October 2020

20 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 71

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) and International Advisory Council, 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

The Hongkong and Shanghai Banking Corporation Limited

– chairman (2019~) and independent non-executive director (2004~)

World Federation of Exchanges – director (2018~)

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

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

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

Past offices

The Hongkong and Shanghai Banking Corporation Limited

– deputy chairman (2007-2019)

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



TAI Chi Kin, Calvin
**Executive Director,
 Interim Chief Executive,
 Co-President, and Chief
 Operating Officer**

Aged 58

Joined in July 1998

Interim Chief Executive since
 1 January 2021

Ex-officio member of the Board

Term of office: 1 January 2021
 until the new Chief Executive is
 appointed

Other positions held with the Group

- HKEX** – member of Board Executive Committee and Corporate Social Responsibility Committee
- HKFE and SEHK** – chief executive
- HKCC** – chairman
- HKSCC** – chief executive and member of Risk Management Committee
- SEHK** – ex-officio member of Listing Committee of the Main Board and GEM
- OTC Clear** – chief executive and chairman of User Committee
- HKEX’s certain subsidiaries** – director

Past offices

- China Exchanges Services Company Limited** – director (2012-2021)
- HKEX** – 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

- Listing Policy Panel** – member (2021-)

Qualifications

- Bachelor of Social Sciences** (The University of Hong Kong)



Apurv BAGRI
INED

Aged 61

Director since 28 April 2016

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

Other positions held with the Group

- HKEX** – member of Nomination and Governance Committee

Other major offices

- International Wrought Copper Council** – director (2013-)
- Metdist Group of Companies, London** – president and chief executive officer (1980-)

Public service

- London Business School** – chairman of governing body (2014-)
- Dubai Financial Services Authority** – director (2004-)
- Crown Estate Paving Commission, England** – commissioner (1996-)

Qualifications

- Bachelor of Science in Business Administration**
 (Cass Business School, City University London, UK)
- Doctor of Science (Honoris Cause)** (City University London, UK)



CHAN Tze Ching, Ignatius

BBS, JP

INED

Aged 64

Director since 23 April 2009

Term of office: 25 April 2018
(re-elected) to 2021 AGM

Other positions held with the Group

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

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

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

Other major offices

AFFIN Bank Berhad (listed on Bursa Malaysia) – non-executive director (2017–)

CVC Capital Partners Limited – senior adviser (2010–)

Mongolian Mining Corporation * – independent non-executive director (2010–)

The Bank of East Asia Limited * – senior adviser (2009–)

Past offices

Rizal Commercial Banking Corporation (listed on Philippine Stock Exchange) – non-executive director (2011-2019)

AFFIN Holdings Berhad (formerly listed on Bursa Malaysia) – non-executive director (2013-2018)

Bank of China (Hong Kong) Limited – deputy chief executive (2008)

Citigroup (1980-2007):

Citigroup country officer for Hong Kong and head of corporate and investment banking business for Greater China (2005-2007), chief operating officer for Greater China (2004-2005), and Citigroup country officer for Taiwan (2003-2005)

Public service ¹

Standing Committee on Judicial Salaries and Conditions of Service – member (2017–)

Qualifications

Bachelor of Business Administration and **Master of Business Administration** (University of Hawaii, US)

Certified Public Accountant (American Institute of Certified Public Accountants)

* Listed on the Stock Exchange

¹ Ceased to be a member of the Financial Reporting Council effective 1 October 2020



CHEAH Cheng Hye

Darjah Gemilang Pangkuan Negeri

INED

Aged 66

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 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.



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

INED

Aged 67

Director since 7 May 2020

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

Other positions held with the Group

HKEX – member of Remuneration Committee, Risk Committee and Risk Management Committee (statutory)

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



FUNG Yuen Mei, Anita

BBS, JP

INED

Aged 60

Director since 29 April 2015

Term of office: 24 April 2019
(re-appointed) to 2021 AGM

Other positions held with the Group

HKEX – member of Audit Committee, Investment Committee and Panel Member Selection Committee, and chairman of Derivatives Market Consultative Panel

SEHK – member of Listing Nominating Committee

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

Other major offices

China Construction Bank Corporation * – independent non-executive director (2016~)

Hang Lung Properties Limited * – independent non-executive director (2015~)

Past offices

Westpac Banking Corporation (listed on Australian Securities Exchange) – independent non-executive director (2018-2020)

HSBC Holdings plc * – group general manager (2008-2015)

The Hongkong and Shanghai Banking Corporation Limited (1996-2015): chief executive officer Hong Kong (2011-2015), head of global banking and markets, Asia Pacific (2010-2011), and treasurer and head of global markets, Asia Pacific (2005-2010)

Public service

Judicial Officers Recommendation Commission – member (2017~)

Museum Advisory Committee – member (2016~)

The Hong Kong Mortgage Corporation Limited – director (2016~)

Qualifications

Bachelor of Social Science (The University of Hong Kong)

Master of Applied Finance (Macquarie University, Australia)

* Listed on the Stock Exchange



Rafael GIL-TIENDA
INED

Aged 68

Director since 29 April 2015

Term of office: 24 April 2019
(re-appointed) to 2021 AGM

Other positions held with the Group

HKEX – chairman of Remuneration Committee, member of Nomination and Governance Committee and Panel Member Selection Committee, and deputy chairman of Cash Market Consultative Panel and Clearing Consultative Panel

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)



HU Zuli, Fred
INED

Aged 57

Director since 10 November 2014

Term of office: 25 April 2018
(re-elected) to 2021 AGM

Other positions held with the Group

HKEX – member of Corporate Social Responsibility Committee, Investment Committee and Remuneration Committee

HKEX Foundation – director

Other major offices

Industrial and Commercial Bank of China Limited * – independent non-executive director (2019~)

UBS Group AG (listed on SIX Swiss Exchange and New York Stock Exchange) – director (2018~)

Yum China Holdings, Inc * ¹ (also listed on New York Stock Exchange) – non-executive chairman (2016~)

Primavera Capital Limited – founder and chairman (2011~)

Tsinghua University – professor and co-director of National Center for Economic Research (1996~)

Past offices

Hang Seng Bank Limited * – independent non-executive director (2011-2018)

Goldman Sachs Group Inc (1997-2010): chairman of Greater China (2008-2010) and managing director (2000-2010)

International Monetary Fund, Washington DC – economist (1991-1996)

Qualifications

Master and Doctor of Philosophy (Economics) (Harvard University, US)

Master of Science (Engineering Science) (Tsinghua University, China)

* Listed on the Stock Exchange

¹ Being secondary listed on the Stock Exchange effective 10 September 2020



HUNG Pi Cheng, Benjamin

BBS, JP

INED

Aged 56

Director since 25 April 2018

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

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–)¹

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

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

Past offices

Standard Chartered Bank (2015–2020): chief executive officer of wealth management (2018–2020)² and retail banking (2017–2020)², and regional chief executive officer, Greater China & North Asia (2015–2020)²

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 1 January 2021

² Appointment ceased effective 1 January 2021



LEUNG Pak Hon, Hugo

INED

Aged 52

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 Audit Committee, Board Executive Committee, Investment Committee, Panel Member Selection Committee and Risk Committee, and deputy chairman of Derivatives Market Consultative Panel

HKFE – member of Disciplinary 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)



John Mackay McCulloch WILLIAMSON

INED

Aged 62

Director since 18 June 2008

Term of office: 25 April 2018
(re-elected) to 2021 AGM

Other positions held with the Group

HKEX – chairman of Risk Committee, and member of Audit Committee, Board Executive Committee, Corporate Social Responsibility Committee, Remuneration Committee and Risk Management Committee (statutory)

SEHK – deputy chairman of Listing Appeals Committee

HKEX Foundation – director

Other major offices

Provident Acquisition Corp (listed on NASDAQ) – independent director (2021~) ¹

Pacific Basin Shipping Limited * – independent non-executive director (2020~) ²

UK Tote Group Limited – non-executive chairman (2020~) ³

Past offices

Search Investment Group Limited – senior managing director (2012-2018), chief financial officer (2007-2018), and managing director (2007-2011)

SAIL Advisors Limited – chief executive officer (2011-2018)

HKEX – member of Clearing Consultative Panel (2000-2007)

Morgan Stanley Dean Witter Asia Limited – managing director, and head of infrastructure and operational risk (1998-2007)

NatWest Securities Asia Holdings Limited – chief operating officer (1994-1998)

NatWest Investment Services, London – managing director (1992-1994)

Qualifications

Bachelor of Arts (Accountancy & Computer Science) (Heriot-Watt University, UK)

Chartered Accountant (The Institute of Chartered Accountants of Scotland)

Fellow (Chartered Institute for Securities and Investment, UK)

Senior Fellow (Hong Kong Securities and Investment Institute)

* Listed on the Stock Exchange

1 Appointment effective 7 January 2021

2 Appointment effective 2 November 2020

3 Appointment effective 1 September 2020



YIU Kin Wah, Stephen
INED

Aged 60

Director since 26 April 2017

Term of office: 24 April 2019
(re-appointed) to 2021 AGM

Other positions held with the Group

HKEX – chairman of Audit Committee, and member of Corporate Social Responsibility Committee and Risk Committee

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

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

Exchange Fund Advisory Committee – member (2018~)

Insurance Authority – non-executive director (2015~)

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

Group Company Secretary



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

Aged 56

Joined in January 2020

Other major offices

The Hong Kong Institute of Chartered Secretaries – 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 Institute of Chartered Secretaries – 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 Institute of Chartered Secretaries and The Chartered Governance Institute)

* Listed on the Stock Exchange

Senior Management



**Matthew James
CHAMBERLAIN**
LME Chief Executive

Aged 39

Joined in November 2012

Other positions held with the Group

LME – chairman of Executive Committee, vice chairman of Aluminium Committee, and member of Charity Committee, Enforcement Committee and User Committee

LME Clear – member of Executive Committee

Past offices

LME – chief operating officer (2016-2017), head of business development (2013-2016), and head of strategy and implementation (2012-2013)

UBS – head of European financial technology coverage (2010-2012)

Perella Weinberg Partners – founding member of the financial institutions coverage team (2006-2010)

Citibank – analyst of financial institutions group (2004-2006)

Qualifications

Master of Arts (Computer Science) (Trinity College, University of Cambridge, UK)



CHAN Yiting, Bonnie
Head of Listing

Aged 51

Joined in January 2020

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)



Romnesh LAMBA
Co-President

Aged 57

Joined in February 2010

Other positions held with the Group

HKFE, SEHK, HKSCC and SEOCH – chairman
LME – member of Audit and Risk Committee
LME Clear – member of Audit Committee and Nomination Committee

Past offices

HKEX – Co-head of Market Development (2016-2019), Co-head of Global Markets (2013-2015), and Head of Market Development (2010-2013)

HKFE and SEHK – chief executive (2013-2016)

JP Morgan (Hong Kong) – senior adviser, Asia ex-Japan corporate finance and capital markets business (2008-2010)

Merrill Lynch (Asia Pacific) (2000-2008):

managing director, investment banking, and chief operating officer of China origination business (2006-2008), and head of Asia energy and power team (2003-2006)

Indosuez WI Carr Securities (Hong Kong) – head of equity capital markets and director, investment banking (1997-2000)

Qualifications

Bachelor of Science in Economics (Magna Cum Laude) and
Master of Business Administration (Distinction)
(The Wharton School, University of Pennsylvania, US)



LAU Bik Yun, Vanessa
Group Chief Financial Officer
 (effective 5 February 2020)

Aged 48

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)



SO Ying Ying, Glenda
Head of Post Trade

Aged 51

Joined in February 2020

Past offices

Allianz Global Investors – managing director and Asia Pacific head of operations (December 2019 – February 2020)

Sun Hung Kai & Co Limited – chief operating officer, principal investment division (2018-2019)

Graticule Asset Management Asia (Singapore) – managing director and regional chief operating officer (2014-2018)

Goldman Sachs (Asia) LLC (Hong Kong) and **Goldman Sachs & Co LLC (New York)** (1991-2014): managing director (2004-2014)

Qualifications

Bachelor of Business Administration (Finance) (Baruch College, The City University of New York, US)



YIU Ka Yan, Wilfred

Head of Markets

Aged 51

Joined in April 2019

Other positions held with the Group

SEHK – chairman of Compensation Committee and Disciplinary Committee

Past offices

Qian Kun Futures Co Ltd – chairman (2012-2019)

Beijing Gao Hua Securities Company Limited – deputy chief executive officer and chief operating officer (2010-2019)

Goldman Sachs (Hong Kong) (2000-2010): managing director, fixed income, currency and commodities (2007-2010)

Credit Suisse First Boston (New York) – assistant vice president (1994-1999)

Public service

SFC – member of Securities Compensation Fund Committee (2020–)

Qualifications

Bachelor of Science (Computer Science) and **Bachelor of Business Administration** (University of Washington, US)

Master of Business Administration (Stern School of Business, New York University, US)

Master of Science (Computer Science) (Stanford University, US)

Matthew Chamberlain, Romnesh Lamba, Vanessa Lau, Glenda So, and Wilfred Yiu also act as directors in certain HKEX's subsidiaries.

Management Committee



* Members of the Executive Committee

A photograph of a modern building at night, featuring a glass facade and a prominent teal-colored overlay on the left side. The building has multiple levels with glass railings and balconies. The interior lights are visible through the glass, and the exterior is illuminated by streetlights. A few people are walking on the sidewalk in the foreground, and a motorcycle is parked near the entrance. The overall atmosphere is urban and contemporary.

Management Discussion and Analysis



WAL

business of Asia Group
三井物産株式会社
三井物産グループ

WELCOME
90,150,100

3.4m

← P

Private Road
私家路

的士

Business Review

Overview

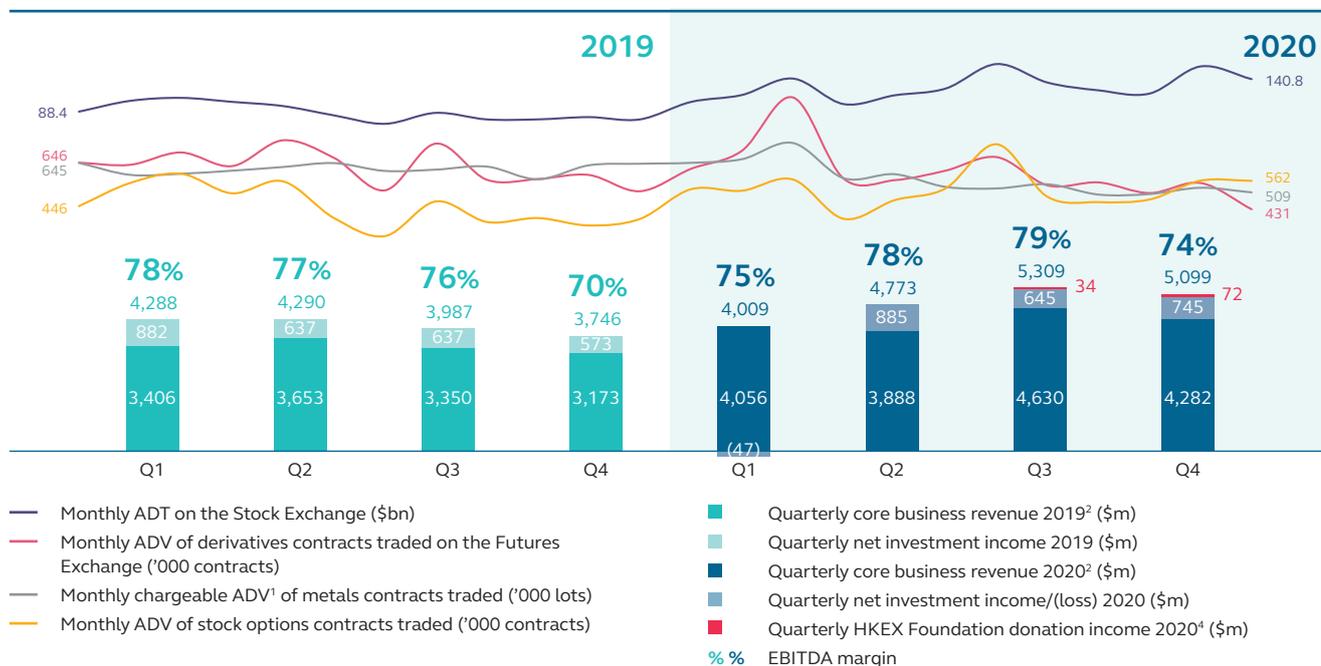


Fig. 1 – Market activity and Group's revenue and other income

2020 was a strong year for HKEX. Revenue and other income, and profit, reached record highs for the third consecutive year, despite the challenging geopolitical and macroeconomic backdrop and unprecedented impact caused by Covid-19. Headline ADT³ reached a record high of \$129.5 billion, 49 per cent above 2019, and 21 per cent above the previous high of 2018. Stock Connect trading volumes also saw record highs with Northbound and Southbound ADT being 119 per cent and 126 per cent higher than 2019 respectively. The Hong Kong IPO market continued to be buoyant, with HKEX ranked second globally by IPO funds raised in 2020, boosted by a number of sizable secondary listings of US-listed Chinese companies, as well as an influx of new economy and biotech companies to our markets.

Revenue and other income reached a record high of \$19.2 billion, up 18 per cent against 2019. The increase in trading and clearing fees was partly offset by lower net investment income, arising from lower interest income and lower fair value gains on collective investment schemes (2020: \$487 million; 2019: record gains of \$789 million). Operating

expenses increased by 11 per cent compared with 2019. Excluding HKEX Foundation charitable donations⁴ of \$112 million, operating expenses were up 8 per cent, mainly due to higher staff costs from annual payroll adjustments and increased headcount arising from the acquisition of BayConnect in June 2019, higher IT and computer maintenance expenses for new IT systems and upgraded networks, and higher professional fees incurred for strategic projects and other business initiatives.

Looking ahead, there are positive signs of early economic recovery, especially in China, and this together with the roll-out of Covid-19 vaccinations globally and continued policy support by the world's major central banks provides cause for optimism. However uncertainty remains, and the road to full economic recovery will not be straightforward. The Group will continue its focus on executing and delivering upon its Strategic Plan 2019-2021, whilst adopting a prudent approach to cost control and risk management, seeking growth opportunities and ensuring the continued resilience and robustness of its markets.

1 Chargeable ADV excludes administrative trades (Admin Trades) and other non-chargeable trades. Admin Trades were introduced in 2017 to meet requirements resulting from MiFID II.

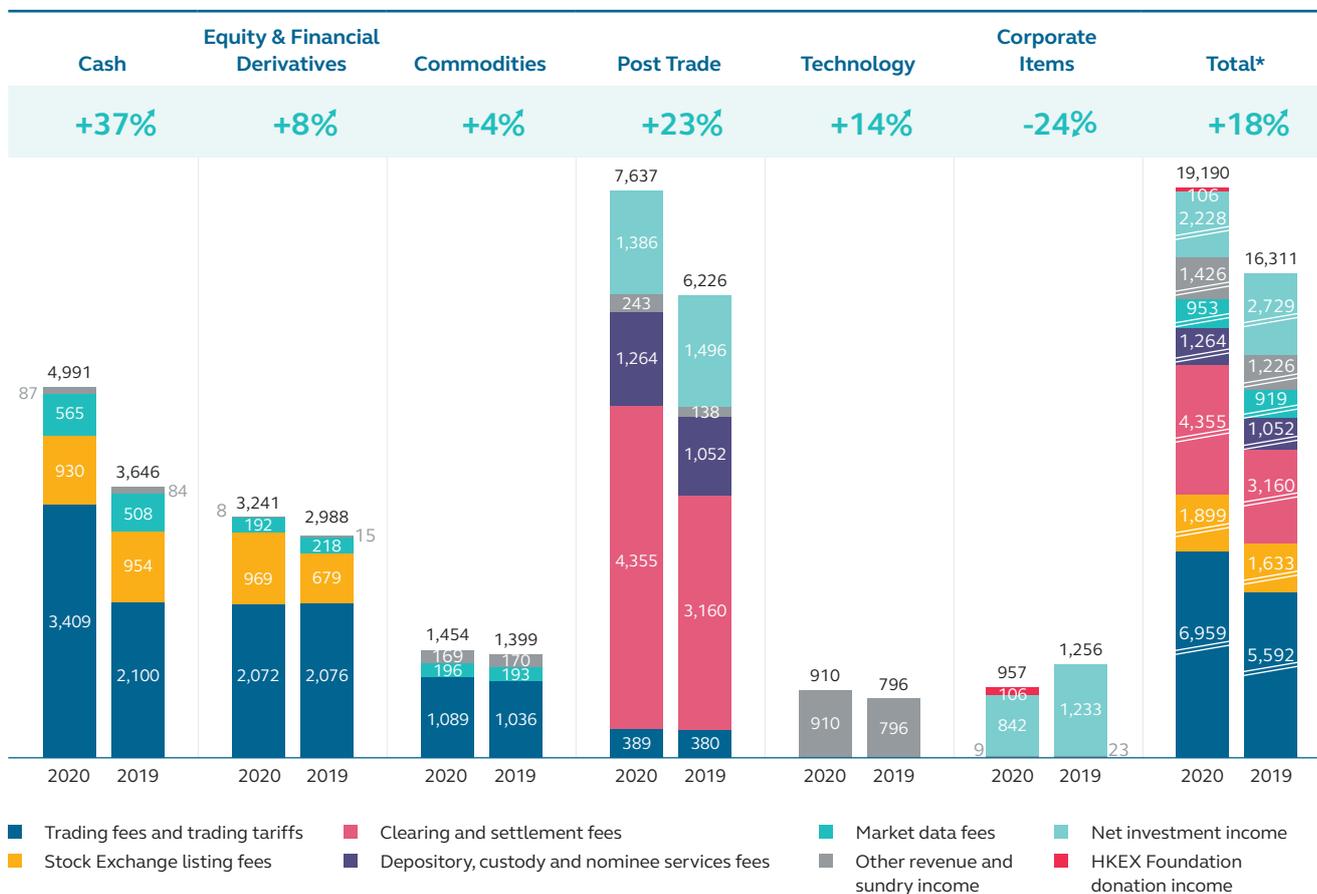
2 Revenue and other income, excluding net investment income and HKEX Foundation donation income

3 ADT of equity products, DWs, CBBs and warrants traded on the Stock Exchange

4 HKEX Foundation was established to deepen HKEX's connectivity and long-standing commitment to our communities. From 2H 2020 onwards, the donation income from the Stock Code Balloting Charity Scheme were received by HKEX Foundation, and the amounts previously paid by the issuers directly to the Hong Kong Community Chest were paid by HKEX Foundation. As a result, HKEX recorded donation income of \$106 million, under revenue and other income, and HKEX Foundation charitable donations of \$112 million, under operating expenses in 2020.

Business Update and Analysis of Results by Operating Segment

Analysis of Revenue and Other Income by Segment (\$m)



* Total revenue and other income is not presented in the same scale as segmental results, but is proportionately resized.

Analysis of EBITDA and EBITDA Margin by Segment (\$m)*



%% 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

2020 marked the second year of the Group's Strategic Plan 2019-2021. Our vision to be **the Global Markets Leader in the Asian Time Zone – Connecting China, Connecting the World** remains the central cornerstone of our strategy, focused on the three pillars of being China Anchored, Globally Connected, and Technology Empowered.

Progress made, up to the date of this Annual Report, is set out in the table below and further elaborated upon in the Business Update section in each of the operating segments:

China Anchored

- **Enhance Stock Connect** – Inclusion of biotech companies into Southbound eligible securities list; inclusion of eligible A shares listed on Shanghai's STAR Market and their corresponding H shares into Stock Connect; launch of the investor identification regime for Southbound Trading; new Master Special Segregated Account service to support Northbound Trading; announced the proposed launch of Synapse in Q1 2022 to automate and streamline post trade workflow for Northbound Stock Connect
- **Enhance Bond Connect** – Enhancements to settlement cycles (special settlement cycles and recycling settlement, longer settlement cycle available on Tradeweb and Bloomberg); extension of trading hours; access to defaulted bond market; fee reduction; increase in foreign exchange settlement banks; launch of electronic bond issuance system
- **Extend our onshore capabilities in the Mainland** – Launch of natural gas and cement products on the QME; HKEX is investing in a minority stake in the newly-established Guangzhou Futures Exchange Co. Ltd. (GFE), which provides HKEX with the opportunity to help build and promote the development of China's derivatives market

Technology Empowered

- **Modernise our systems** – Relocation of the secondary data centre to a Tier 3 data centre and kick-off of the hardware obsolescence replacement for various trading and clearing systems
- **Leverage new technology** – Continued deployment of new technologies across HKEX businesses, led by HKEX Innovation Lab including deployment of Artificial Intelligence (AI) to assist in annual report compliance review, scaling up of Robotics, proposed launch of Synapse, proposed deployment of intelligent technology for FINI, and proposed digital transformation to deliver paperless IPO applications and issuer disclosures

Globally Connected

- **Develop a listing and capital raising hub for major global and regional companies** – Listing of new economy and healthcare companies, including NetEase, JD.com and JD Health; homecoming listing of nine secondary listed companies
- **Enhance structure of our IPO regime** – New grandfather arrangements to enable qualifying issuers with corporate WVR to seek secondary listings in Hong Kong; shortening of the structured product listing cycle from five to three trading days; publication of the FINI concept paper for shortening of IPO settlement cycle; paperless listing & subscription regime to be effective in July 2021
- **Enhance our product ecosystem across asset classes** – Launch of MSCI Asia and Emerging Markets Index Futures, Hang Seng TECH Index Futures and Options, USD and CNH denominated Silver Futures in Hong Kong; official launch of STAGE with 34 sustainable-themed products displayed
- **Become the ETF issuance and trading hub for the Asia Pacific time zone** – New listing of the first Iron Ore Futures ETF, the first commodity-based L&I Product, the first active equity ETF, the first ETF under master-feeder structure, the first ESG China A shares ETF, the first batch of A share L&I Products, the first four Hang Seng TECH Index ETFs, the first two Hang Seng TECH Index L&I Products; introduction of a new spread table and continuous quoting market making obligations; waiver of stamp duty on stock transfers for ETP market makers; launch of the Hong Kong-Mainland ETF Cross-listing Scheme with the first two products listed on SZSE and HKEX respectively
- **Improve our market microstructure** – Enhancement to Volatility Control Mechanism (VCM) and Pre-Opening Session; enhancement to third party clearing arrangement; automation of Large Open Position (LOP) Reporting and roll out of a new surveillance system for LOP and Position Limit; enhancement to the buy-in exemption clauses and capital-based position limit policy; continued to implement new rules and disclosures to optimise the LME's warehouse network

Cash Segment

Key Market Indicators

	2020	2019	Change
ADT of equity products traded on the Stock Exchange ^{1,2} (\$bn)	110.9 ⁴	69.2	60%
ADT of Northbound Trading – Shanghai-Hong Kong Stock Connect ² (RMBbn)	39.1 ⁴	21.3	84%
ADT of Northbound Trading – Shenzhen-Hong Kong Stock Connect ² (RMBbn)	52.2 ⁴	20.4	156%
ADT of Southbound Trading – Shanghai-Hong Kong Stock Connect ^{1,2} (\$bn)	13.1 ⁴	6.8	93%
ADT of Southbound Trading – Shenzhen-Hong Kong Stock Connect ^{1,2} (\$bn)	11.3 ⁴	4.0	183%
ADT of Bond Connect (RMBbn)	19.8 ⁴	10.7	85%
Average daily number of trades of equity products traded on the Stock Exchange ^{1,2} ('000)	1,618 ⁴	1,157	40%
Number of newly listed companies on Main Board ³	146	168	(13%)
Number of newly listed companies on GEM	8	15	(47%)
Number of companies listed on Main Board at 31 Dec	2,170	2,071	5%
Number of companies listed on GEM at 31 Dec	368	378	(3%)
Total	2,538	2,449	4%
Market capitalisation of companies listed on Main Board at 31 Dec (\$bn)	47,392	38,058	25%
Market capitalisation of companies listed on GEM at 31 Dec (\$bn)	131	107	22%

1 Excludes \$18.6 billion (2019: \$18.0 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 8 transfers from GEM (2019: 20)

4 New record highs in 2020

	2020 \$bn	2019 \$bn	Change
Total equity funds raised on Main Board			
– IPOs	399.6	313.2	28%
– Post-IPO	343.8	136.7	151%
Total equity funds raised on GEM			
– IPOs	0.6	1.0	(40%)
– Post-IPO	3.0	3.3	(9%)
Total	747.0	454.2	64%

Stock Connect – New Record Highs in 2020

	2020	2019	Change
Northbound Trading value (RMBbn)	21,089	9,757	116%
Southbound Trading value (\$bn)	5,508	2,841	94%
Total revenue and other income ¹ (\$m)	1,926	1,009	91%

1 \$1,485 million of which arose from trading and clearing activities (2019: \$699 million)

Analysis of Results

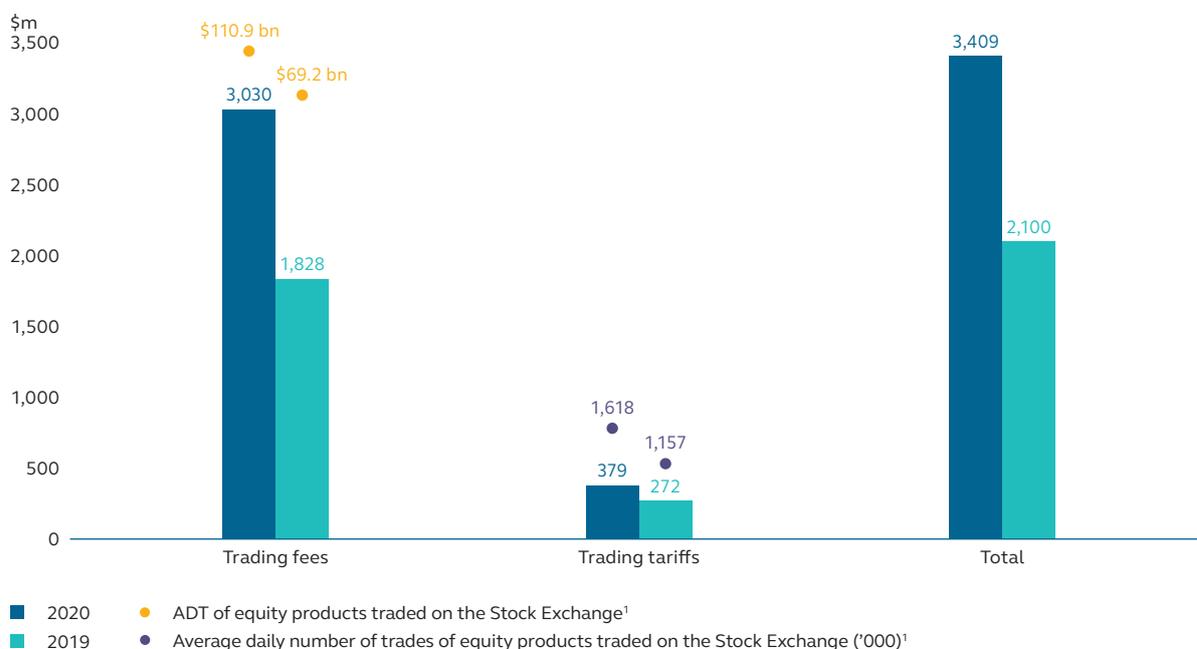
Summary

	2020 \$m	2019 \$m	Change
Trading fees and trading tariffs ¹	3,409	2,100	62%
Stock Exchange listing fees ¹	930	954	(3%)
Market data fees ¹	565	508	11%
Other revenue	87	84	4%
Total revenue	4,991	3,646	37%
Operating expenses ²	(595)	(603)	(1%)
EBITDA	4,396	3,043	44%
EBITDA margin	88%	83%	5%

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 traded 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 \$1,202 million (66 per cent), more than the 60 per cent increase in equity products ADT. This was primarily due to record fees from Stock Connect Northbound Trading of \$457 million (2019: \$213 million). Trading tariffs increased by 39 per cent, in line with the increase in number of trades of equity products.

Stock Exchange Listing Fees

	2020 \$m	2019 \$m	Change
Annual listing fees	768	760	1%
Initial and subsequent issue listing fees	154	185	(17%)
Others	8	9	(11%)
Total	930	954	(3%)

Annual Listing Fees



Initial and Subsequent Issue Listing Fees



Annual listing fees increased by 1 per cent, less than the increase in total number of listed companies, as the average listing fee of the newly listed companies in 2020 were lower than that at 31 December 2019.

Initial and subsequent issue listing fees decreased by 17 per cent mainly due to a decrease in forfeitures.

EBITDA

Operating expenses decreased by 1 per cent due to lower allocated costs of the Listing Division to this segment. This reflects the decrease in listing fees from equities, compared with the increase in listing fees from DWs and CBBCs, which are under the Equity and Financial Derivatives segment. EBITDA margin rose from 83 per cent to 88 per cent due to the increase in revenue.

Business Update

The Hong Kong Cash Market performed resiliently in 2020. On 31 December 2020, market capitalisation of listed companies on the market reached a record high of \$47,523 billion. Trading activities were strong during the year with record headline ADT of \$129.5 billion, up 49 per cent from 2019. On 11 November 2020, trading turnover reached the third record high at \$268 billion.

Stock Connect

Stock Connect experienced strong flows in both Southbound and Northbound Trading in 2020. Northbound ADT reached a record high of RMB91.3 billion, 119 per cent higher than 2019, and Southbound ADT reached a record high of \$24.4 billion, 126 per cent higher than 2019. In addition, daily record highs were set for Northbound Trading (RMB191.2 billion on 7 July 2020) and Southbound Trading (\$60.2 billion on 6 July 2020). As a result, Stock Connect generated record high revenue and other income for the fourth consecutive year at \$1,926 million in 2020, and accounted for 10 per cent of the Group's total revenue and other income.

Stock Connect was enhanced during the year, with expansion in the scope of eligible stocks for both Northbound and Southbound Trading. Subsequent to the inclusion of biotech stocks (listed under Chapter 18A of the Main Board Listing Rules with the "B" marker removed) into the Southbound eligible securities list, effective from September 2020, HKEX, SSE and SZSE further jointly announced on 27 November 2020 Stock Connect inclusion arrangements for pre-revenue biotech companies (listed under Chapter 18A with the "B" marker), effective on 28 December 2020, as well as for eligible A shares listed on the SSE's STAR Market and their corresponding H shares into Stock Connect, effective on 1 February 2021.

On 13 January 2020, the investor identification regime for Southbound Trading was successfully launched, facilitating enhanced market surveillance and orderly operation of Stock Connect.

Market Structure Development

HKEX continues to focus on enhancing its market microstructure for the benefit of all market participants. The VCM in the securities market was enhanced in two phases to further strengthen the stock level safeguards during extreme price volatility,

and to reflect changes in international practice and regulatory guidance. The first phase, which includes further securities coverage expansion and tiered triggering thresholds, was successfully implemented on 11 May 2020. As of 31 December 2020, 19 VCM triggers were recorded and market operations to date have been smooth. The second phase, which further allows multiple triggers per VCM security in the Continuous Trading Session, is planned to be introduced in Q1 2021.

Effective 19 October 2020, the Pre-opening Session adopted a number of features from the Closing Auction Session, including a two-stage price limit, allowing short selling, allowing at-auction limit orders and random commencement of auction matching. These enhancements aim to increase the Hong Kong securities market's competitiveness by introducing a more robust and stable opening auction to improve price discovery and trading liquidity before the market opens.

Issuer Business

During 2020, HKEX welcomed 154 listed companies, raising a total of \$400.2 billion, ranking second globally⁵ by funds raised and fourth globally⁵ by number of IPOs.

IPOs in 2020 featured new economy listings such as NetEase and JD.com; healthcare issuers such as JD Health; 14 biotech issuers listed under Chapter 18A; along with notable traditional economy companies such as Nongfu Spring. Furthermore, there was a growth in homecoming listings and HKEX attracted a total of nine secondary listed companies in 2020.

As of 31 December 2020, companies listed under the New Chapters of the Main Board Listing Rules (Chapters 8A, 18A and 19C) since their introduction in April 2018 have raised \$376 billion. In 2020, IPOs under the New Chapters represented 41 per cent of total IPO funds raised of the year. The market capitalisation of these companies represented 23 per cent of the total market capitalisation of the Hong Kong Cash Market at 31 December 2020, and the trading turnover of these companies represented 16 per cent of the total turnover of equity products traded on the Stock Exchange in 2020. The Hong Kong market continues to be an attractive market for new economy listings due to its robust and established regulatory framework, its connectivity and its global investor base.

5 Source: Dealogic

In response to Covid-19 social distancing measures, HKEX provided virtual support to the IPO market by conducting a number of events and conferences online, providing remote communication and services to issuers, and conducting virtual listing ceremonies. In September 2020, HKEX organised its first ever online “HKEX Biotech Summit 2020” which gathered scientists, biotech entrepreneurs, investors, technology experts and policymakers to share industry insights and trends on the biotech industry and capital markets.

HKEX also focused on expanding its outreach and engagement overseas, particularly in Southeast Asia, including organising its first Southeast Asia Forum,

conducted online. Looking forward, HKEX will continue to focus on enhancing Hong Kong’s competitiveness as a premier listing location for companies across the globe.

ETF Market Development

ADT of ETPs, which includes ETFs and L&I Products, increased 28 per cent to \$6.4 billion in 2020 (2019: \$5.0 billion). In particular, L&I Products saw a strong uptick in investor interest, with ADT more than doubling from \$0.6 billion in 2019 to \$1.5 billion in 2020. On 22 May 2020, the turnover of L&I Products reached a daily record high of \$5.1 billion.

Key initiatives of ETPs introduced during 2020

- HKEX expanded its product suite, welcoming the first Iron Ore Futures ETF, the first commodity-based L&I Product, the first active equity ETF, the first ETF under master-feeder structure, the first ESG China A shares ETF, the first batch of A share L&I Products, the first four Hang Seng TECH Index ETFs, and the first two Hang Seng TECH Index L&I Products. On 28 August 2020, the first Hang Seng TECH Index ETF achieved a record high first trading day ETF turnover of \$3.0 billion
- On 1 June 2020, HKEX introduced a new spread table and continuous quoting market making obligations to enhance the liquidity of ETPs. In the first seven months following launch, the median spreads of ETPs listed in Hong Kong decreased by more than 30 per cent while the top 10 most actively traded ETPs saw their median spreads compressed by more than 50 per cent, significantly reducing the cost for investors to trade ETPs
- From 1 August 2020, the Government waived the stamp duty on stock transfers for ETP market makers when creating and redeeming ETP units. This lowers the transaction cost of ETP activities in the primary market and supports the liquidity growth in the ETF underlying Hong Kong stocks
- On 23 October 2020, the first two products under the Hong Kong-Mainland ETF Cross-listing Scheme were listed on SZSE and HKEX respectively. Through the new scheme, ETF issuers are able to list feeder funds that are built on master funds listed across the border. By the end of 2020, the four cross-listed ETFs accounted for \$860 billion of assets under management (AUM)

Bond Connect

In 2020, Bond Connect continued to gain strong recognition from international investors, with robust growth in trading volume, net inflows, foreign holdings, as well as the number of new registered investors.

Chinese government bonds were included in the JPMorgan Government Bond Index-Emerging Markets indices on 28 February 2020, driving new overseas index trackers to Bond Connect. Furthermore, on 24 September 2020, FTSE Russell announced that Chinese government bonds would be included in the FTSE World Government Bond Index (WGBI), with inclusion scheduled to start with the October 2021 profiles. This will mark the third entry of Chinese bonds into a major global bond index.

ADT of Bond Connect has been setting record high every year since its launch in 2017, reaching RMB19.8 billion in 2020, up 85 per cent compared with 2019. Trading volume in November 2020 reached a monthly record high of RMB485 billion, while single-day trading volume recorded an all-time high of RMB36.9 billion on 16 December 2020. Net inflows amounted to RMB535 billion in 2020, with a monthly record high of RMB75.5 billion in July. As of 31 December 2020, the overall foreign investor holdings of domestic debt securities in the China Interbank Bond Market rose to RMB3,255 billion, up 49 per cent from RMB2,188 billion as of 31 December 2019.

Market participation in Bond Connect continued to grow steadily throughout 2020. As at 31 December 2020, a total of 2,352 institutional investors from 34 jurisdictions globally have been admitted to Bond Connect, up 47 per cent from 1,601 institutional investors as at 31 December 2019.

Key initiatives implemented in 2020 to enhance connectivity and market infrastructure

- On 30 March 2020, Bond Connect started to support special settlement cycles (settle T+4 and beyond) via paper submission and recycling settlement (settle failed trades within three business days). Starting from Q4 2020, Bond Connect investors were able to select settlement cycles up to T+10 via Tradeweb and Bloomberg, without the need for paper submission
 - On 6 April 2020, trading and settlement services were expanded to support Bond Connect investors to access the defaulted bond market in China
 - On 1 July 2020, Bond Connect service fee was reduced by 20 per cent and 33 per cent for bonds with short and long tenor respectively
 - On 21 September 2020, Bond Connect trading hours were extended to 20:00 from 16:30 (China Standard Time) for transactions settling T+1 and beyond
 - On 24 September 2020, Bond Connect investors were able to select up to three foreign exchange (FX) settlement banks to conduct their currency conversion and for FX risk management needs
 - On 20 October 2020, ePrime, an international electronic bond issuance system for book building, pricing, and allocation of offshore securities, was launched. Subsequently, Agricultural Development Bank of China and China Development Bank completed their offshore RMB bond issuance via ePrime and successfully raised RMB5.7 billion and RMB6.5 billion in October and November 2020 respectively
-

Listed Bond Market Development

In 2020, there were 430 new listings of debt securities on the Stock Exchange, with a total issuance amount of \$1,529 billion. Moreover, total turnover value of debt securities reached \$66 billion (including \$3 billion turnover of iBond), an increase of 8 per cent compared with 2019.

As part of the ongoing development of the bond market in Hong Kong, HKEX enhanced the listing regime for debt issues to professional investors in November 2020. The enhancement seeks to balance the need to safeguard investors whilst maintaining an effective listing platform, by promoting disclosure quality and consistency in the market.

Market Data Business

Regular seminars were hosted to provide a communication platform for market participants including EPs, information vendors and application software providers to learn more about the latest market data developments and share their ideas and feedback. Two live webinars were held on 24 November 2020, with registrants from over 200 companies.

Sustainable Finance

On 1 December 2020, HKEX announced the launch of the Sustainable and Green Exchange (STAGE). At launch a total of 34 sustainable-themed products from leading Asian corporates were displayed on STAGE including sustainability, green, and transition bonds from issuers across different sectors as well as ESG-related ETPs. The resources library on STAGE provides case studies, webcasts, videos, guidance materials, research papers and other publications aimed at helping market participants enrich their understanding of sustainable finance, green products, ESG integration and sustainable investing. HKEX is working closely with local, regional and international partners to further expand the contents on STAGE.

Listing Regulation

In 2020, 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 issues arising in 2020, as well as the proposals under review in 2021 and beyond, are set out in the 2020 Listing Committee Report.



Key Proposals and Conclusions in 2020

	Consultation paper ¹	Consultation conclusions ¹	Effective date of changes (if any)
• Codification of General Waivers and Principles relating to IPOs and Listed Issuers and Minor Rule Amendments	August 2019	August 2020	1 October 2020
• Review of Chapter 37 – Debt Issues to Professional Investors only	December 2019	August 2020	1 November 2020
• Corporate WVR Beneficiaries	January 2020	October 2020	30 October 2020 ²
• Proposals to Introduce a Paperless Listing & Subscription Regime, Online Display of Documents and Reduction of the Types of Documents on Display	July 2020	December 2020	5 July 2021/ 4 October 2021 ³
• Review of Listing Rules relating to Disciplinary Powers and Sanctions	August 2020	1H 2021 (tentative)	–
• The Main Board Profit Requirement	November 2020	1H 2021 (tentative)	–

- 1 All the consultation papers and conclusions are available under the News Centre (Market Consultations) section of the HKEX Market website.
- 2 The changes relate to an addition to grandfathering arrangements for issuers controlled by corporate WVR beneficiaries that seek a secondary listing under Chapter 19C of the Listing Rules and that are primary listed on certain exchanges on or before publication of the consultation conclusions.
- 3 Listing Rule amendments relating to the Paperless Listing and Subscription Regime will take effect on 5 July 2021 and Listing Rule amendments relating to the Online Display of Documents and the Reduction of Documents on Display will take effect on 4 October 2021.

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

- Issued joint statements with the SFC in relation to (i) listed issuers' results announcements and (ii) general meetings in light of the Prevention and Control of Disease (Prohibition on Group Gathering) Regulation
- Issued series of listing decisions on interpretation of the Listing Rules, including (i) the minimum market capitalisation requirement under Main Board Listing Rule 8.09(2) after a proposed spin-off and (ii) guidance on why the Stock Exchange rejected and returned certain listing applications
- Published new guidance letters on (i) disclosure in listing documents for biotech companies; (ii) experience and qualification requirements of a company secretary; and (iii) guidance on continuing obligations of authorised collective investment schemes listed under Chapter 20 of the Main Board Listing Rules
- Published semi-annual (i) Listing Division Newsletter; (ii) Listed Issuer Regulation Newsletter; and (iii) Enforcement Bulletin
- Published (i) ESG guidance materials including an e-training course, a new guide for board and directors and the step-by-step ESG reporting guidance and (ii) corporate governance materials including Analysis of 2019 Corporate Governance Practice Disclosure and Making Inroads into Good Corporate Governance and ESG Management – Perspectives from Industry Practitioners
- Launched two e-Learning modules on (i) Connected Transaction Rules and (ii) Notifiable Transaction Rules 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

	2020	2019
• Number of listing applications vetted ¹	357	467
• Number of applications brought to the Listing Committees (or their delegates) for decisions ²	154	221
– within 120 calendar days	52	117
– between 121 to 180 calendar days	39	67
– after more than 180 calendar days	63	37
• Number of applications for which approval was granted in principle ³	179	209
• Number of requests for guidance from listing applicants or their advisers seeking clarifications of listing matters	181	127
– Average response time (in business days)	10	10
• Number of listing applications for transfer of listing from GEM to Main Board accepted	12	27
• Applications listed ⁴	181	197
• New listing applications rejected ⁵	1	26
• New listing applications withdrawn	6	21
• New listing applications returned	–	4
• Application in process at year-end	92	126

1 Comprises 231 (2019: 300) new applications and 126 (2019: 167) 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 At the end of 2020, 20 (2019: 33) approved applications had not yet been listed, and 4 (2019: 5) approved applications had lapsed during the year.

4 Includes 27 investment vehicles listed on Main Board and deemed new listings (2019: 14)

5 No rejection decision in 2020 (2019: 7) was subsequently reversed upon review.

Number of Compliance and Monitoring Actions

	2020	2019
• Announcements of issuers vetted	68,522	62,977
• Circulars of issuers vetted	2,696	2,350
• Share price and trading volume monitoring actions undertaken ¹	10,535	7,939
• Complaints handled	475	438
• Cases (including complaints) referred to Listing Enforcement Department for investigation	78	74

1 In 2020, monitoring actions undertaken included 360 enquiries (2019: 677) on unusual share price and trading volume movements, and the actions undertaken led to 19 resumption announcements (2019: 29) on trading suspensions.

Long Suspension

Status of Long Suspended Companies	Main Board		GEM	
	2020	2019	2020	2019
Resumption of trading of securities during the year	12	22	3	4
Cancellation of listing after expiry of prescribed remedial periods during the year	15	7	7	2
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))	8	6	1	4
Voluntary withdrawal of listing during the year	-	1	-	-
Companies suspended for 3 months or more at year-end	64	68	17	15

Updates of the work on listed companies' compliance, and insights and observations that may assist listed companies in 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 2020 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 at the HKEX Market website and in the semi-annual "Enforcement Bulletin", and are set out in the 2020 Listing Committee Report.

Enforcement Statistics

	2020	2019
Investigations ^{1,2,3}	128	112
Public sanctions ⁴	13	13
Regulatory letters ⁵	9	15

- Figures cover all cases which were investigated in 2020 (both concluded cases and ongoing investigations at year-end).
- At the end of 2020, there were 54 ongoing investigations (2019: 28).
- In 2020, 4 enforcement cases (2019: 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, eg, private reprimand, are not included.
- The number of cases involving issuance of at least one regulatory letter (ie, 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 of 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

	2020	2019	Change
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	18.6	18.0	3%
Average daily number of trades of DWs, CBBCs and warrants traded on the Stock Exchange ('000)	344	296	16%
ADV of derivatives contracts traded on the Futures Exchange ¹ ('000 contracts)	606	624	(3%)
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	526 ²	442	19%
Number of newly listed DWs	12,128 ²	8,939	36%
Number of newly listed CBBCs	38,039 ²	24,732	54%
Number of newly listed Inline Warrants	780	923	(15%)
ADV of contracts traded during After-Hours Trading ¹ ('000 contracts)	94 ²	82	15%

	At 31 Dec 2020	At 31 Dec 2019	Change
Open interest of futures and options ¹ ('000 contracts)	11,260	9,695	16%

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 highs in 2020

Analysis of Results

Summary

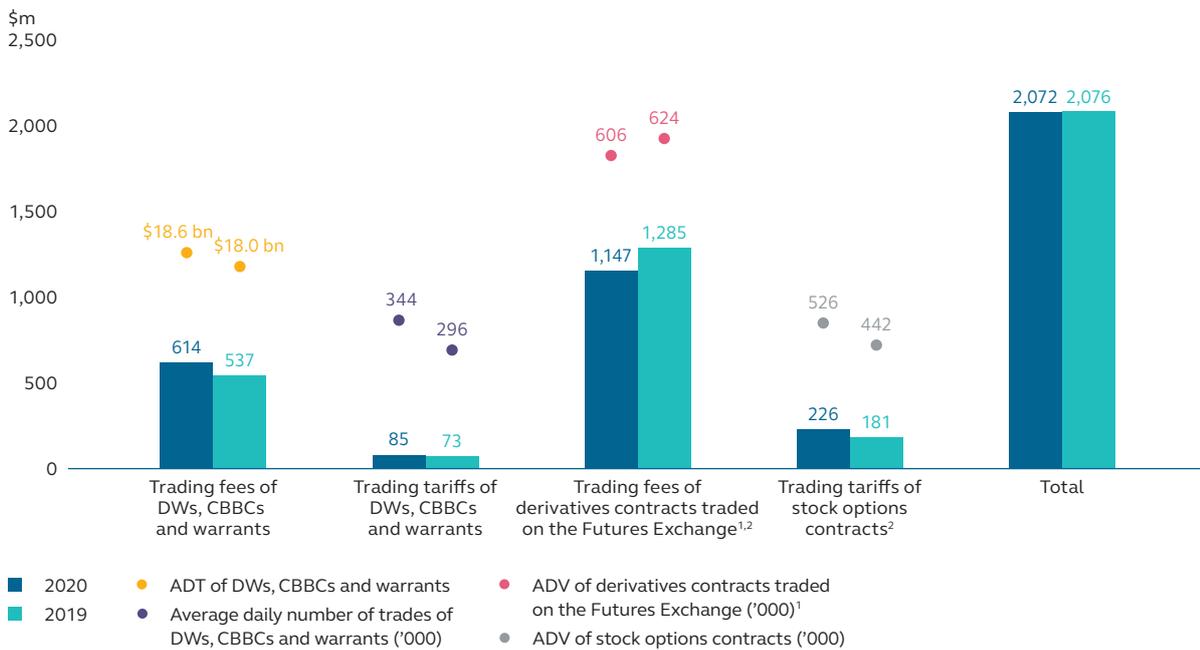
	2020 \$m	2019 \$m	Change
Trading fees and trading tariffs ¹	2,072	2,076	(0%)
Stock Exchange listing fees	969	679	43%
Market data fees ¹	192	218	(12%)
Other revenue	8	15	(47%)
Total revenue	3,241	2,988	8%
Less: Transaction-related expenses	(85)	(41)	107%
Total revenue less transaction-related expenses	3,156	2,947	7%
Operating expenses ²	(607)	(510)	19%
EBITDA	2,549	2,437	5%
EBITDA margin ³	81%	83%	(2%)

1 Excludes cash equities (which are included under the Cash segment)

2 Includes Listing Division costs apportioned to DWs, CBBCs and warrants traded on the Stock Exchange

3 EBITDA margin is calculated based on EBITDA divided by total revenue less transaction-related expenses.

Trading Fees and Trading Tariffs



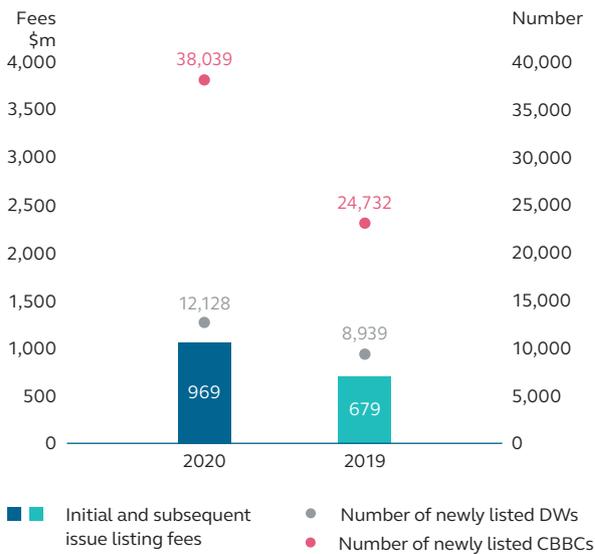
- 1 Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)
- 2 Excludes trading fees and trading tariffs allocated to the Post Trade segment (Derivatives contracts traded on the Futures Exchange – 2020: \$303 million; 2019: \$308 million; stock options contracts – 2020: \$86 million; 2019: \$72 million)

Trading fees and trading tariffs for the segment are generated from the trading of derivatives on the Stock Exchange (ie, 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 in the form of trading fees and trading tariffs.

2020 saw record new issues of DWs and CBBCs, and a 16 per cent increase in the average daily number of trades. As a result, trading fees and trading tariffs from DWs, CBBCs and warrants increased by \$89 million or 15 per cent to \$699 million (2019: \$610 million), higher than the 3 per cent increase in ADT due to higher trading fees.

Derivatives trading fees of the Futures Exchange decreased by \$138 million, or 11 per cent, attributable to the decrease in number of derivatives contracts traded on the Futures Exchange, as investors took a “risk-off” approach during heightened volatility. The decrease in trading fees and trading tariffs was higher than the 3 per cent drop in ADV, due to a lower proportion of higher fee contracts, including HSI futures and options, being traded during 2020.

Stock Exchange Listing Fees



Stock Exchange listing fees are mainly derived from initial and subsequent issue listing fees for DWs and CBBCs. The fees increased by \$290 million or 43 per cent, reflecting the record number of newly listed DWs and CBBCs in 2020.

EBITDA

Transaction-related expenses include licence fees and other costs which directly vary with trading transactions. The increase was partially driven by the licence fees for the new MSCI index futures contracts launched since July 2020.

Operating expenses increased by \$97 million (19 per cent) due to higher allocated costs of the Listing Division, reflecting the increase in listing fees from DWs and CBBCs compared with the decrease in listing fees from equities, and increase in incentives relating to the new MSCI index futures contracts. EBITDA increased by 5 per cent year-on-year, though EBITDA margin decreased from 83 per cent to 81 per cent, reflecting the higher percentage increase in operating expenses compared to the percentage increase in revenue.

Business Update

The Hong Kong Derivatives Market demonstrated resilient growth in 2020. The total number of futures and options contracts traded in 2020 was 281,871,221⁶, up 7 per cent on 2019. A number of key futures and options contracts reached new record highs (see below).

New Record Highs – Full Year Trading Volume

	2020 Number of contracts	Pre-2020 record Number of contracts
Mini HSI Futures	27,902,077	24,664,381 (2018)
Mini HSI Options	3,345,582	3,343,429 (2019)
Weekly HSI Options	1,191,533	246,717 (2019)
Stock Futures	1,141,729	917,358 (2019)
Stock Options	131,021,660	127,279,101 (2018)

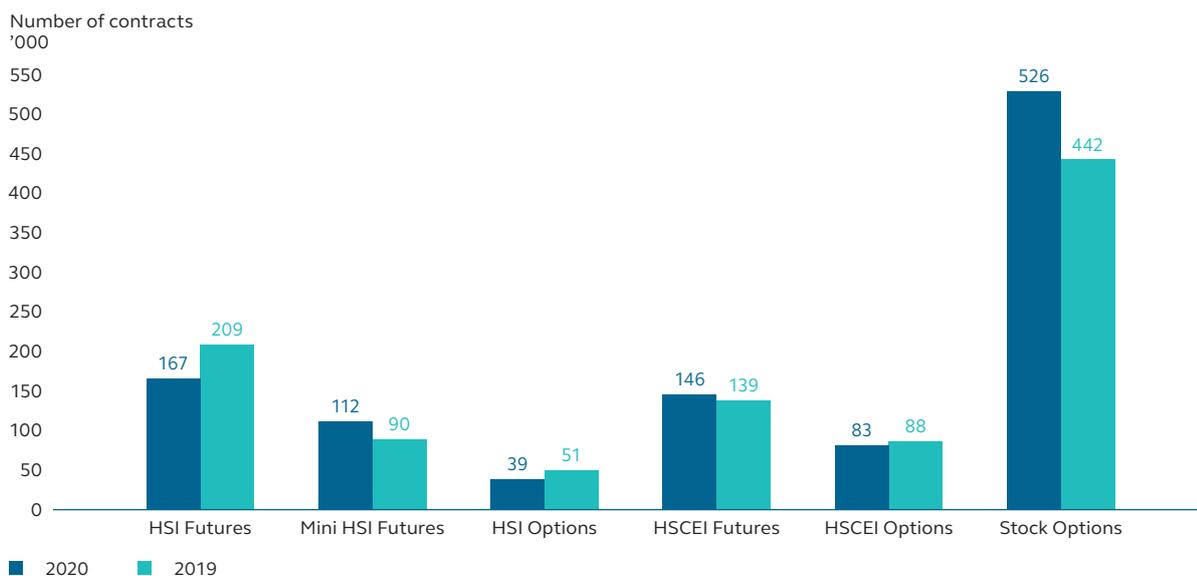
6 Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)

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

	Single-day Trading Volume		Open interest	
	Date (2020)	Number of contracts	Date (2020)	Number of contracts
Mini HSI Futures	19 Mar	298,812	N/A	N/A
Weekly HSCEI Options	30 Jan	7,166	30 Dec	12,097
Weekly HSI Options	6 Feb	17,027	6 Nov	13,274
MSCI Taiwan Net Total Return (USD) Index Futures ¹	17 Sep	19,207	18 Sep	22,092
MSCI EM Asia Net Total Return (USD) Index Futures ¹	21 Oct	28,242	10 Nov	28,512
MSCI Taiwan (USD) Index Futures ¹	24 Nov	42,363	29 Oct	65,267
MSCI Indonesia Net Total Return (USD) Index Futures ¹	10 Dec	12,700	15 Dec	13,668
MSCI Japan Net Total Return (USD) Index Futures ¹	17 Dec	10,600	31 Dec	10,748
Stock Options	6 Jul	1,545,227	N/A	N/A

¹ Launched in July 2020

Average Daily Volume of Major Futures and Options Contracts



Equity Futures and Options Market Development

Stock options were a major contributor to growth in 2020, with ADV reaching a record high of 526,191 contracts, a 19 per cent increase compared with 2019. In addition, a daily record high of 1,545,227 stock options contracts were traded on 6 July 2020. During 2020, 11 new stock option classes were introduced and 32 out of 106 option classes reached new daily volume record highs.

Trading volume in the After-Hours Trading (T+1) Session continued to grow, with ADV in 2020 reaching a historical high of 94,224 contracts, up 15 per cent from 2019. In addition, the number of equity index futures and options traded in the T+1 Session

reached a daily record high of 303,482 contracts on 18 March 2020.

In 2020, HKEX successfully launched 38 new MSCI index futures contracts. The launch represents a major step forward in the expansion of HKEX's derivatives product portfolio and significantly adds to the breadth and depth of the Hong Kong markets. Among the newly introduced products, two are in Japanese Yen (JPY) and one is in Singapore Dollar (SGD), marking the first JPY and SGD derivatives contracts traded in the Hong Kong market. Moreover, a revision of opening hours and the introduction of pre-market opening period for the MSCI Taiwan (USD) Index Futures and MSCI Taiwan Net Total

Return (USD) Index Futures became effective on 28 September 2020, facilitating investors' ability to react to market events and price movements over a longer period. In view of the increasing number of equity index futures with foreign market underlyings, HKEX plans to extend trading and clearing of the selected derivatives to cover Hong Kong public holidays, allowing investors to respond to the underlying market movement during those days.

As at 31 December 2020, the MSCI suite recorded a total of 704,050 contracts traded since launch, and 62,975 contracts in open interest. MSCI Taiwan (USD) Index Futures and MSCI Taiwan Net Total Return (USD) Index Futures were among the most active contracts out of the 38 MSCI index futures contracts launched.

HKEX introduced Hang Seng TECH Index Futures on 23 November 2020. The product has been well received with 49,122 contracts traded since launch and 4,721 contracts in open interest as at 31 December 2020. To provide investors a further option to manage their risk exposures to Hong Kong-listed technology companies, the Hang Seng TECH Index Options was launched in January 2021.

To allow broader investors to participate in the newly introduced MSCI and Hang Seng TECH products, HKEX filed applications to the US Commodity Futures Trading Commission (CFTC), with a total of 29 MSCI and the Hang Seng TECH futures contracts certified to be offered and sold to persons in the US.

Fixed Income and Currency (FIC) Development

The RMB currency derivatives market gained momentum in the second half of 2020 amid continued appreciation of the RMB since May. A total of 1,777,418 contracts of USD/CNH Futures and Options contracts were traded during 2020, while open interest amounted to 30,706 contracts as at 31 December 2020, up 24 per cent from 31 December 2019, as the contracts were increasingly utilised by investors to manage their currency risk exposures.

The INR/USD Futures contracts established new daily records multiple times during the year, including the latest daily record high of 5,035 contracts on 2 March 2020, and a total of 169,336 INR/USD Futures contracts were traded during 2020. To better facilitate management of risks in longer

tenors, additional contract months were added to INR/USD Futures and INR/CNH Futures in June and July respectively.

The 7th annual HKEX RMB FIC Conference was hosted in September 2020, in a virtual format with over 1,600 market participants and professionals attending. Speakers and panelists from over 20 organisations shared their views on the FIC landscape, including future developments in the Chinese bond and derivatives markets and electronic bond market development.

Structured Products

Trading activities of structured products also experienced a strong year in 2020. ADT of CBBCs, DWs, and warrants was \$18.6 billion, up 3 per cent from 2019 and accounted for 14 per cent of total market turnover. During 2020, a total of 50,947 structured products were listed, exceeding the previous record of 38,472 in 2018 by 32 per cent. HKEX has been working with market participants to simplify workflow and enhance market efficiency.

In July 2020, the listing cycle of structured products was shortened from five to three trading days, after the adoption of electronic submission of documents and other streamlined processes. The shorter cycle enhances market efficiency on product issuance, as more products are available in any given time frame.

HKEX has also been expanding the list of both local and overseas eligible underlying assets for structured product issuances in response to increasing market interest, with the S&P 500 and Hang Seng TECH Index becoming eligible underlying assets in September and November 2020 respectively. Such expansion further enhances the attractiveness of Hong Kong's structured products market.

Market Data Business

In 2020, HKEX continued its effort in promoting derivatives products globally. The Market Data Marketing Programme for New Derivatives Products was extended for another year to the end of 2021, continuing the subscriber fees waiver for information vendors where their clients are located in eight promoting regions, namely Mainland China, Korea, Taiwan, Malaysia, India, Thailand, Vietnam and Singapore.

Commodities Segment

Key Market Indicators

	2020	2019	Change
ADV of metals contracts traded on the LME ('000 lots)			
Aluminium	237	236	0%
Copper	128	131	(2%)
Zinc	90	109	(17%)
Nickel	67	89	(25%)
Lead	42	42	0%
Others	7	10	(30%)
Total chargeable ADV excluding Admin Trades ¹	571	617	(7%)
Chargeable Admin Trades ¹	37	46	(20%)
Non-chargeable Admin Trades ¹ and other non-chargeable trades	2	34	(94%)
Total ADV	610	697	(12%)

1 Admin Trades were introduced in 2017 to meet requirements resulting from MiFID II. These trades were not chargeable prior to 1 May 2019, but became chargeable at US\$0.04 per contract thereafter.

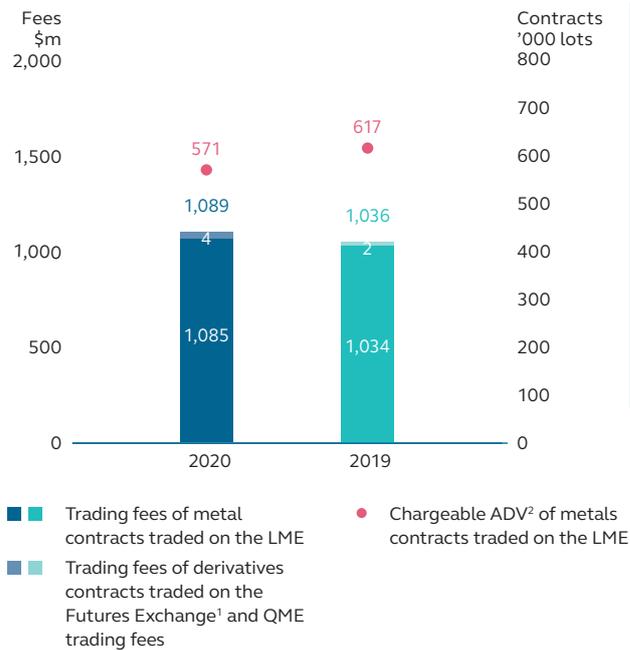
	At 31 Dec 2020	At 31 Dec 2019	Change
Total futures market open interest ('000 lots)	2,044	2,170	(6%)

Analysis of Results

Summary

	2020 \$m	2019 \$m	Change
Trading fees and trading tariffs	1,089	1,036	5%
Market data fees	196	193	2%
Other revenue:			
Commodities stock levies and warehouse listing fees	67	63	6%
Financial OTC booking fees	49	45	9%
Others	53	62	(15%)
Total revenue and other income	1,454	1,399	4%
Operating expenses	(692)	(668)	4%
EBITDA	762	731	4%
EBITDA margin	52%	52%	-

Trading Fees and Trading Tariffs



Chargeable ADV of metal contracts traded on the LME decreased by 7 per cent as financial users took a “risk-off” approach in response to Covid-19 uncertainty. LME trading fees, however, increased by \$51 million (5 per cent) due to the fee increment effective from 1 January 2020 and higher proportion of trades conducted on the electronic trading platform due to the temporary closure of the Ring, which generated higher fees.

¹ Includes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts

² Chargeable ADV excludes Admin Trades (which became chargeable from May 2019 at a lower trading fee rate of US\$0.04 per contract) and other non-chargeable trades

EBITDA

Operating expenses rose by \$24 million (4 per cent), mainly attributable to higher IT maintenance expenses and higher professional fees incurred for operational resilience and strategic projects. As the percentage increase in revenue was the same as the percentage increase in operating expenses, EBITDA margin remained stable at 52 per cent.

Business Update

LME

The LME demonstrated its resiliency and adaptability throughout the year. Due to Covid-19 and reflecting guidance from the British Government, the LME suspended trading activity on the Ring, and temporarily shifted to electronic pricing, with effect from 23 March 2020. Since then, the LME’s metals prices have been generated on the basis of activity on the LME’s electronic trading platform, supported by implied pricing functionality.

Business development initiatives have progressed well, with several of the cash-settled futures contracts launched in 2019 seeing active trading volumes in 2020. The LME will introduce new cash-settled contracts in 1H 2021, including a lithium contract to serve the needs of the growing battery materials sector, additional aluminium products, and additional steel contracts to complement the existing suites, subject to regulatory approval.

In March 2020, the LME launched a new incentive programme to encourage liquidity providing trades, and published a roadmap to an enhanced options market following a market wide discussion paper.

The LME has continued to invest in its global physical ecosystem throughout 2020, continuing with the implementation of enhanced warehousing rules and disclosures, the development of a new electronic warranting process, ongoing progress with responsible sourcing, and plans for electronic certificates of analysis via a new LMEpassport platform. The LME’s physical network has continued to provide an effective storage mechanism under Covid-19 and during the current economic slowdown.

In August 2020, the LME issued two discussion papers. The first paper covered the LME's sustainability plans and laid out its proposed way forward to make metals a cornerstone of a sustainable future. These proposals included a platform to support voluntary transparency on sustainability criteria (LMEpassport), a spot trading platform for the pricing and trading of sustainable metal, and new contracts for the electric vehicle and recycled economies. The second paper described the LME's planned launch of LMEpassport, a digital credentials register. Both of these papers received broad market support and will be progressed into 2021.

Numerous regulatory initiatives were undertaken in 2020 in response to regulatory changes, including implementing new pre-trade transparency arrangements for the inter-office market, implementation of the Senior Managers Regime for benchmark administrators, and for Brexit.

Due for delivery in 2022, the LME will upgrade its electronic trading platform (LMEselect) to refresh its trading infrastructure and add an enhanced onscreen options market.

In January 2021, the LME issued a discussion paper on future market structure which covered four main topics:

- The Ring and reference prices – proposing to make a permanent shift to its electronic venue for pricing (away from the Ring), which is expected to benefit the market by broadening direct participation during the price discovery periods and increasing overall transparency.
- Enhancing liquidity in the market – incentivising electronic trading on the member-to-member market to bring greater liquidity to the central electronic venue.
- Margin methodology – considering a move to “realised variation margin” methodology commonly used by other futures exchanges, which will increase trading efficiency, provide greater standardisation and remove some barriers to entry to the LME's market.
- Market conduct – exploring the introduction of additional disclosures and policies to strengthen market conduct.

HKFE Commodities Product Development

In Hong Kong, USD and CNH denominated Silver Futures were successfully launched on 8 June to broaden HKEX's precious metal product suite and further address investors' trading, hedging and risk management needs in precious metals. In 2020, a total of 68,682 contracts of Gold Futures and 1,282 contracts of Silver Futures were traded, with 1,351 kilograms of gold and 8,850 kilograms of silver physically delivered against the contracts.

In addition, USD London Metal Mini Futures and Iron Ore Futures volumes continued to grow, with a total of 186,947 contracts and 97,048 contracts traded in 2020 respectively, 537 per cent and 73 per cent higher than 2019.

In July 2020, an online HKEX Commodities Forum was hosted. The three-day forum attracted participation from more than 1,000 industry players globally to share insights on metals markets as well as opportunities and challenges during the Covid-19 period.

QME

In 2020, QME's trading turnover was eight times that of 2019, a result of further improvements in trading models and continuous growth in QME's client base. Breakthroughs were made in new product offerings, including the launch of a natural gas contract in August, and a cement contract in December, on top of the base metals product suite including alumina and copper cathode contracts. QME became the third natural gas trading platform in Mainland China and the first marketplace to introduce cement trading on-exchange. QME's warehouse ecosystem has started to serve clients' financing need, and QME this year gained industry-wide recognition as one of the KPMG's China Fintech 50 companies.



Post Trade Segment

Key Market Indicators

	2020	2019	Change
ADT on the Stock Exchange (\$bn)	129.5 ²	87.2	49%
Average daily number of Stock Exchange trades ('000)	1,962 ²	1,453	35%
Average value per trade (\$)	65,984	59,988	10%
Average daily value of Settlement Instructions (SIs) settled by CCASS (\$bn)	346.1	238.4	45%
Average daily number of SIs ('000)	115	95	21%
Average value per SI (\$)	3,011,015	2,510,576	20%
Chargeable ADV ¹ of metals contracts traded on the LME ('000 lots)	571	617	(7%)

1 Chargeable ADV excludes Admin Trades (which became chargeable from May 2019 at a lower clearing fee rate of US\$0.02 per contract) and other non-chargeable trades.

2 New record highs in 2020

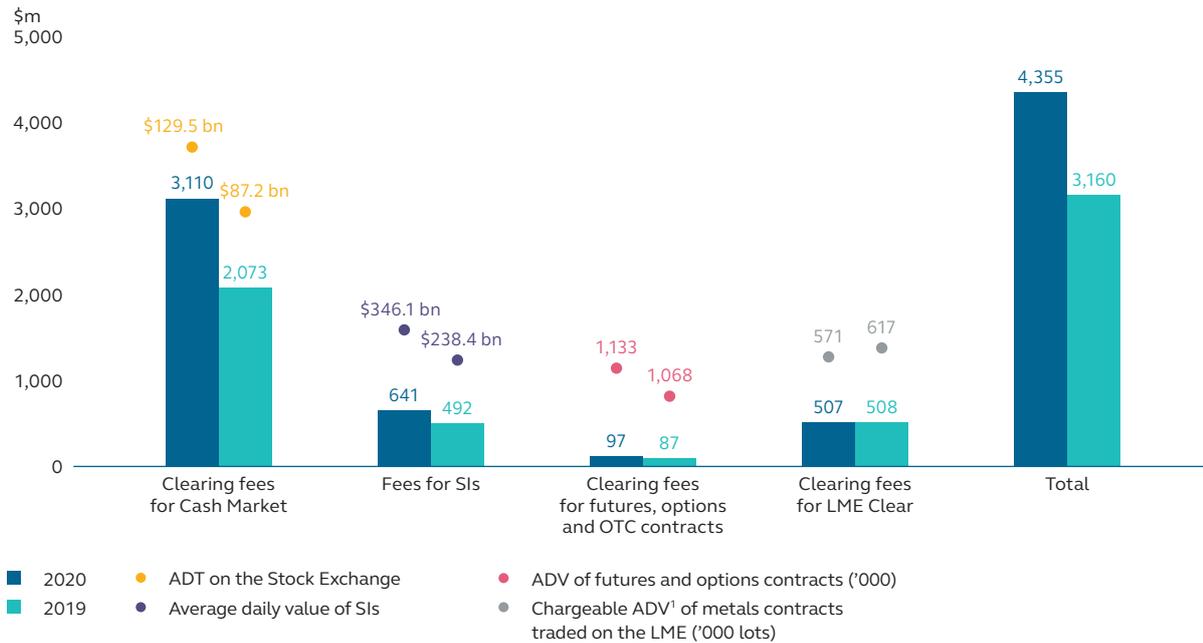
Analysis of Results

Summary

	2020 \$m	2019 \$m	Change
Clearing and settlement fees	4,355	3,160	38%
Depository, custody and nominee services fees	1,264	1,052	20%
Trading fees and trading tariffs – allocated from Equity and Financial Derivatives segment	389	380	2%
Other revenue and sundry income	243	138	76%
	6,251	4,730	32%
Net investment income	1,386	1,496	(7%)
Total revenue and other income	7,637	6,226	23%
Less: Transaction-related expenses	(25)	(10)	150%
Total revenue and other income less transaction-related expenses	7,612	6,216	22%
Operating expenses	(860)	(814)	6%
EBITDA	6,752	5,402	25%
EBITDA margin ¹	89%	87%	2%

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 became chargeable from May 2019 at a lower clearing fee rate of US\$0.02 per contract) and other non-chargeable trades.

Clearing and settlement fees for Cash Market and SIs increased by 50 per cent and 30 per cent respectively compared with 2019. The increases were primarily driven by a higher number of transactions, and record fees from Stock Connect Northbound Trading of \$779 million (2019: \$364 million).

Despite the 7 per cent decrease in chargeable ADV¹ of metals contracts traded on the LME, clearing fees for LME Clear were at the same level as 2019, due to the fee increment effective from 1 January 2020.

Depository, Custody and Nominee Services Fees

Depository, custody and nominee services fees do not directly vary with changes in market activity. They rose by \$212 million or 20 per cent due to higher e-IPO service fees and Stock Connect portfolio fees, partly offset by lower scrip fees.

Trading Fees and Trading Tariffs

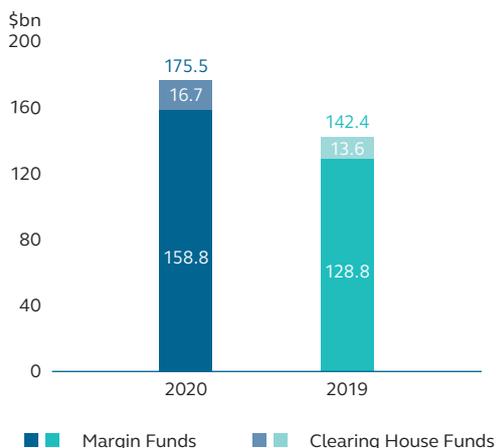
Trading fees and trading tariffs allocated from the Equity and Financial Derivatives segment for clearing derivatives products increased by 2 per cent, due to a 19 per cent increase in ADV of stock options traded, partly offset by a 3 per cent decrease in ADV of derivatives contracts traded on the Futures Exchange (see commentary in the Equity and Financial Derivatives segment).

Other Revenue and Sundry Income

Other revenue increased by \$105 million mainly due to an increase in accommodation income arising from HKCC CPs placing more Euro and Japanese Yen as collateral, and higher interest shortfall collected from LME Clear CPs on cash collateral, as USD investment return fell below the benchmark interest rate stipulated in the rules of LME Clear.

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 sizes of LME Clear, HKCC and SEOCH due to higher margin requirements per contract, reflecting heightened volatility.

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

The analysis of net investment income is as follows:

	2020			2019		
	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	1,255	78	1,333	1,296	109	1,405
– Debt securities	56	–	56	97	–	97
– Exchange losses	(3)	–	(3)	(6)	–	(6)
Total net investment income	1,308	78	1,386	1,387	109	1,496
Net investment return	0.82%	0.47%	0.79%	1.08%	0.80%	1.05%

Net investment income dropped by \$110 million, mainly due to lower interest income from declining interest rates, partly offset by higher average fund sizes of Margin Funds and Clearing House Funds.

EBITDA

Operating expenses rose by \$46 million (6 per cent), reflecting increases in staff costs due to annual payroll adjustments. EBITDA margin rose from 87 per cent in 2019 to 89 per cent in 2020, due to the 23 per cent increase in revenue and other income.

Business Update

Cash and Derivatives Clearing

Driven by the strong flows in both Northbound and Southbound Trading in 2020, there was a strong increase in the utilisation of Stock Connect clearing services:

- (i) an 89 per cent increase in the average daily value of Northbound SIs in 2020 compared with 2019;
- (ii) the number of Special Segregated Accounts increased by 22 per cent to 11,659 accounts as at 31 December 2020 compared with 9,564 as of 31 December 2019; and

- (iii) both Northbound and Southbound portfolio values of Stock Connect reached record highs in December 2020, with Northbound portfolio value increased by 64 per cent to RMB2,339 billion as at 31 December 2020 (31 December 2019: RMB1,429 billion) and Southbound portfolio value increased by 84 per cent to \$2,096 billion as at 31 December 2020 (31 December 2019: \$1,138 billion).

On 20 April 2020, HKSCC further enhanced its third party clearing arrangement to allow a CCASS CP to continue to self-clear its Exchange Trades, while appointing a General Clearing Participant for clearing its China Connect Securities Trades.

HKEX launched the Master SPSA service on 10 July 2020 as an enhancement to the existing SPSA service to support Northbound Trading. This optional service allows pre-trade checking to be conducted at a fund manager, or aggregate level, helping to increase operational efficiencies whilst maintaining the same post trade settlement processes for consistency.

On 24 November 2020, HKEX announced the launch of Synapse, a settlement acceleration platform for Stock Connect targeting production, proposed for Q1 2022. HKEX Synapse will automate and streamline post trade workflow for Northbound Stock Connect using Digital Asset Modeling Language (DAML) smart contract technology. The improved connectivity and capacity to handle the growing volume of trades flowing through Stock Connect will enhance efficiency and transparency for market participants.

HKEX completed two initiatives in relation to Large Open Position (LOP) Reporting in September 2020. Leveraging the Secure File Transfer Protocol facility, the Large Open Position Report (LOPR) submission has been fully automated to further enhance client experience. In addition, HKEX rolled out a new surveillance system for LOP and Position Limit monitoring by leveraging new technology. The modernised surveillance system further strengthens HKEX's surveillance capacity and supports the growth of HKEX's derivatives products.

To facilitate the clearing of the newly introduced MSCI Singapore and Japan futures contracts, on 28 September 2020, HKCC appointed several settlement banks to support the money settlement of SGD and JPY domestically.

HKSCC enhanced its existing buy-in exemption clauses on 16 November 2020, including the expansion of the scope of contingency situations and removal of buy-in exemption clauses which are no longer applicable after various CCASS enhancements.

On 30 November 2020, HKSCC started using the HKD Real Time Gross Settlement (RTGS) account with the Hong Kong Monetary Authority for settling the HKD central counterparty related payment (ie, CNS related payment and risk management payment) with CPs. This arrangement improves CPs' liquidity for money settlement and aligns with international standards and practice (Principle 9 of PFMI) on managing credit and liquidity risk exposure.

FINI is one of the key initiatives under HKEX's Strategic Plan 2019-2021, as part of a broader range of market microstructure improvements and shortening of the IPO settlement cycle from T+5 to target, T+1. The initiative introduces a new web-

based platform that enables IPO market participants, brokers, share registrars, advisers and regulators to interact digitally and seamlessly to complete the end-to-end IPO settlement process. HKEX has been working with different market stakeholders in platform design, market feedback collection and operational workflow reform over the past 18 months. More than 50 meetings with market stakeholders have been conducted and positive market support has been received. The first milestone was achieved on 16 November 2020 when the FINI concept paper was published for market feedback. The target delivery is estimated to be 2H 2022.

To enhance market transparency and capital efficiency across market participants and enable participants' risks to be managed in accordance with regulatory requirements, HKEX developed the Orion Risk Platform (previously known as NextGen Risk Management) for Cash Market - a new platform that adopts Value at Risk (VAR) methodology to calculate initial margin and default fund. The participants familiarisation program for the Orion Risk Platform started in January 2021.

HKCC and SEOCH enhanced their capital-based position limit (CBPL) policy effective 1 September 2020 to provide higher capital efficiency to the market. CPs meeting certain criteria and with appropriate business needs are allowed to increase their CBPL by one-third of their existing limits.

HKEX completed the 2020 Annual Attestation and Inspection Programme, with focus on three areas: (i) client margin requirements; (ii) risk management; and (iii) China Connect rules. The results and findings were announced to the market in February 2021.

OTC Clear

OTC Clear's Cross Currency Swaps (CCS) clearing volume remained strong during 2020, with notional amount cleared up by 8 per cent compared with 2019. However, the total notional amount cleared by OTC Clear in 2020 dropped 25 per cent, as the low interest rate environment led to a decline in Interest Rate Swaps (IRS) volume. In July 2020, the first IRS contract benchmarked to the HONIA was cleared through OTC Clear, supporting the market adoption of new risk-free reference rate in Hong Kong.

OTC Clear continues to strengthen its position in Asia and broaden its membership base with plans to on-board Japanese banks through the Sponsored Settlement Membership model. In addition, OTC Clear received its Recognised Clearing House (RCH) License from the Monetary Authority of Singapore (MAS) in November 2020, allowing it to offer clearing services to buy-side firms and inter-dealer brokers in Singapore.

Technology Segment

Analysis of Results

Summary

	2020 \$m	2019 \$m	Change
Network, terminal user, data line and software sub-license fees	610	575	6%
Hosting services fees	230	188	22%
BayConnect sales and service revenue and other income	70	33	112%
Total revenue and other income	910	796	14%
Operating expenses	(304)	(245)	24%
EBITDA	606	551	10%
EBITDA margin	67%	69%	(2%)

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

Network fees rose by \$35 million (6 per cent) due to increased throttle usage of the Orion Central Gateway and China Connect Central Gateway by EPs, partly offset by lower fees from sale of new throttles.

Hosting Services Fees

Hosting services fees increased due to organic growth from both new customer subscriptions and increased usage by existing customers, with nearly 40 racks newly subscribed in 2020. As at 31 December 2020, 105 EPs were using HKEX's Hosting Services and 292 racks were subscribed by EPs and other hosting services ecosystem participants. These EPs generated, in aggregate, approximately 51 per cent of the Cash Market turnover and 63 per cent of the trading volume of the Derivatives Market in 2020.

EBITDA

Operating expenses increased by \$59 million (24 per cent) mainly due to inclusion of operating expenses of BayConnect, a 51 per cent subsidiary acquired in June 2019. EBITDA margin fell from 69 per cent in 2019 to 67 per cent in 2020; however overall EBITDA increased by 10 per cent year-on-year.

Business Update

Trading and Clearing Systems

During 2020, despite the market volatility and the challenges posed by Covid-19 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.

HKEX conducted a holistic review on the Hong Kong Futures Automated Trading System, following the half-day suspension of the Derivatives Market in 2019, and published a detailed report on 28 December 2020 on the incident. HKEX took into account recommendations from the SFC and an

independent consultant, as well as feedback from EPs and other key stakeholders. This review has resulted in enhancement measures being put in place focusing in particular on incident prevention, detection and handling, mitigation of incident impact, and communication during incidents. These new measures will provide greater support to EPs, investors and other stakeholders in the event of future incidents, and will also help to enhance HKEX's decision-making process during market incidents. HKEX will continue to commit its resources to achieve its goal of operating a highly resilient, fair, informed and orderly market.

The project for hardware obsolescence replacement for various trading and clearing systems, together with the relocation of one of HKEX secondary data centre sites, which was kicked off in early 2020, has been progressing well. After project completion, estimated in Q3 2021, the existing secondary data centre will be relocated to a Tier 3 data centre with a higher level of resilience and lower operating costs.

Innovation Lab

The HKEX Innovation Lab was set up in 2018 to explore, incubate and apply new technologies to modernise HKEX's business and drive technological enhancements for our markets and our business. In 2020, the Innovation Lab successfully incubated FINI (refer to details in the Post Trade segment). It also continued to scale up HKEX's Robotic Process Automation programme, rolled out new data lake infrastructure and analytics tools for the business, and built an award-winning Artificial Intelligence (AI) powered tool to facilitate the review of issuers' annual reports by the Listing Division. These initiatives continue to improve operational efficiency and reduce costs for our business.

Equity Investment

In 2020, HKEX acquired a minority stake in Huakong TsingJiao Information Science (Beijing) Limited (TsingJiao) for a total consideration of RMB100 million. TsingJiao specialises in the research and development of multi-party computation technologies, which allows collaborative data analysis without revealing private data during the computation and analysis process. HKEX believes that partnering with TsingJiao has the potential to be one of the building blocks for HKEX in developing its data strategy.

Corporate Items

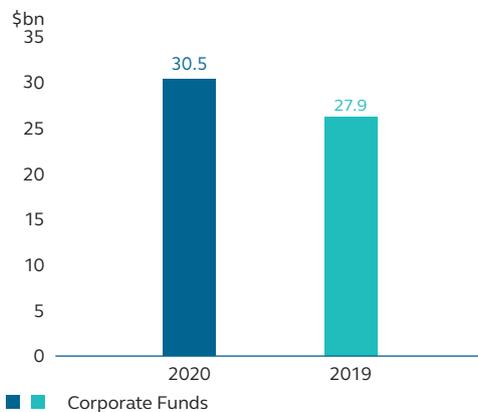
“Corporate Items” is not a business segment but comprises central income (including net investment income of the Corporate Funds and HKEX Foundation donation income), the costs of central support functions that provide services to all operating segments, HKEX Foundation charitable donations and other costs not directly related to any operating segments.

Summary

	2020 \$m	2019 \$m	Change
Net investment income	842	1,233	(32%)
HKEX Foundation donation income	106	–	N/A
Others	9	23	(61%)
Total revenue and other income	957	1,256	(24%)
Operating expenses:			
– HKEX Foundation charitable donations	(112)	–	N/A
– Others	(1,269)	(1,157)	10%
EBITDA	(424)	99	(528%)

Net Investment Income

Average fund size



Average fund size 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:

	2020 \$m	2019 \$m
Net investment income from:		
– Cash and bank deposits	376	437
– Collective investment schemes	487	789
– Debt securities	8	6
– Exchange (losses)/gains	(29)	1
Total net investment income	842	1,233
Net investment return	2.76%	4.42%

Net investment income of Corporate Funds decreased by \$391 million compared with 2019 due to lower fair value gains on collective investment schemes and lower interest income from lower deposit rates.

The decrease in fair value gains on collective investment schemes was mainly due to lower fair value gains of the public equities asset class of \$365 million (2020: \$79 million; 2019: \$444 million).

EBITDA

Excluding HKEX Foundation charitable donations of \$112 million, operating expenses increased by 10 per cent against 2019, due to increased staff costs from annual payroll adjustments, higher recruitment costs and special gratuity payments, higher IT expenses for new IT systems, and higher professional fees incurred for strategic projects and other business initiatives.

Business Update

Equity Investment

Following an initial capital investment of \$50 million for a minority equity interest in Fusion Bank Limited in 2019, HKEX made a further capital injection of \$50 million in April 2020 to facilitate the business launch preparation.

On 21 December 2020, Fusion Bank announced its full public launch in Hong Kong, offering a variety of banking services including savings, time deposits, local fund transfers as well as foreign exchange in HKD, CNY and USD.

Corporate Social Responsibility

Throughout the year, HKEX has continued to innovate and play an active role in shaping the long-term sustainability of global financial markets, focusing on people, operations and communities. HKEX is committed to promoting good corporate governance and ESG stewardship through ongoing publication of training and guidance materials, industry knowledge sharing and leadership on best practices.

Promoting its commitment to Sustainable Finance, in 2020 HKEX launched a new green and sustainable finance platform, STAGE, as well as the LME's

sustainability roadmap to further facilitate the low-carbon transition of financial markets, and society more widely.

Other new initiatives have been rolled out alongside the existing CSR and sustainability programmes including the launch of HKEX Foundation and its flagship Charity Partnership Programme, as well as the HKEX University Scholarship Programme. In response to Covid-19, HKEX supported the markets, its employees and the communities through a number of initiatives, such as relief measures for market participants, employees work from home and wellness support programmes and a \$10 million Covid-19 Relief Fund in the communities.

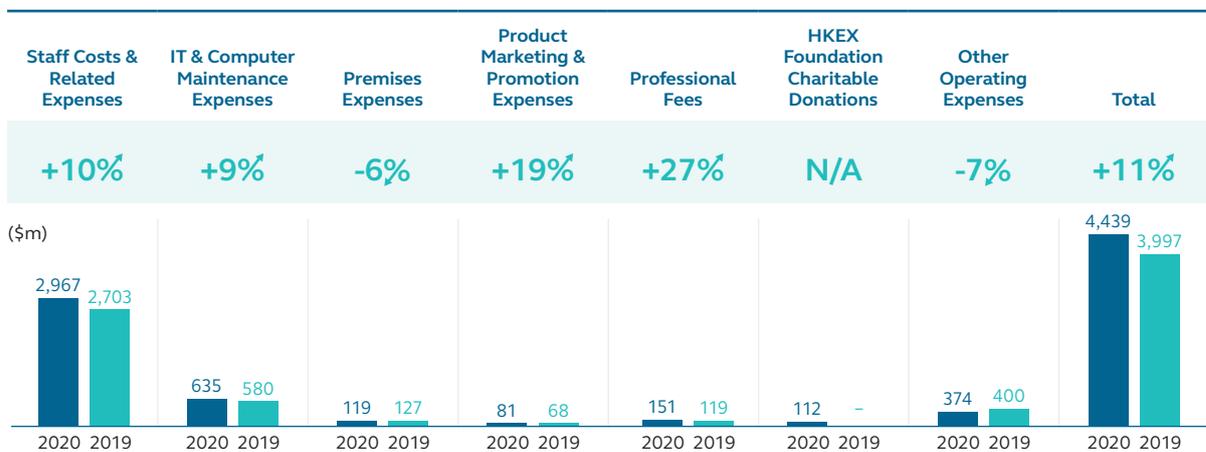
HKEX Foundation

HKEX Foundation (via HKEX Foundation Limited, a controlled structured entity of the Group) was established as HKEX's dedicated charitable channel, with the aim to drive and inspire change by supporting community projects that champion various social and environmental challenges, helping to address global issues at a local level. During 2020, HKEX Foundation funded a wide range of projects and charities, supporting those in need. Initiatives include a \$20 million Charity Partnership Programme, which supported 10 community projects in the HKEX Foundation's four focus areas of financial literacy, diversity and inclusion, poverty relief and environmental sustainability.

From 2H 2020 onwards, the donation income from the Stock Code Balloting Charity Scheme were received by HKEX Foundation, and the amounts previously paid by the issuers directly to the Hong Kong Community Chest were paid by HKEX Foundation.

Expenses, Other Costs and Taxation

Operating Expenses



Staff costs and related expenses increased by \$264 million (10 per cent) mainly due to annual payroll adjustments and increased headcount arising from the acquisition of BayConnect in June 2019.

IT and computer maintenance expenses consumed by the Group, excluding costs of services and goods directly consumed by participants of \$84 million (2019: \$93 million), were \$551 million (2019: \$487 million). The increase was mainly attributable to higher maintenance expenses for new IT systems and upgraded networks, as well as the inclusion of BayConnect.

Professional fees increased by \$32 million (27 per cent) due to higher fees incurred for strategic projects and other business initiatives.

From July 2020 onwards, the donation income from the Stock Code Balloting Charity Scheme were received by HKEX Foundation, and the amounts previously paid by the issuers directly to the Hong Kong Community Chest were paid by HKEX Foundation. As a result, HKEX Foundation charitable donations of \$112 million were recorded under operating expenses in 2020.

Depreciation and Amortisation

	2020 \$m	2019 \$m	Change
Depreciation and amortisation	1,197	1,044	15%

Depreciation and amortisation increased by \$153 million (15 per cent), attributable to an increase in depreciation of right-of-use assets of \$34 million from new and renewed office leases in 2020, and increase in depreciation and amortisation of new IT systems completed in 2H 2019 and 2020.

During 2020, the Group incurred capital expenditure of \$1,388 million, an increase of 30 per cent from 2019.

Finance Costs

	2020 \$m	2019 \$m	Change
Finance costs	181	177	2%

Finance costs increased due to higher negative interest charges on deposits in Euro and Japanese Yen, collected from CPs as collateral.

Taxation

	2020 \$m	2019 \$m	Change
Taxation	1,845	1,561	18%

Taxation increased due to higher profit before taxation in 2020 and a one-off deferred tax charge of \$61 million arising from the change of statutory UK tax rate from 17 per cent to 19 per cent, partly offset by higher non-taxable income.

Financial Review

Analysis of Results by Quarter

Quarterly Results

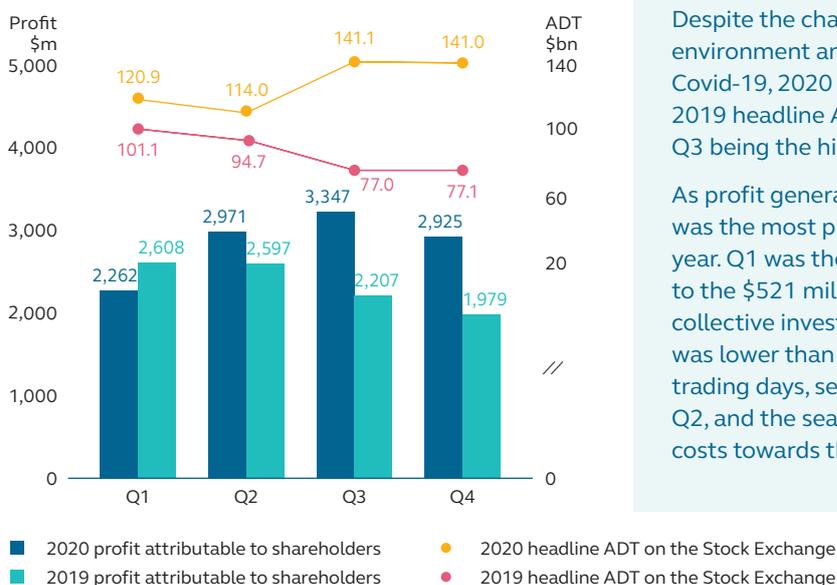
	Q1 2020 \$m	Q2 2020 \$m	Q3 2020 \$m	Q4 2020 \$m	Total 2020 \$m
Revenue and other income	4,009	4,773	5,309	5,099	19,190
Less: Transaction-related expenses	(17)	(14)	(39)	(40)	(110)
Revenue and other income less transaction-related expenses	3,992	4,759	5,270	5,059	19,080
Operating expenses	(1,008)	(1,037)	(1,093)	(1,301)	(4,439)
EBITDA	2,984	3,722	4,177	3,758	14,641
Depreciation and amortisation	(274)	(271)	(282)	(370)	(1,197)
Operating profit	2,710	3,451	3,895	3,388	13,444
Finance costs	(49)	(47)	(43)	(42)	(181)
Share of profits less losses of joint ventures	19	20	15	15	69
Profit before taxation	2,680	3,424	3,867	3,361	13,332
Taxation	(422)	(448)	(528)	(447)	(1,845)
Profit for period/year	2,258	2,976	3,339	2,914	11,487
Loss/(profit) attributable to non-controlling interests	4	(5)	8	11	18
Profit attributable to shareholders	2,262	2,971	3,347	2,925	11,505

	Q1 2019 \$m	Q2 2019 \$m	Q3 2019 \$m	Q4 2019 \$m	Total 2019 \$m
Profit attributable to shareholders	2,608	2,597	2,207	1,979	9,391

Note:

From Q4 2020 onwards, transaction-related expenses are presented under a separate line below Revenue and other income to more appropriately reflect the nature of such direct costs. The results from Q1 to Q3 2020 have been restated to conform with the revised presentation.

Analysis of Quarterly Results



Despite the challenging macroeconomic environment and uncertainty caused by Covid-19, 2020 headline ADT was higher than 2019 headline ADT for all four quarters, with Q3 being the highest quarter in 2020.

As profit generally follows the level of ADT, Q3 was the most profitable quarter during the year. Q1 was the least profitable quarter due to the \$521 million of fair value losses of collective investment schemes. Profit in Q4 was lower than Q3 and Q2, due to fewer trading days, seasonal increase in scrip fees in Q2, and the seasonal increase in operating costs towards the end of the year.

Changes to Key Items in Consolidated Statement of Financial Position

(A) Significant Financial Assets and Financial Liabilities by Funds

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m	Change
Financial assets			
Cash and cash equivalents	157,996	128,152	23%
Financial assets measured at fair value through profit or loss	100,597	57,401	75%
Financial assets measured at fair value through other comprehensive income	7,942	4,569	74%
Financial assets measured at amortised cost	62,688	40,672	54%
Total	329,223	230,794	43%

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 2020 \$m	At 31 Dec 2019 \$m	Change
Financial assets			
Corporate Funds ¹	33,747	29,138	16%
Margin Funds ²	175,129	137,012	28%
Clearing House Funds	21,251	15,176	40%
Base, ferrous, and precious metals derivatives contracts cleared through LME Clear	92,884	48,008	93%
Cash prepayments and collateral for A shares	6,212	1,460	325%
Total	329,223	230,794	43%

1 Includes \$1,241 million (31 December 2019: \$818 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 \$11,879 million (31 December 2019: \$5,524 million), which are included in accounts receivable, prepayments and other deposits

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m	Change
Financial liabilities			
Base, ferrous, and precious metals derivatives contracts cleared through LME Clear	92,884	48,008	93%
Margin deposits, Mainland security and settlement deposits, and cash collateral from CPs	187,008	142,536	31%
CPs' contributions to Clearing House Funds	20,439	14,394	42%
Total	300,331	204,938	47%

The increase in financial assets and financial liabilities of Margin Funds at 31 December 2020 compared with 31 December 2019 was mainly attributable to increased contributions required from members of LME Clear due to higher margin requirements from higher metal contract prices, increased contributions from HKSCC CPs due to higher market turnover and the increase in Mainland security and settlement deposits attributable to the increase in Stock Connect Northbound Trading, and higher contributions from HKCC and SEOCH CPs due to higher margin requirements and the increase in open positions.

The increase in financial assets and financial liabilities of Clearing House Funds at 31 December 2020 compared to 31 December 2019 was mainly attributable to higher contributions required from members of LME Clear and HKSCC CPs in response to changes in risk exposures.

Financial assets of Corporate Funds at 31 December 2020 increased by \$4,609 million as compared to those at 31 December 2019 due to the retention of cash generated by the business over the past year partly offset by the cash paid for the 2019 second interim dividend and 2020 first interim dividend, and the increase in fair values of collective investment scheme investments.

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 \$427 million from \$19,967 million at 31 December 2019 to \$20,394 million at 31 December 2020. The increase was mainly due to additions of assets of \$1,388 million, but was partly offset by depreciation and amortisation of \$892 million, and exchange differences arising mainly from depreciation of USD of \$68 million. Additions during the year were mainly related

to the development and upgrade of various trading and clearing systems (notably the Next Generation Post Trade systems), and the relocation of secondary data centre.

In accordance with HKFRS 16, the Group's operating leases are recognised as right-of-use assets. At 31 December 2020, the carrying amounts of these assets amounted to \$2,193 million (31 December 2019: \$2,366 million) and were mainly related to leases of office premises.

The Group's capital expenditure¹ commitments at 31 December 2020, including those authorised by the Board but not yet contracted for, amounted to \$890 million (31 December 2019: \$1,217 million). These related mainly to the development and upgrade of IT systems including the cash, derivatives and commodities trading and clearing systems, and the set up of the new secondary data centre.

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

In 2020, HKEX acquired a minority stake in Huakong TsingJiao Information Science (Beijing) Limited (TsingJiao) for a total consideration of RMB100 million.

HKEX also made a further capital injection of \$50 million in Fusion Bank Limited in April 2020, bringing the total investment in the bank to \$100 million.

In November 2020, the Group entered into an agreement to acquire a minority stake in Guangzhou Futures Exchange Co. Ltd. (GFE), a newly established futures exchange in the Greater Bay Area, which will focus on serving the real economy and green development initiatives. At 31 December 2020, the total capital investment to be made by the Group was RMB210 million.

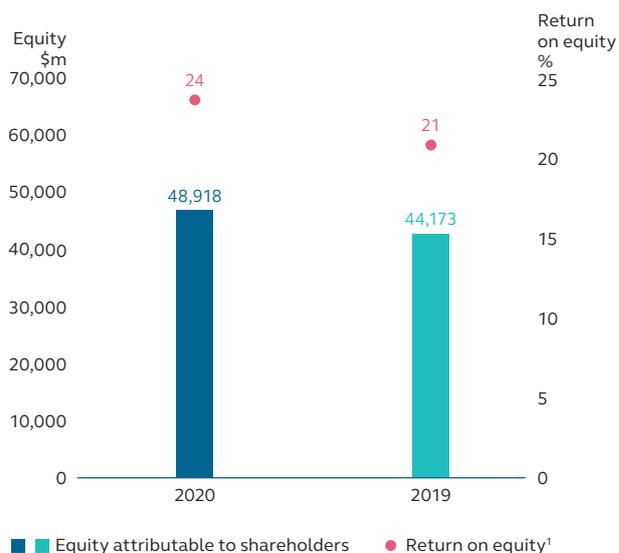
Save for those disclosed in this Annual Report, there were no other significant investments held, nor were there material acquisitions or disposals of subsidiaries during the year under review. Apart from those disclosed in this Annual Report, there were no material investments or additions of capital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

¹ Capital expenditure excludes right-of-use assets recognised under HKFRS 16: Leases.

(D) Equity attributable to Shareholders and Return on Equity

Equity attributable to shareholders increased by \$4,745 million to \$48,918 million at 31 December 2020 (31 December 2019: \$44,173 million). This arose principally from the \$1,428 million of shares issued in lieu of cash dividends and an increase in retained earnings (excluding transfers to designated reserves) of \$3,051 million mainly attributable to profit for the year less dividends declared or paid.

Equity attributable to Shareholders and Return on Equity



Return on equity rose by 3 per cent due to record high profit attributable to shareholders in 2020.

1 Based on equity attributable to shareholders at year-end

Liquidity, Financial Resources and Gearing

Working capital rose by \$5,101 million to \$29,359 million at 31 December 2020 (31 December 2019: \$24,258 million). The increase was mainly due to profit attributable to shareholders of \$11,505 million and net decrease in non-current assets of \$443 million, partly offset by the payment of 2019 second interim dividend and 2020 first interim dividend (net of scrip dividends) of \$7,025 million.

At 31 December 2020, the Group had the following outstanding borrowings:

	At 31 Dec 2020		At 31 Dec 2019	
	Carrying value \$m	Maturity	Carrying value \$m	Maturity
Written put options to non-controlling interests	423	N/A	418	N/A

At 31 December 2020, the Group had a gross gearing ratio (ie, gross debt divided by adjusted capital) of 1 per cent (31 December 2019: 1 per cent), and a net gearing ratio (ie, net debt divided by adjusted capital) of zero per cent (31 December 2019: 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 2020, the Group's total available banking facilities for its daily operations amounted to \$21,223 million (31 December 2019: \$21,246 million), which included \$14,722 million (31 December 2019: \$14,745 million) of committed banking facilities and \$6,500 million (31 December 2019: \$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 2020, the total amount of the facilities was HK\$30,244 million (31 December 2019: HK\$24,052 million).

In addition, the Group has arranged contingency banking facilities amounting to RMB13,000 million (31 December 2019: RMB13,000 million) for settling payment obligations to ChinaClear should there be events that disrupt normal settlement arrangements for Stock Connect.

At 31 December 2020, 82 per cent (31 December 2019: 74 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

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Key Market Statistics										
Headline ADT traded on the Stock Exchange (\$bn)	129.5	87.2	107.4	88.2	66.9	105.6	69.5	62.6	53.9	69.7
ADV of derivatives contracts traded on the Futures Exchange ('000 contracts)	607	626	687	441	464	394	275	284	260	269
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	526	442	517	428	298	374	302	249	228	303
Chargeable ADV of metals contracts traded on LME* ('000 lots)	571	617	627	599	618	670	700	676	634	N/A

* HKEX completed the acquisition of the LME Group on 6 December 2012.

Consolidated Income Statement

(\$m)

Revenue and other income	19,190	16,311	15,867	13,180	11,116	13,375	9,849	8,723	7,211	7,855
Less: transaction-related expenses	(110)	(51)	(54)	(40)	(39)	(36)	(27)	(27)	(24)	(27)
Revenue and other income less transaction-related expenses	19,080	16,260	15,813	13,140	11,077	13,339	9,822	8,696	7,187	7,828
Operating expenses	(4,439)	(3,997)	(4,056)	(3,526)	(3,416)	(3,254)	(2,931)	(2,750)	(1,933)	(1,706)
EBITDA	14,641	12,263	11,757	9,614	7,661	10,085	6,891	5,946	5,254	6,122
Depreciation and amortisation	(1,197)	(1,044)	(762)	(858)	(771)	(684)	(647)	(507)	(158)	(90)
Costs relating to acquisition of LME Group	-	-	-	-	-	-	-	-	(138)	-
Costs relating to proposed combination with LSEG	-	(123)	-	-	-	-	-	-	-	-
Finance costs	(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	69	32	2	(12)	(9)	(9)	(10)	(10)	(3)	-
Profit before taxation	13,332	10,951	10,883	8,610	6,799	9,278	6,038	5,246	4,845	6,032
Taxation	(1,845)	(1,561)	(1,592)	(1,255)	(1,058)	(1,347)	(900)	(700)	(761)	(939)
Profit for the year	11,487	9,390	9,291	7,355	5,741	7,931	5,138	4,546	4,084	5,093
Loss attributable to non-controlling interests	18	1	21	49	28	25	27	6	-	-
Profit attributable to shareholders	11,505	9,391	9,312	7,404	5,769	7,956	5,165	4,552	4,084	5,093
Dividend per share (\$)	8.17	6.71	6.71	5.40	4.25	5.95	3.98	3.54	3.31	4.25
Basic earnings per share (\$)	9.11	7.49	7.50	6.03	4.76	6.70	4.44	3.95	3.75	4.71

Consolidated Statement of Financial Position

(\$m)

Non-current assets	23,413	23,856	20,165	19,586	19,508	19,622	19,672	20,797	20,260	1,580
Current assets	375,693	255,195	235,783	298,018	227,810	218,571	232,188	65,146	60,577	52,448
Current liabilities	(346,334)	(230,937)	(213,581)	(278,566)	(210,688)	(203,976)	(222,564)	(57,538)	(55,337)	(44,809)
Net current assets	29,359	24,258	22,202	19,452	17,122	14,595	9,624	7,608	5,240	7,639
Total assets less current liabilities	52,772	48,114	42,367	39,038	36,630	34,217	29,296	28,405	25,500	9,219
Non-current liabilities	(3,536)	(3,613)	(1,464)	(1,663)	(4,246)	(4,255)	(7,937)	(7,887)	(7,736)	(60)
Total equity	49,236	44,501	40,903	37,375	32,384	29,962	21,359	20,518	17,764	9,159
Non-controlling interests	(318)	(328)	(174)	(102)	(118)	(146)	(86)	(113)	-	-
Equity attributable to HKEX's shareholders	48,918	44,173	40,729	37,273	32,266	29,816	21,273	20,405	17,764	9,159
Equity per share ¹ (\$)	38.64	35.12	32.65	30.14	26.42	24.74	18.26	17.59	15.48	8.50

Financial Ratios

Dividend payout ratio	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Cost to income ratio ²	23%	25%	26%	27%	31%	24%	30%	32%	27%	22%
Pre-tax profit margin ²	70%	67%	69%	66%	61%	70%	62%	60%	67%	77%
Return on equity ³	24%	21%	23%	20%	18%	27%	24%	22%	23%	56%
Current ratio	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.2

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 (ie, 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



Governance

銀行街

Bank Street

58W

西行

Westbound



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 2020 are highlighted in this report and the Committee Reports, as well as in the 2020 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
- 3 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 96 to 98

Audit Committee Report: pages 99 to 101

Risk Committee Report: pages 102 to 105

Remuneration Committee Report: pages 106 to 112

CSR Committee Report: pages 113 and 114

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

- 48 Board and committee meetings in total in 2020
- Completion of an internally-led Board evaluation
- International Advisory Council has been set up to provide the Board with expert insight and perspective
- 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 the year 2020, HKEX complied with all code provisions and, where appropriate, adopted the recommended best practices set out in the Corporate Governance Code, 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 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 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 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 2020/2021 is set out in the Nomination and Governance Committee Report.

Strategic Planning

HKEX has a rigorous and continuing 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.

HKEX’s three-year Strategic Plan 2019-2021 is available on the HKEX Group website (About HKEX section). In addition to the mid-year strategy review, the Board held a strategy meeting in September 2020 to review the achievements under the Strategic Plan, and discuss and explore potential strategic moves. The accomplishments achieved during the year are reported in the Chief Executive’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](#).



Gender



Ethnicity



Age Group



Directorship with HKEX (Number of Years)



Other Public Companies Directorship(s) (Number of Companies *)



* Directorships or alternate directorships held at companies within the same group are considered to be one single directorship.

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)	●	●	●	●		●	
Apurv Bagri	●	●	●		●	●	
T C Chan	●	●	●	●	●	●	
C H Cheah	●	●	●	●			
Susan Chow	●		●	●		●	
Anita Fung	●	●	●	●		●	
Rafael Gil-Tienda	●	●	●	●		●	
Fred Hu	●	●		●	●		●
Benjamin Hung	●	●	●	●			
Hugo Leung	●	●	●	●		●	
John Williamson	●	●	●	●	●	●	●
Stephen Yiu	●		●	●	●	●	●
Executive Director							
Calvin Tai	●	●	●	●	●	●	●
Coverage (% of entire Board)	100%	85%	92%	92%	46%	77%	31%

The names of the Directors in office during 2020 and up to the date of this report, and the brief biographies of the current Directors are included in the Board and Committees section and the Board of Directors and Senior Management section, respectively, 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 5 years. The service term of Anita Fung, Rafael Gil-Tienda and Stephen Yiu (Government Appointed Directors), and T C Chan, Fred Hu and John Williamson (Elected Directors)

will expire at the conclusion of the 2021 AGM.

On 5 February 2021, the Government appointed Nisa Leung and re-appointed Rafael Gil-Tienda and Stephen Yiu as members of the Board, each for a term of approximately two years from the conclusion of the 2021 AGM until the conclusion of the AGM to be held in 2023. On 24 February 2021, the Board accepted the nomination by the Nomination and Governance Committee and recommended Nicholas Allen, Anna Cheung and Zhang Yichen to stand for election at the 2021 AGM.

Information about the Board Diversity Policy and the Nomination Policy along with the results of the review of the Board's composition, the nomination of Board candidates and the assessment of INEDs' independence during 2020/2021 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 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 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. Further details relating to the Board committees, the International Advisory Council, 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. Following the evaluation of the Board's performance by an independent external consultant in 2019, actions were taken during 2020 to further enhance the quality and efficiency of the Board's discussions, its risk oversight, and engagement with stakeholders.

In 2020, HKEX conducted an internal evaluation of the performance of the Board and its governance committees, 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 2020 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 2020.

The evaluation results indicated that the directors of HKEX, OTC Clear, 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 November and December 2020 respectively. Recommendations for improvement are being followed up.

Chairman and Chief Executive

Following Charles Li's retirement as the Chief Executive of HKEX on 31 December 2020, Calvin Tai has been appointed as the Interim Chief Executive of HKEX with effect from 1 January 2021 until the new Chief Executive is appointed.

At HKEX, the roles of the Chairman and the Chief Executive 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 the Chairman and the Chief Executive



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

Induction and Development

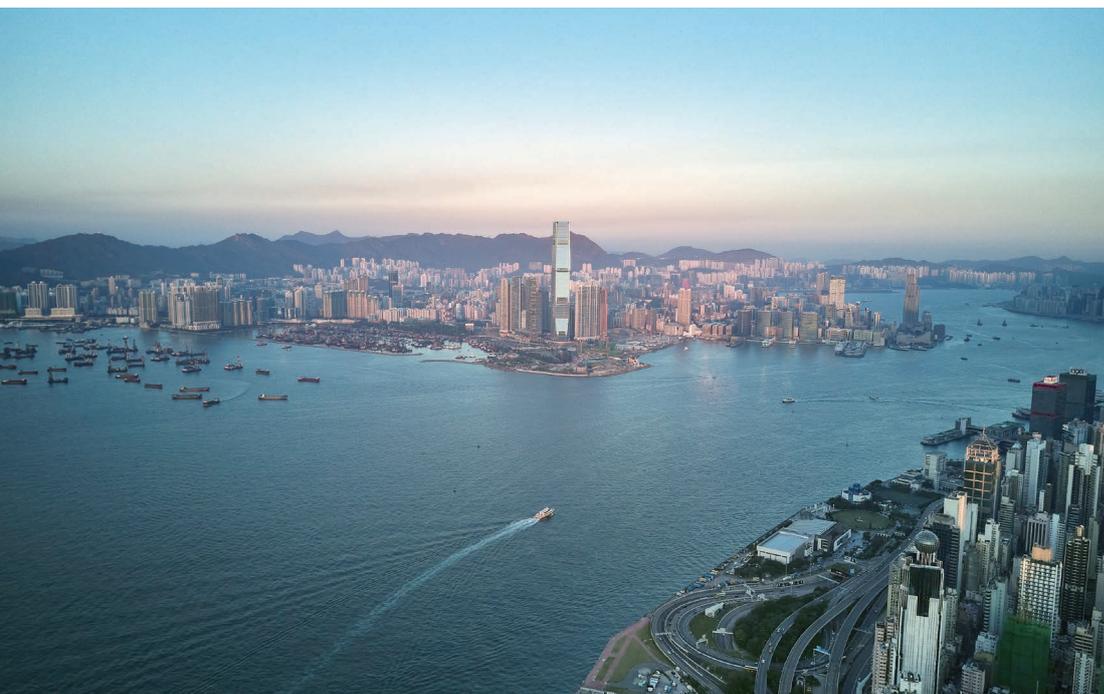
Upon appointment to the Board, Directors are provided with comprehensive induction training to ensure that they have a thorough understanding of the Group's operations and governance policies, as well as their role and responsibilities. Every new Board member also receives a Director's Handbook which 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 their skills and knowledge necessary for the performance of their duties. Directors are invited to attend the Board knowledge sessions, the Board strategy meeting(s), and the International Advisory Council meetings held during the year, at which external industry experts, Council members or senior executives of HKEX are engaged to provide information 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 2020, the Directors received an aggregate of about 420 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.

2020 Directors' Training by Topic

	Average hours of training: 32					
	HKEX's strategy/business	Economy/financial markets & products	Director's duties/ESG practices	Financial reporting/risk management	Legislative/regulatory compliance	IT
INEDs						
Laura M Cha (Chairman)	●	●	●	●	●	●
Apurv Bagri	●	●	●	●	●	●
T C Chan	●	●	●	●	●	●
C H Cheah	●	●	●	●	●	●
Susan Chow	●	●	●	●	●	●
Anita Fung	●	●	●	●	●	●
Rafael Gil-Tienda	●	●	●	●	●	●
Fred Hu	●	●	●	●	●	●
Benjamin Hung	●	●	●	●	●	●
Hugo Leung	●	●	●	●	●	●
John Williamson	●	●	●	●	●	●
Stephen Yiu	●	●	●	●	●	●
Executive Director						
Charles Li	●	●	●	●	●	●



Board Process

In addition to the strategy meeting in September 2020, the Board held 10 meetings in 2020 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, to consider issues in an informal setting.

Attendance Record of Directors and Committee Members in 2020¹

	2020 AGM	Board	Audit Committee	Board Executive Committee	CSR Committee	Investment Committee	Nomination and Governance Committee	Panel Member Selection Committee	Remuneration Committee	Risk Committee	Risk Management Committee (statutory)
Number of Meetings	1	10	4	5	4	4	6	-²	5	5	5
INEDs											
Laura M Cha (Chairman) ³	1/1	10/10		5/5	4/4		6/6		5/5	5/5	5/5
Apurv Bagri	1/1	10/10					4/6				
T C Chan ⁴	1/1	10/10	4/4				6/6	-		5/5	2/2
C H Cheah	1/1	10/10		5/5		4/4	5/6	-	5/5		
Susan Chow ⁵		6/6							4/4	3/3	3/3
Anita Fung	1/1	10/10	4/4			3/4		-			
Rafael Gil-Tienda	1/1	10/10					5/6	-	5/5		
Fred Hu ⁶	0/1	9/10			2/2	4/4			4/5		
Benjamin Hung ⁷	1/1	10/10				3/4	4/4				
Hugo Leung ⁸	1/1	10/10	4/4	5/5	2/2	4/4		-		5/5	
John Williamson ⁹	1/1	10/10	4/4	5/5	4/4				4/5	5/5	5/5
Stephen Yiu	1/1	10/10	4/4		4/4					5/5	
Executive Director											
Charles Li	1/1	10/10		4/5	4/4						
Market Professionals											
Clara Chan ¹⁰											1/1
Daisy Cheung ¹¹											4/5
Lawrence Lam											4/5
Clement Lau ¹⁰											4/4
Rico Leung											5/5
Barbara Shiu											4/5
Attendance Rate	92%	99%	100%	96%	100%	90%	88%	N/A	93%	100%	93% ¹²

1 During 2020, 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 No meeting was held by the Panel Member Selection Committee during 2020.

3 Mrs Cha was redesignated from chairman to member of the Risk Committee on 2 January 2020.

4 Mr Chan ceased to be a member of the Risk Management Committee (statutory) on 7 May 2020.

5 Mrs Chow was appointed as a Director and a member of the Remuneration Committee, the Risk Committee, and the Risk Management Committee (statutory) on 7 May 2020.

6 Dr Hu was appointed to the CSR Committee on 7 May 2020.

7 Mr Hung was appointed to the Nomination and Governance Committee on 7 May 2020.

8 Mr Leung ceased to be a member of the CSR Committee on 7 May 2020.

9 Mr Williamson was appointed as the chairman of the Risk Committee and a member of the Risk Management Committee (statutory) on 2 January 2020.

10 Ms Chan was appointed to the Risk Management Committee (statutory) on 17 October 2020 to replace Mr Lau.

11 Ms Cheung was appointed to the Risk Management Committee (statutory) on 1 January 2020 to replace Gao Yingxin.

12 The attendance rate calculation took into account the attendance by the alternate member of the committee.

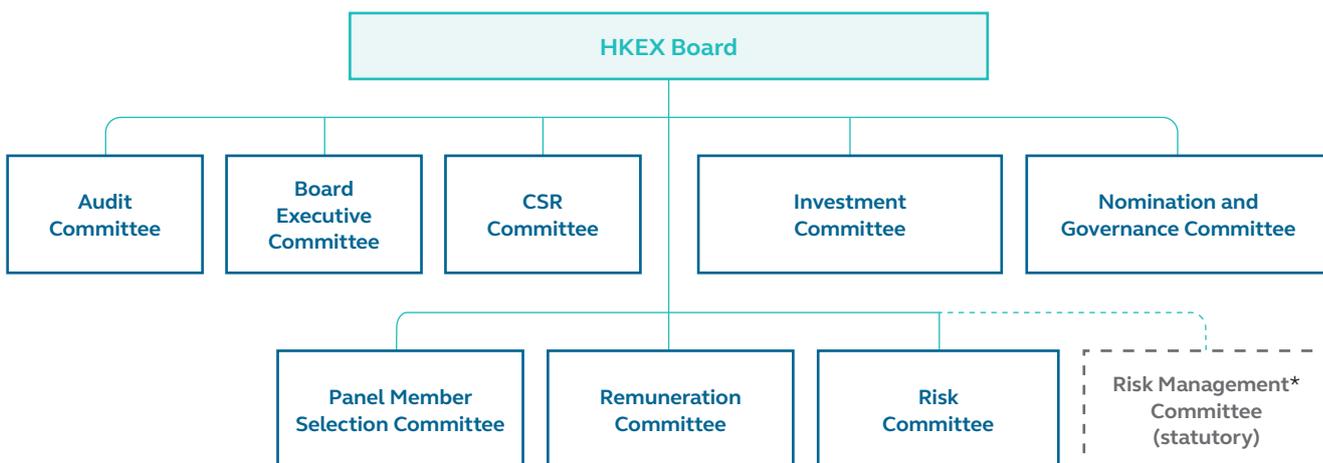
To facilitate effective oversight and decision making by the Board, HKEX has established the Group Escalation and Incident Reporting Policy to set out guidelines on handling critical concerns relating to the Group's operations and performance. The Continuous Disclosure and Communication Policy is in 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.

David Fu has been appointed to succeed Joseph Mau as the Group Company Secretary with effect from 1 April 2020. Mr Fu's biography is set out in the Board of Directors and Senior Management section of this Annual Report. During 2020, Mr Fu attended over 15 hours of professional training.

Board Delegation Committees



* 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 is set out in the Board and Committees section of this Annual Report, and their attendance record 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 the 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 Neil Shen as a new member in November 2020, the Council comprises six members, and is chaired by the HKEX Chairman. Four Council meetings were held in 2020.

Members of International Advisory Council

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

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 Meeting(s) held in 2020

• Cash Market Consultative Panel	1
• Derivatives Market Consultative Panel	3
• Clearing Consultative Panel	3

Management

Senior executives, under the leadership of the Chief Executive, 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 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](#). The Executive Committee, which comprises the Chief Executive and selected members of the Management Committee, is responsible for supervising and coordinating all key business and operational activities in relation to the implementation of HKEX's Strategic Plan. Members of the Executive Committee 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 2020, several senior executives 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 from time to time to support its long-term growth and success. During 2020, the Senior Management received an aggregate of about 396 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, information technology, leadership, and management. Other employees of the Group also attended training throughout the year. Details are set out in the 2020 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, efforts have been made to strengthen the governance structures and processes of HKEX's 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 review from time to time, to support its commitment to high standards of business, professional, and ethical conduct, and to ensure best practices across the organisation. In 2020, the Group organised a series of initiatives, including the Legal and Compliance Month, the Risk Awareness Month, Know Your Regulator Series, and e-training for new and existing employees, to reinforce a strong culture of compliance and risk management among the employees.

Key governance policies for employees

- Code of Conduct
 - Continuous Disclosure and Communication Policy
 - Group Anti-Bribery and Anti-Corruption Policy
 - Group Personal Account Dealing Policy
 - Group Prevention of Financial Crime Policy
 - Group Whistleblowing Policy
 - Group Compliance 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, among others, the entering into an MOU with 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 also serve to provide guidance to Directors and committee members of the Group on the requirements to avoid conflicts of interest and on the circumstances under which appropriate action(s) shall be taken by the director in conflict. During 2020, the policy governing the acceptance by the Group's directors of external appointments in listed and unlisted companies was updated to

introduce 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 2020/2021, 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 2020.

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

The interests and short positions of Directors, including the Chief Executive, in the shares and underlying shares of HKEX (within the meaning of Part XV of the SFO) as at 31 December 2020 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				Total	% of HKEX ¹ shares in issue
	Personal interests	Family interests	Corporate interests	Other interests		
Charles Li	502,649 ²	–	–	–	502,649	0.03
Stephen Yiu	–	2,000 ³	–	–	2,000	0.00

¹ Based on 1,267,836,895 HKEX shares in issue as at 31 December 2020

² Details of Mr Li's interests 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 2020 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 2020, 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 as Minority Controllers on the basis that they hold HKEX shares in custody for their clients. According to the Participant Shareholding Report as at 31 December 2020, 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 2020 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	7,697,713	89,391,803 ²	7.05
	Investment manager	37,779,999		
	Person having a security interest in shares	68,023		
	Trustee	36,586		
	Approved lending agent	43,809,482		
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	6,125,295	6,125,295 ⁴	0.48

¹ Based on 1,267,836,895 HKEX shares in issue as at 31 December 2020

² It included an aggregate interest in 5,699,894 underlying shares through JPMC's holding of certain listed derivatives (physically settled: 3,258,400 shares; cash settled: 1,029,130 shares) and unlisted derivatives (physically settled: 799,234 shares; cash settled: 613,130 shares).

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

⁴ It included an aggregate interest in 6,080,835 underlying shares through JPMC's holding of certain listed derivatives (physically settled: 1,191,400 shares; cash settled: 2,290,180 shares) and unlisted derivatives (physically settled: 1,688,916 shares; cash settled: 910,339 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 2020 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 2020 are set out below.

Senior Management	Number of shares held	Number of shares that ¹ remained unvested under the Share Award Scheme	Derivatives (number of underlying shares)
Matthew Chamberlain	13,322	46,103	-
Bonnie Y Chan	4,988	-	-
Romnesh Lamba	20,852	29,894	-
Vanessa Lau	26,258	13,780	-
Glenda So	2,000	-	-
Calvin Tai	110,502	38,002	-
Wilfred Yiu	-	28,551	-

¹ 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 2020.

- 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 2020.
- 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 2020.

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 "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 2020, 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 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. In 2020, HKEX published its annual, interim, and quarterly results within three months, two months, and 45 days respectively after the relevant period end. In preparing the financial statements for the year ended 31 December 2020, 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 2020 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 the 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 2020/2021, 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 and takes any areas of concern into consideration when formulating its business strategies.

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 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 2020, around 250 physical/virtual meetings 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 2020

- 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 2020, investors' major areas of interest included:

- (i) HKEX Strategic Plan 2019-2021;
- (ii) Updates on financial performance of the Group;
- (iii) ESG related topics, including board diversity, Chief Executive succession plan, and HKEX Foundation; and
- (iv) Latest developments regarding the Group's initiatives, including Stock Connect, Bond Connect, product development, IPO market, development of ETF market, FIC strategy, LME's initiatives, development of QME, the listing regime reform, 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 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 2020, about 79 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 2021 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 2021 AGM is 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 are provided with ready, equal, and timely access to information about HKEX. 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 2020 are set out in the Shareholder Information section of this Annual Report.

Further information about the Group's stakeholder engagement activities in 2020 is set out in the 2020 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.

2020 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 2020 AGM:

45.7%
of total issued shares

Most of the Directors in office on the meeting date, including the Chairman and the chairmen of the Audit Committee and other Board committees, attended the 2020 AGM along with key senior executives and the external auditor. In light of the Covid-19 situation, a live webcast of the 2020 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 2020 AGM are available on the HKEX Group website [IR](#).

Key Matters Resolved at the 2020 AGM¹

- Receipt of the 2019 audited financial statements
- Re-election of C H Cheah and Hugo Leung 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 2020 AGM.

2021 Annual General Meeting

The 2021 AGM will be held on Wednesday, 28 April 2021 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 2021 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 2021 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 2021 AGM is held.

In light of the uncertain development of the current Covid-19 situation, Shareholders are encouraged to appoint the chairman of the 2021 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 2021 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 2020 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 2021

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 six INEDs whose names and biographies are set out in the Board and Committees section of this Annual Report. The NGC held six meetings in 2020. Members' attendance records are in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2020/2021

- 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
 - Considered amendments to the policy on acceptance of external directorships and other appointments by directors of HKEX and its subsidiaries
 - 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 Directors during 2020

In February 2020, the Government appointed Susan Chow and re-appointed Laura M Cha and Benjamin Hung to the Board, each for a term of approximately two years from the close of the 2020 AGM until the conclusion of the AGM in 2022.

At the 2020 AGM, C H Cheah and Hugo Leung were re-elected by Shareholders for a term of approximately three years from 7 May 2020 until the conclusion of the AGM in 2023.

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. It also sets out the Board's commitment to gender diversity and other diversity aspects, with the ultimate goal of achieving gender parity on the Board. HKEX currently has three female Directors, and the Board will 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 2020, the NGC reviewed the structure, size, and diversity of the Board to ensure that its 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 Candidates

The service term of Anita Fung, Rafael Gil-Tienda, and Stephen Yiu (Government Appointed Directors), and T C Chan, Fred Hu, and John Williamson (Elected Directors) will expire at the conclusion of the 2021 AGM. Mr Chan and Mr Williamson, who will have served on the Board for 12 consecutive years as at the 2021 AGM, are not eligible for nomination under the Nomination Policy for re-election and will retire at the conclusion of the 2021 AGM. Dr Hu has decided not to offer himself for re-election at the 2021 AGM.

During 2020, in considering the Board's succession, the NGC engaged an independent professional search firm to help identify potential candidates for Non-executive Directors. The NGC reviewed the profiles of the candidates, having regard to the Board's current composition, the Directors' skill matrix, the list of selection criteria for Non-executive Directors that have been approved by the Board, the Nomination Policy, and the Board Diversity Policy, and arranged interviews with the shortlisted candidates individually.

On 5 February 2021, the Government appointed Nisa Leung and re-appointed Rafael Gil-Tienda and Stephen Yiu as members of the Board, each for a term of approximately two years from the conclusion of the 2021 AGM to be held on 28 April 2021 until the conclusion of the AGM to be held in 2023.

On 23 February 2021, the NGC nominated Nicholas Allen, Anna Cheung and Zhang Yichen to the Board for it to recommend to Shareholders for election at the 2021 AGM. The nominations were made in accordance with the Nomination Policy and took into account the merits of the candidates including, among others, their market knowledge and experience, reputation for integrity, and the diversity aspects (including without limitation, gender, age, cultural and educational background, ethnicity, professional experience, skills, and knowledge), with due regard for the benefits of diversity, as set out in the Board Diversity Policy.

Given the background and past experience of the three candidates, in particular, Mr Allen's accounting expertise and vast experience in securities and regulatory matters, Ms Cheung's extensive business strategic and operational experience, and Mr Zhang's in-depth knowledge in the Mainland's capital markets, it is considered that their appointment would further enhance the Board's diversity and performance and benefit the future development of HKEX. The NGC was satisfied with the independence of Mr Allen, Ms Cheung and Mr Zhang with reference to the criteria laid down in the Main Board Listing Rules.

Each of Mr Allen, Ms Cheung and Mr Zhang does not hold any cross-directorships or have any significant links with other Directors through involvement in other companies or bodies. Mr Allen, Ms Cheung and Mr Zhang do 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). Their 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](#).

Independence of Non-executive Directors

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

An independence confirmation by Susan Chow was submitted in writing to the SFC upon her appointment to the Board in May 2020.

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 2020.
 - Details of the Director's interests in the Group's business are set out on pages 91 and 92 of this Annual Report.
-

On 23 February 2021, 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.
 - Consideration was given to the independence of T C Chan and John Williamson, who have been serving on the Board for more than nine years.
 - 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.
-

Laura M CHA

Chairman of the Nomination and Governance Committee

Hong Kong, 23 February 2021

Audit Committee Report

The Audit Committee

The Audit Committee (AC) is delegated with the authority by the Board to provide independent oversight of the Group's financial reporting and internal control systems, and 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 2020. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2020/2021

- Approved revisions to the Group Internal Audit Charter
- Reviewed the AC's terms of reference
- Reviewed and approved amendments to the Group Anti-Bribery and Anti-Corruption Policy, and the Group Whistleblowing Policy
- Reviewed the Group's quarterly, half-yearly, and annual financial results
- 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 the internal audit plan for 2021 to 2023
- Reviewed significant findings of the IAD, the external auditor, external consultants and regulators, and management's response to their recommendations
- Reviewed quarterly reports and updates on legal and regulatory compliance matters, including 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 the remediation actions taken in response to the independent review of the HKATS (Hong Kong Futures Automated Trading System) derivatives market suspension on 5 September 2019
- Reviewed the continuing connected transactions
- Approved the revised policy on engagement of the external auditor to provide services
- Reviewed and monitored the external auditor's independence and reviewed the engagement to perform non-audit services
- Approved the 2020 external audit engagement letters and fees
- Reviewed and endorsed changes in accounting principles and practices proposed by management

Review of Financial Results

The AC reviewed the 2020 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 2020. The AC therefore recommended that the Consolidated Financial Statements for the year ended 31 December 2020 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 2020 Consolidated Financial Statements.

Key Audit Matters

Goodwill impairment assessment

Assessment by the AC

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 123.

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 the 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 124.

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 2020, the Group's risk management and internal control systems were effective with reference to the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework 2013 and the 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 managed the impact of 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 2020, 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 22 February 2021.

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 engagement partner of the auditor. The current engagement partner has served on the audit of the Group since 2017.

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

	2020 \$m	2019 \$m
Audit services	19	15
Non-audit services		
• Tax advisory and compliance	2	2
• Proposed combination with LSEG	–	10
• Other services	1	–
Total	22	27

Re-appointment of External Auditor

The AC was satisfied with PwC's work, its independence, and its objectivity, and therefore recommended the re-appointment of PwC (which has indicated its willingness to continue in office) as the Group's external auditor for 2021 for Shareholders' approval at the 2021 AGM.

YIU Kin Wah, Stephen

Chairman of the Audit Committee

Hong Kong, 22 February 2021

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), 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 policies and, in conjunction with the Audit Committee, assessing the 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 2020. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.



Summary of Work in 2020/2021

- Reviewed the Risk Committee's terms of reference and approved revisions to terms of reference of the Executive Risk Committee and the Clearing Risk Committee
- Approved the Group Risk Management plan
- Approved the HKSCC, HKCC, and SEOCH default fund enhancements
- Approved the initial margin and stress testing models for Next Generation Post Trade Platform and related risk policy changes for HKSCC
- Approved the engagement of an external consultant to conduct an independent risk review
- Reviewed updates of the risk appetite statements and risk tolerances
- Reviewed the implementation of business continuity arrangements in response to the Covid-19 pandemic
- Reviewed the remediation actions taken in response to the independent review of the HKATS (Hong Kong Futures Automated Trading System) derivatives market suspension on 5 September 2019
- Reviewed updates of the Group Incident Escalation and Reporting Policy and the HKEX Market Contingency Plan, and the new Operational Incident Management Plan
- Reviewed updates of the IT risk governance and information security enhancements
- Reviewed the LME's pre-trade regulatory arrangements and post-Brexit contingency plans
- Reviewed the sanctions risk management plans
- Reviewed the implementation of risk and compliance culture initiatives
- Reviewed the HKEX Compliance Monitoring Programme, and approved updates to the Group Compliance Policy, the Group Personal Account Dealing Policy, the Group Record Retention Policy, and the Group Prevention of Financial Crime Policy
- Reviewed the results of the Group's quarterly Enterprise 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
- Reviewed the management confirmation on the effectiveness of the Group's risk management and internal control systems

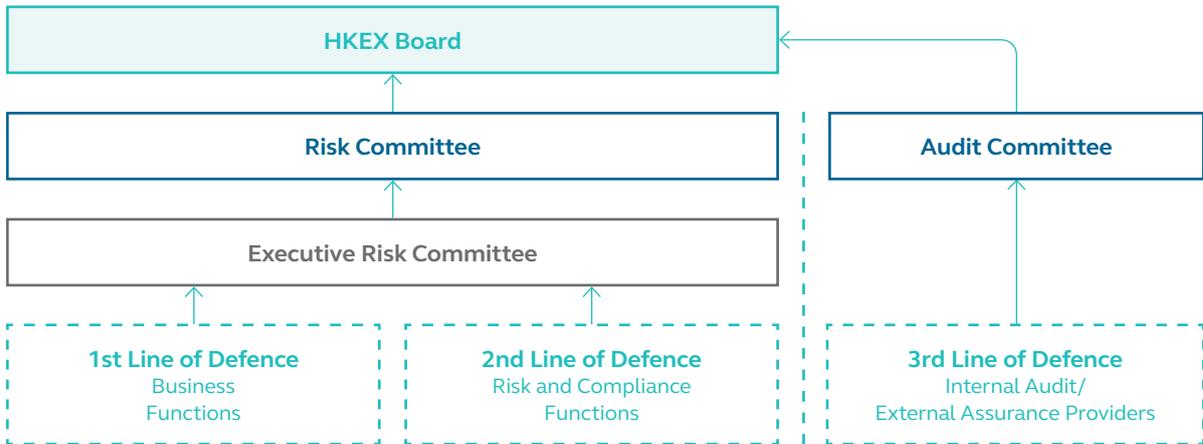
Operating an appropriate and effective risk management and internal control system is essential to achieving the Group's strategic objectives and maintaining service delivery targets. The Risk Committee is responsible for overseeing the Group's risk management approach, policy and framework. The Group 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 2020, and the Group has

satisfactorily managed the impact of the Covid-19 pandemic. The risk management and internal control systems adopted by the Group remain appropriate and effective in evaluating, determining and managing significant risks that the Group may take in achieving its strategic objectives.

The Board initiated an independent strategic risk review in Q3 2020. Employing independent industry experts, the review 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 review will conclude by the end of Q1 2021.

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 standard ISO (International Organisation for Standardisation) 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, and innovations; Proactive monitoring of and preparation for global and local changes in regulations affecting the Group; and Responsive project controls to allow strategic flexibility and timely resource allocation.
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; 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, and technology; Low latency, highly resilient IT service design; and Site and data centre security and continuity arrangements, including pandemic response plans and split team operations.
Cyber Security Risk	The risk of financial or reputational loss or inability to deliver services and products due to 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; Strengthened DDoS mitigation controls; Revised IT and cyber security operational function; and Assessment of cyber maturity against a new framework, and associated improvement plans.
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; Compliance Monitoring Programme; and Internal compliance policies 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); 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.

John Mackay McCulloch Williamson

Chairman of the Risk Committee

Hong Kong, 16 February 2021

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 six INEDs whose names and biographies are set out in the Board and Committees section of this Annual Report. The RC held five meetings in 2020. Members' attendance records are disclosed in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2020/2021

- Recommended the Group's Clawback Policy, which took effect in November 2020 upon approval by the Board
 - Reviewed the achievements of HKEX Chief Executive and recommended to the Board the appropriate compensation arrangement for Charles Li in association with his retirement on 31 December 2020
 - Reviewed and recommended to the Board the compensation arrangement for HKEX Interim Chief Executive
 - Recommended the corporate performance scorecard for the Group
 - Recommended the 2020 performance bonus and share award pools as well as the 2021 salary adjustment budget for the Group's employees
 - Determined the 2020 performance bonus 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 review 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 2021/2022

- McLagan 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 2020, with benchmarks covering listed exchanges, selected major banks, and constituent companies of the FTSE 100 Index and the HSI.
 - The RC has resolved that market study on non-executive directors' remuneration will be conducted in alternate years, and on a needed basis as requested by the RC or the Board.
 - In February 2021, the RC reviewed the current remuneration levels for Non-executive Directors. Based on the results of the review, the RC recommended that the remuneration for Non-executive Directors remain unchanged for 2021/2022.
-

Non-executive Directors' Remuneration for 2021/2022

	\$
Board	
– Chairman	3,300,000
– Other Non-executive Director	850,000
Audit Committee, Board Executive Committee, Investment Committee, Remuneration Committee and Risk Committee	
– Chairman	250,000
– Other member	160,000
Corporate Social Responsibility Committee, and Nomination and Governance Committee	
– Chairman	200,000
– Other member	160,000

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

The emoluments of the Non-executive Directors in 2019 and 2020 for their service on the Board and, where applicable, on its committees and the board and committees of HKEX's subsidiaries are set out below.

	2020 \$	2019 \$
Apurv Bagri	1,010,000	940,000
Laura M Cha	4,930,730	4,609,318
T C Chan	1,354,000	1,286,000
C H Cheah	1,580,000	1,524,500
Susan Chow	788,000	–
Anita Fung	1,182,000	1,134,000
Rafael Gil-Tienda	1,945,069	1,750,500
Fred Hu	1,276,667	1,123,000
Benjamin Hung	1,124,667	973,000
Hugo Leung	1,536,122	1,508,774
John Williamson	1,755,328	1,966,000
Stephen Yiu	2,881,242	2,768,604
Total	21,363,825	20,270,945 ¹

¹ Include remuneration of \$274,500 paid to Margaret Leung who retired on 24 April 2019, and of \$412,749 paid to Mary Ma who passed away on 31 August 2019.

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 bonus and share award pools, if any, for the year to the Board
- To consult with HKEX Chief Executive 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 to the Board. As a good corporate governance practice, HKEX Chief Executive is not involved in the Board's discussion and decision.

Review for 2020/2021

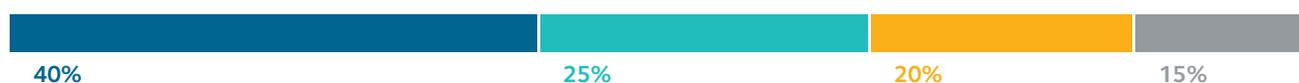
- Based on the RC's recommendation, the Board approved in November and December 2020:
 - a base salary adjustment and promotion increase effective January 2021. The salary adjustment took into consideration the competitive positioning, the cost of living and the projected pay increase in the financial services industry;
 - a discretionary performance bonus for eligible employees in recognition of their contributions in 2020;
 - a discretionary award for the purchase of HKEX shares pursuant to the Share Award Scheme for 444 selected employees and for selected employees to be recruited in 2021; and
 - the compensation arrangements for HKEX Chief Executive in association with his retirement on 31 December 2020.
- The performance cash bonus and share award pools for the Group's employees were determined based on the overall achievements with respect to the following on the corporate performance scorecard:

Performance Measures

Financial	Strategic	Market & Regulatory	Organisational Development
<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 Overall cost/income ratio Relative to budget: <ul style="list-style-type: none"> Absolute expenses excluding incentives 	<ul style="list-style-type: none"> Key initiatives from HKEX Strategic Plan 2019-2021: <ul style="list-style-type: none"> Listing Hong Kong Cash & Derivatives Markets China Connectivity Global Initiatives Technology 	<ul style="list-style-type: none"> Regulatory compliance Completion of regulatory action required to manage the impact of Brexit and relevant EU regulations Listing regulation enhancement System stability & reliability Market structure reform Stakeholder relationship management with a focus on enhancing awareness/recognition among the Mainland investment community Default management enhancements for exchange traded products Security control enhancements 	<ul style="list-style-type: none"> Talent Retention and Development Succession Planning and Organisational Development Culture and Values CSR

Weighting for performance bonus and share award in 2020

Performance bonus



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 matrices referencing to the employee's grade and year-on-year rating changes were set up to guide managers in the allocation of performance bonuses and share awards to individual employees. Managers were allowed to make adjustments to account for other factors, including overall total compensation position (ie, base salary plus the performance bonus and share award, if applicable), internal pay levels and external remuneration benchmarks.
- To enhance the governance of HKEX's senior executive compensation, a clawback policy was introduced on 11 November 2020 ("Clawback Policy"). Under the 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 2020, the Group had 2,204 permanent employees and 188 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 2020 CSR Report.

Emoluments for 2020

Executive Director

	2020					2019	2020	
	Salary \$	Cash ¹ bonus \$	Other ² benefits \$	Retirement ³ benefit costs \$	Director's fee \$	Total ⁴ \$	Total ⁴ \$	Share award benefits ⁵ \$
HKEX Chief Executive								
Charles Li ¹	9,315,000	80,700,000	5,368,799	1,332,525	-	96,716,324	26,843,433	23,773,221

Senior Management

	2020					2019	2020
	Salary \$	Cash ⁶ bonus \$	Other ² Benefits \$	Retirement ³ benefit costs \$	Total ⁴ \$	Total ⁴ \$	Share award benefits ^{5,6} \$
Matthew Chamberlain ⁷	3,733,403	3,566,158	537,331	39,823	7,876,715	9,809,278	6,879,123
Bonnie Y Chan ⁸	4,308,387	4,250,000	36,318	430,839	9,025,544	-	133,745
Romnesh Lamba	4,691,040	5,300,820	60,598	586,380	10,638,838	13,013,580	4,670,210
Vanessa Lau	3,328,161	3,517,500	39,743	416,020	7,301,424	7,290,625	2,176,399
Glenda So ⁹	2,543,103	3,000,000	85,512	317,888	5,946,503	-	78,674
Calvin Tai ¹⁰	4,740,006	6,364,192	384,270	592,501	12,080,969	10,192,433	5,811,619
Wilfred Yiu	4,000,008	3,800,000	155,176	500,001	8,455,185	7,644,696	3,085,716

- 1 Mr Li retired on 31 December 2020. His cash bonus in 2020 includes a special bonus payment of \$30 million approved by the Board.
- 2 Other benefits include leave pay, insurance premium, club membership, relocation allowance, settlement of the UK tax liability on behalf of the non-resident employee, 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.
- 4 Excludes the amounts approved by the Board for the purchase 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 aggregate of the amortised fair value of the Awarded Shares of HKEX Chief Executive and the members of the Senior Management that was charged to the Consolidated Income Statement for the year ended 31 December 2020.
- 6 The 2020 cash bonus and share awards to the Senior Management are subject to the Group's Clawback Policy.
- 7 Mr Chamberlain was a member of the LME pension scheme operating in the UK during 2020. The vesting scale of HKEX's provident fund scheme as specified in note 3 above is not applicable to him.
- 8 Ms Chan joined HKEX in January 2020.
- 9 Ms So joined HKEX in February 2020.
- 10 Mr Tai was appointed as HKEX's Interim Chief Executive effective 1 January 2021.

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 shares which can be awarded under the Scheme is 3 per cent (ie, 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 (ie, 10,623,858 shares). The rules and trust deed of the Scheme are available on the HKEX Group website [CG](#).

On 11 November and 9 December 2020, the Board approved a total sum of \$350.5 million for the purchase of HKEX shares pursuant to the Scheme, details of which are set out in the Employees' Remuneration section above. The purchase had not been made by the trustee as of 31 December 2020.

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

Since the Adoption Date and up to the date of this report, a total of 13,495,996 shares had been awarded under the Scheme, representing about 1.3 per cent of the number of HKEX shares in issue on the Adoption Date.

As at 31 December 2020, taking into account the shares acquired out of the dividends from the shares held under the trust, there were 1,983,560 shares held in trust under the Scheme (excluding shares vested but not yet transferred to awardees).

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

	Date of award ²	Number of Awarded Shares	Number of shares ¹				As at 31 Dec 2020	Reference awarded sum \$ ³	Vesting period ⁴
			As at 1 Jan 2020	Shares acquired during the year out of the dividends	Vested during the year	Lapsed during the year			
HKEX Chief Executive									
Li Xiaojia, Charles	30 Dec 2016	67,400 ⁵	72,858	713 ⁶	52,442 ⁶	21,129 ⁶	-	-	End of a performance period of 2017 – 2019
	29 Dec 2017	58,853	31,084	738	31,822	-	-	-	8 Dec 2019 – 8 Dec 2020
	29 Dec 2017	62,123 ⁵	65,616	1,560	67,176 ⁷	-	-	-	End of a performance period of 2018 – 2020
	31 Dec 2018	61,560	63,247	1,504	64,751 ⁷	-	-	-	7 Dec 2020 – 7 Dec 2021
	31 Dec 2018	61,560 ⁵	63,247	1,504	64,751 ⁷	-	-	-	End of a performance period of 2019 – 2021
	31 Dec 2019	55,169	55,169	1,312	56,481 ⁷	-	-	-	12 Dec 2021 – 12 Dec 2022
	31 Dec 2019	56,154 ⁵	56,154	1,335	57,489 ⁷	-	-	-	End of a performance period of 2020 – 2022
Senior Management									
Matthew Chamberlain	29 Dec 2017	20,688	10,926	259	11,185	-	-	-	8 Dec 2019 – 8 Dec 2020
	31 Dec 2018	31,359	32,218	765	16,490	-	16,493	-	7 Dec 2020 – 7 Dec 2021
	31 Dec 2019	28,922	28,922	688	-	-	29,610	-	12 Dec 2021 – 12 Dec 2022
	-	-	-	-	-	-	-	5,879,114	9 Dec 2022 – 9 Dec 2023
Bonnie Y Chan	-	-	-	-	-	-	-	5,100,000	9 Dec 2022 – 9 Dec 2023
Romnesh Lamba	29 Dec 2017	19,005	10,038	238	10,276	-	-	-	8 Dec 2019 – 8 Dec 2020
	31 Dec 2018	19,872	20,416	485	10,449	-	10,452	-	7 Dec 2020 – 7 Dec 2021
	31 Dec 2019	18,991	18,991	451	-	-	19,442	-	12 Dec 2021 – 12 Dec 2022
	-	-	-	-	-	-	-	4,819,350	9 Dec 2022 – 9 Dec 2023
Vanessa Lau	29 Dec 2017	8,021	4,237	100	4,337	-	-	-	8 Dec 2019 – 8 Dec 2020
	31 Dec 2018	9,590	9,852	233	5,042	-	5,043	-	7 Dec 2020 – 7 Dec 2021
	31 Dec 2019	8,535	8,535	202	-	-	8,737	-	12 Dec 2021 – 12 Dec 2022
	-	-	-	-	-	-	-	3,500,000	9 Dec 2022 – 9 Dec 2023
Glenda So	-	-	-	-	-	-	-	3,000,000	9 Dec 2022 – 9 Dec 2023
Calvin Tai	29 Dec 2017	18,205	9,616	228	9,844	-	-	-	8 Dec 2019 – 8 Dec 2020
	31 Dec 2018	26,459	27,184	646	13,913	-	13,917	-	7 Dec 2020 – 7 Dec 2021
	31 Dec 2019	23,526	23,526	559	-	-	24,085	-	12 Dec 2021 – 12 Dec 2022
	-	-	-	-	-	-	-	7,762,523	9 Dec 2022 – 9 Dec 2023
Wilfred Yiu	13 Jun 2019	9,603	9,751	231	-	-	9,982	-	8 Apr 2021 – 8 Apr 2022 ⁸
	31 Dec 2019	18,138	18,138	431	-	-	18,569	-	12 Dec 2021 – 12 Dec 2022
	-	-	-	-	-	-	-	4,700,000	9 Dec 2022 – 9 Dec 2023

- 1 Includes shares acquired out of the dividends from the Awarded Shares (ie, shares acquired through reinvesting cash dividends or distribution of scrip dividend in respect of the Award 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 2020 for the purchase of the HKEX shares. The purchase had not been made by the trustee as of 31 December 2020.
- 4 Save for those Senior Executive Awards referred to in note 5 below, the vesting of the Awarded Shares referred to in note 7 below, and the award granted referred to in note 8 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 awards were granted under the Scheme as long-term incentives for selected senior executives of the Group (Senior Executive Awards). The Board has full discretion to determine the actual amount of the Senior Executive Awards to be vested at the end of a performance period in accordance with the performance criteria recommended by the RC and approved by the Board. These performance criteria include total shareholder return, and achievements made in business development and sustaining the organisation's effectiveness.
- 6 Following the Board's approval of the vesting of 51,729 shares to Mr Li on 26 February 2020, the remaining 21,129 Awarded Shares lapsed on the same day, and 713 shares were acquired out of the 2019 second interim dividend in respect of these vested shares.
- 7 The Board has approved the vesting of a total of 278,273 shares to Mr Li upon his retirement on 31 December 2020.
- 8 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 2021

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 Interim Chief Executive, whose names and biographies are set out in the Board and Committees section of this Annual Report. The CSR Committee held four meetings in 2020. Members' attendance records are in the Corporate Governance Report contained in this Annual Report.

Summary of Work in 2020/2021

- Reviewed and endorsed the following items:
 - the work plan and budget for philanthropic and volunteering initiatives for 2021; and
 - the annual CSR Report
- Received and reviewed the quarterly reports on the Group's CSR activities and charitable donations, covering:
 - the Covid-19 emergency relief measures for communities in Hong Kong, Mainland China, and the UK;
 - the donations in relation to the new HKEX Charity Partnership Programme;
 - the donations to The Community Chest of Hong Kong in relation to the Stock Code for Charity Scheme; and
 - other donations to the Group's charity partners
- Reviewed and discussed HKEX's CSR initiatives and global trends in CSR development
- Reviewed the content of Board knowledge session covering topics on ESG insight and sustainable finance
- Reviewed the progress of HKEX's paper reduction initiatives against the reduction target
- Reviewed the CSR Committee's terms of reference

CSR Policies and Performance

HKEX is committed to promoting and progressing the financial markets and the communities they support and continually seeks to reinforce its position as an active and responsible leader. Details of HKEX's key CSR practices and activities during 2020 are disclosed and explored in HKEX's 2020 CSR Report. HKEX's CSR policies and management approaches are available on the HKEX Group website [CSR](#).

The Group is not aware of any existing environmental laws or regulations that would have a material impact on the Group, reflecting the nature of its business. The Group, however, continues to adopt enhanced measures to reduce energy and other resource utilisation, minimise waste and increase recycling, encourage its employees to adopt environmentally responsible behaviours and promote environmental protection in its supply chain and marketplace.

During 2020, HKEX launched the "Go Green with HKEX" campaign to raise environmental awareness across its workplace and the broader community. A company-wide drive to reduce paper consumption saw a 44 percent decrease in the quantum of paper use in 2020 compared with the paper consumption 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 2020, the Group launched the HKEX Foundation and its University Scholarship Programme in Hong Kong. During 2020 the Group donated \$112.9 million in total to various causes in communities where it operates; in particular, HKEX donated \$78.8 million to The Community Chest of Hong Kong and the LME donated £42,500 to its charity partner, The Connection at St. Martin-in-the-Fields.

Relationships with Major Stakeholders

HKEX actively engages with its employees, market participants, investors, suppliers and other stakeholders through different channels to develop mutually beneficial relationships and promote sustainability.

Employees are remunerated equitably and competitively. Training and development opportunities are provided to equip staff members so that they deliver their best performance and achieve corporate goals. During the year, the Group delivered over 20,000 hours of training to its employees across different divisions and departments. HKEX continued to develop its future leaders through its Leadership Development Programmes and launched the “HKEX Living Values” training series to deepen employees’ understanding of HKEX’s values and culture. In addition to ongoing training programmes and workshops for employees at all levels, we introduced targeted orientation programmes for newly promoted colleagues to acquire essential skills that will help them excel in their new roles. With the pandemic situation evolving across the world, the Group launched a number of online wellness programmes in Hong Kong and in London, supporting employee safety, health and mental well-being.

In its capacity as an exchange operator and a regulator, the Group consults the market on major initiatives, and the views of respondents are carefully and thoroughly considered to ensure that decisions are made in an informed and balanced manner. In 2020, the Exchange launched consultation papers to seek public feedback on (i) corporate WVR beneficiaries and (ii) proposals to introduce a paperless listing and subscription regime, online display of documents and reduction of the types of documents on display; the corresponding consultation conclusions were issued in October and December 2020 respectively. In addition, two other market consultations were conducted by the Exchange to seek market views on (i) a review of Listing Rules relating to disciplinary powers and sanctions; and (ii) the Main Board profit requirement. In the UK, the LME issued a discussion paper on sustainability in August 2020, which sets out its vision, approach and specific plans to drive forward its sustainability agenda for the global metals market; and confirmed in December 2020 its plan to move forward with its sustainability strategy following supportive feedback.

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 2020, eight 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 business ethics, environmental protection, human rights or labour practices, nor any of them had any non-compliance incident in respect of these areas.

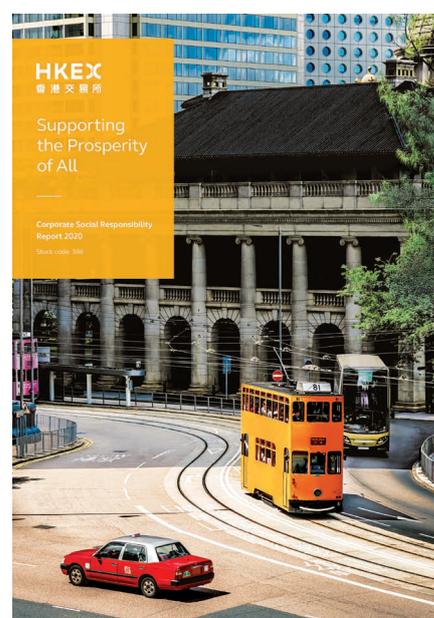
CSR Reporting

During 2020, the CSR Committee received and reviewed the quarterly CSR progress and impact reports which summarised the CSR initiatives undertaken by the Group. Details of the Group’s CSR performance in 2020 are disclosed in the 2020 CSR Report.

Laura M CHA

Chairman of the CSR Committee

Hong Kong, 22 February 2021



Directors' Report

The Directors are pleased to present this Annual Report together with the audited consolidated financial statements for the year ended 31 December 2020.

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 the Hong Kong and Mainland securities markets access to each other's markets. HKEX also operates HKSCC, HKCC, SEOCH, and OTC Clear, which are the only recognised clearing houses in Hong Kong. HKSCC, HKCC, and SEOCH provide integrated clearing and settlement services to their Participants, while OTC Clear provides clearing and settlement services for interest rate and foreign exchange derivatives traded over-the-counter. HKSCC also provides depository and nominee services to its Participants. HKEX also provides market data through its data dissemination entity, HKEX Information Services Limited.

HKEX owns the LME and LME Clear in the UK. The LME is a recognised investment exchange under the Financial Services and Markets Act 2000 (FSMA), which trades futures and options contracts on base and other metals. LME Clear is a European Market Infrastructure Regulation (EMIR) authorised CCP, which provides clearing services for the exchange contracts of the LME. HKEX also owns 90.01 per cent of QME, which is a commodity trading platform in the Mainland.

A list of HKEX's principal subsidiaries as of 31 December 2020 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 derived primarily from business activities conducted in Hong Kong and the UK. An analysis of the Group's performance for 2020 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 2020 and the likely future developments, is set out in the Chief Executive'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 2020.

Primary Legislation/Regulations ¹	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 structure ² 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> <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>
PFMI	<p>HKSCC, HKCC, SEOCH, and OTC Clear as the RCHs are required to observe the applicable PFMI on an ongoing basis pursuant to the guidelines issued by the SFC.</p>	<p>The approach of each of the RCHs to observing each applicable PFMI is summarised in its disclosure document which is available on the HKEX Market website.</p>
Exchange and clearing business in the UK		
<p>Part XVIII of the FSMA and Part I and Part II of the FSMA (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001</p> <p>Markets in Financial Instruments Directive 2014/65/EU, Markets in Financial Instruments Regulation 600/2014 and associated legislation (together, MiFID II)</p>	<p>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.</p> <p>In addition, the LME was, until 31 December 2020, a regulated market, required to comply with applicable MiFID II requirements. Since 1 January 2021, the LME has become a third country venue for MiFID II purposes.</p>	<p>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.</p> <p>The Audit and Risk Committee of the LME, as required by the FCA and on behalf of the LME board, has to satisfy itself formally on an annual basis that the LME continues to meet these recognition requirements.</p> <p>The LME conducts a bottom-up in-depth analysis, listing all applicable requirements and associated arrangements and controls to demonstrate how each requirement has been met. This is supported by a detailed compliance monitoring programme. During the second half of 2020, the LME engaged an external advisory firm to conduct a comprehensive review of its MiFID II compliance framework.</p> <p>Following the challenge by the European Securities and Markets Authority (ESMA), the LME has amended its approach to the implementation of the MiFID II pre-trade transparency (PTT) requirements in the inter-office market. Based on the regulatory agreement with the FCA, the LME implemented a systematic fixed price auction (SFPA) on 30 November 2020.</p>

Primary Legislation/Regulations ¹	Key Scope	Compliance Measures
Part 4A of FSMA & European 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>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 fall-back 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>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>Mandatory BMR documentation is publicly available on the LME website.</p>
Senior Managers Regime (SMR)	<p>As a benchmark administrator, the LME has become 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>Through a dedicated implementation project during the second half of 2020, the LME has established appropriate arrangements to ensure compliance with the applicable requirements. These include, among others, obtaining the Senior Management Function (SMF) registration for the LME CEO and Chair of the LME Board, as well as designing and rolling out training for all LME group personnel involved in the benchmark activity. Compliance with the relevant requirements is monitored via the compliance monitoring programme.</p>
Regulation on OTC Derivatives, Central Counterparties and Trade Repositories (known as EMIR) and MiFID II	<p>LME Clear was, until 31 December 2020, an authorised CCP and was required to comply with the applicable EMIR requirements and the applicable MiFID II requirements. Since 1 January 2021, LME Clear has become a recognised third country CCP in relation to its arrangements with European Economic Area (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/Regulations ¹	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.	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 has established its own compliance function to ensure 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 to ensure that employees within the Group comply with the Prevention of Bribery Ordinance, the 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 2020, 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 2020, 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 2020.

Results and Appropriations

The Group's results for the year ended 31 December 2020 are set out in the Consolidated Income Statement.

The Board has declared a second interim dividend of \$4.46 per share for 2020 (2019 second interim dividend: \$2.99 per share), which will be payable in cash, to Shareholders whose names appear on HKEX's Register of Members on 12 March 2021.

The 2020 first interim dividend of \$3.71 per share (2019 first interim dividend: \$3.72 per share) was declared by the Board and paid to the Shareholders in cash on 15 September 2020 in the total sum of \$4.7 billion (2019: \$4.7 billion). This included the dividends of \$12 million (2019: \$12 million) paid to shares held in trust under the Share Award Scheme.

Including the first interim dividend, the total dividends for 2020 amount to \$8.17 per share (2019: \$6.71 per share), which represents a payout ratio of 90 per cent of the profit attributable to Shareholders, excluding the financial results of HKEX Foundation, for the year ended 31 December 2020 (2019: 90 per cent of the profit attributable to Shareholders for the year ended 31 December 2019). Dividends for shares held in trust under the Share Award Scheme amount to \$21 million (2019: \$22 million). More information about HKEX's dividend policy and the 2020 second interim dividend is set out in the Shareholder Information section of this Annual Report.

Donations

The Group's charitable donations during 2020 amounted to \$112.9 million (2019: \$4.2 million). There have never been 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 2020 are set out in note 42 to the Consolidated Financial Statements. HKEX shares were issued during 2020 on election of scrip in lieu of cash dividends for the 2019 second interim dividend which was paid in cash with a scrip alternative. Details are set out in note 42(a) to the Consolidated Financial Statements.

Equity-linked Agreements

No equity-linked agreements were entered into by the Company during 2020 or subsisted at the end of 2020.

Reserves

As at 31 December 2020, HKEX's distributable reserves, calculated under Part 6 of the Companies Ordinance (Chapter 622 of the Laws of Hong Kong), amounted to \$8.1 billion (31 December 2019: \$7.0 billion).

Details of the movements in the reserves of the Group and HKEX during 2020 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 2020, neither the Company nor any of its subsidiaries purchased, sold, or redeemed any of 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 84,000 HKEX shares at a total consideration of \$31 million.

Directors

The following is the list of Directors during 2020 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) (Re-appointed on 7 May 2020)
Apurv BAGRI
CHAN Tze Ching, Ignatius
CHEAH Cheng Hye (Re-elected on 7 May 2020)
CHOW WOO Mo Fong, Susan (Appointed on 7 May 2020)
FUNG Yuen Mei, Anita
Rafael GIL-TIENDA
HU Zulu, Fred
HUNG Pi Cheng, Benjamin (Re-appointed on 7 May 2020)
LEUNG Pak Hon, Hugo (Re-elected on 7 May 2020)
John Mackay McCulloch WILLIAMSON
YIU Kin Wah, Stephen

Executive Director

TAI Chi Kin, Calvin (Interim Chief Executive) (Appointed on 1 January 2021)
LI Xiaojia, Charles (ex-Chief Executive) (Retired on 31 December 2020)

The following is the list of directors of HKEX's subsidiaries during 2020 and up to the date of this report (unless otherwise stated).

BA Shusong	John Patrick KILLIAN ³	SO Ying Ying, Glenda ²
BAO Haijie	LAM Suen ³	Marco Andrea STRIMER
Laura May-Lung CHA ¹	Romnesh LAMBA ²	Antony John STUART
Roland Paul CHAI ³	LAU Bik Yun, Vanessa ²	TAI Chi Kin ^{1,2}
Matthew James CHAMBERLAIN ²	LEUNG Chung Kwong, Richard	Richard John THORNHILL ³
CHAN Chi Fai, Owens ³	LEUNG Pak Hon, Hugo ^{1,3}	Herta VON STIEGEL
CHAN Ka Yee ³	LEUNG Sing Man Sandra	WANG Dong ³
CHEUNG Kin Chung	LI Gang ³	WANG Guiju
Victoria Robyn COWLEY	LI Jieyi	WANG Tong
DONG Feng	LI Xiaojia, Charles ³	WANG Xiaokun
Adrian John Winston FARNHAM	Ferheen MAHOMED ³	John Mackay McCulloch WILLIAMSON ¹
FUNG Hau Chung, Andrew	MAO Zhirong	WONG Chak Wai
Rafael GIL-TIENDA ¹	Robin Michael MARTIN	XU Minbo
Hugh Edward GRAHAM	Keith Samuel NOYES	YIU Ka Yan, Wilfred ²
HU Zulu, Fred ¹	POON Tim Fung	YIU Kin Wah, Stephen ¹
Gay HUEY EVANS	SHEK Yuen Leung	Craig YOUNG
Marye Louise HUMPHERY	Gerard Armstrong SMITH	ZHU Xiaojun

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 2020 was a Director or his or her connected entity had, directly or indirectly, a material interest was entered into in 2020 or subsisted at any time during 2020.

Directors' Rights to Acquire Shares or Debentures

Pursuant to the Share Award Scheme, HKEX shares are awarded to the Company's Executive Director. During 2020, Li Xiaojia, Charles was the Company's sole Executive Director. Details of the interests of Mr Li 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 2020 or at the end of 2020.

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 2020.

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 2020 and as of the date of this report.

Auditor

The financial statements for the year ended 31 December 2020 have been audited by PricewaterhouseCoopers, which retires and, being eligible, offers itself for re-appointment at the 2021 AGM. A resolution to re-appoint PricewaterhouseCoopers and to authorise the Directors to fix its remuneration will be proposed at the 2021 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 2021

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") set out on pages 127 to 214, which comprise:

- the consolidated statement of financial position as at 31 December 2020;
- 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 a summary of significant accounting policies.

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 2020, 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 2020, the Group has goodwill of HK\$13,168 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\$10,310 million, and the “Post Trade” segment, HK\$2,858 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, but does not include 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 the 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 HKSAAs 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 2021

Consolidated Income Statement

For the year ended 31 December 2020

	Note	2020 \$m	2019 \$m
Trading fees and trading tariffs	5(a)	6,959	5,592
Stock Exchange listing fees	5(b)	1,899	1,633
Clearing and settlement fees		4,355	3,160
Depository, custody and nominee services fees		1,264	1,052
Market data fees		953	919
Other revenue	5(c)	1,405	1,209
Revenue	5	16,835	13,565
Investment income		2,577	3,977
Interest rebates to Participants		(349)	(1,248)
Net investment income	6	2,228	2,729
HKEX Foundation donation income	7	106	-
Sundry income	8	21	17
Revenue and other income		19,190	16,311
Less: Transaction-related expenses	9	(110)	(51)
Revenue and other income less transaction-related expenses		19,080	16,260
Operating expenses			
Staff costs and related expenses	10	(2,967)	(2,703)
Information technology and computer maintenance expenses	11	(635)	(580)
Premises expenses		(119)	(127)
Product marketing and promotion expenses		(81)	(68)
Professional fees		(151)	(119)
HKEX Foundation charitable donations		(112)	-
Other operating expenses	12	(374)	(400)
		(4,439)	(3,997)
EBITDA		14,641	12,263
Depreciation and amortisation		(1,197)	(1,044)
Operating profit	13	13,444	11,219
Costs relating to proposed combination with LSEG		-	(123)
Finance costs	14	(181)	(177)
Share of profits less losses of joint ventures		69	32
Profit before taxation		13,332	10,951
Taxation	17	(1,845)	(1,561)
Profit for the year		11,487	9,390
Profit/(loss) attributable to:			
Shareholders of HKEX	46	11,505	9,391
Non-controlling interests	27(a)(i)	(18)	(1)
Profit for the year		11,487	9,390
Basic earnings per share	18(a)	\$9.11	\$7.49
Diluted earnings per share	18(b)	\$9.09	\$7.47

The notes on pages 132 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 2020

	Note	2020 \$m	2019 \$m
Profit for the year		11,487	9,390
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss:			
Currency translation differences of foreign subsidiaries	2(e)(iii)	(29)	(96)
Cash flow hedges	44(a)	(6)	6
Changes in fair value of financial assets measured at fair value through other comprehensive income, net of tax	44(b)	28	3
Other comprehensive income		(7)	(87)
Total comprehensive income		11,480	9,303
Total comprehensive income attributable to:			
Shareholders of HKEX		11,490	9,303
Non-controlling interests		(10)	–
Total comprehensive income		11,480	9,303

The notes on pages 132 to 214 are an integral part of these consolidated financial statements.

Consolidated Statement of Financial Position

At 31 December 2020

	Note	At 31 Dec 2020			At 31 Dec 2019		
		Current \$m	Non-current \$m	Total \$m	Current \$m	Non-current \$m	Total \$m
Assets							
Cash and cash equivalents	20,21	157,996	-	157,996	128,152	-	128,152
Financial assets measured at fair value through profit or loss	20,22	100,081	516	100,597	56,729	672	57,401
Financial assets measured at fair value through other comprehensive income	20,23	7,942	-	7,942	4,569	-	4,569
Financial assets measured at amortised cost	20,24	62,589	99	62,688	39,954	718	40,672
Accounts receivable, prepayments and deposits	26	47,059	21	47,080	25,791	21	25,812
Tax recoverable		26	-	26	-	-	-
Interests in joint ventures	28	-	164	164	-	95	95
Goodwill and other intangible assets	29	-	18,737	18,737	-	18,378	18,378
Fixed assets	30	-	1,657	1,657	-	1,589	1,589
Right-of-use assets	31	-	2,193	2,193	-	2,366	2,366
Deferred tax assets	41(d)	-	26	26	-	17	17
Total assets		375,693	23,413	399,106	255,195	23,856	279,051
Liabilities and equity							
Liabilities							
Financial liabilities at fair value through profit or loss	32	92,884	-	92,884	48,008	-	48,008
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants	20,33	187,008	-	187,008	142,536	-	142,536
Accounts payable, accruals and other liabilities	34	42,974	-	42,974	22,447	-	22,447
Deferred revenue	35	1,049	371	1,420	1,033	403	1,436
Taxation payable		1,174	-	1,174	1,760	-	1,760
Other financial liabilities	36	48	-	48	59	-	59
Participants' contributions to Clearing House Funds	20,37	20,439	-	20,439	14,394	-	14,394
Lease liabilities	38	304	2,054	2,358	272	2,234	2,506
Borrowings	39	340	83	423	338	80	418
Provisions	40	114	98	212	90	104	194
Deferred tax liabilities	41(d)	-	930	930	-	792	792
Total liabilities		346,334	3,536	349,870	230,937	3,613	234,550
Equity							
Share capital	42			31,891			30,449
Shares held for Share Award Scheme	42			(485)			(770)
Employee share-based compensation reserve	43			232			250
Hedging and revaluation reserves	44			25			3
Exchange reserve	2(e)(iii)			(218)			(181)
Designated reserves	37,45			628			587
Reserve relating to written put options to non-controlling interests				(369)			(369)
Retained earnings	46			17,214			14,204
Equity attributable to shareholders of HKEX				48,918			44,173
Non-controlling interests	27(a)(i)			318			328
Total equity				49,236			44,501
Total liabilities and equity				399,106			279,051
Net current assets				29,359			24,258

The notes on pages 132 to 214 are an integral part of these consolidated financial statements.

Approved by the Board of Directors on 24 February 2021

Laura M CHA

Director

TAI Chi Kin, Calvin

Director

Consolidated Statement of Changes in Equity

For the year ended 31 December 2020

	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 2019	27,068	218	(6)	(84)	523	(369)	13,371	40,721	174	40,895
Profit for the year	-	-	-	-	-	-	9,391	9,391	(1)	9,390
Other comprehensive income	-	-	9	(97)	-	-	-	(88)	1	(87)
Total comprehensive income	-	-	9	(97)	-	-	9,391	9,303	-	9,303
Total transactions with shareholders of HKEX, recognised directly in equity:										
- 2018 second interim dividend at \$3.07 per share	-	-	-	-	-	-	(3,830)	(3,830)	-	(3,830)
- 2019 first interim dividend at \$3.72 per share	-	-	-	-	-	-	(4,668)	(4,668)	-	(4,668)
- Unclaimed HKEX dividends forfeited (note 34(a))	-	-	-	-	-	-	19	19	-	19
- Shares issued in lieu of cash dividends	2,673	-	-	-	-	-	-	2,673	-	2,673
- Shares purchased for Share Award Scheme	(285)	-	-	-	-	-	-	(285)	-	(285)
- Vesting of shares of Share Award Scheme	223	(208)	-	-	-	-	(15)	-	-	-
- Employee share-based compensation benefits	-	240	-	-	-	-	-	240	-	240
- Transfer of reserves	-	-	-	-	64	-	(64)	-	-	-
- Non-controlling interests on acquisition of a subsidiary	-	-	-	-	-	-	-	-	154	154
	2,611	32	-	-	64	-	(8,558)	(5,851)	154	(5,697)
At 31 Dec 2019	29,679	250	3	(181)	587	(369)	14,204	44,173	328	44,501
At 1 Jan 2020	29,679	250	3	(181)	587	(369)	14,204	44,173	328	44,501
Profit for the year	-	-	-	-	-	-	11,505	11,505	(18)	11,487
Other comprehensive income	-	-	22	(37)	-	-	-	(15)	8	(7)
Total comprehensive income	-	-	22	(37)	-	-	11,505	11,490	(10)	11,480
Total transactions with shareholders of HKEX, recognised directly in equity:										
- 2019 second interim dividend at \$2.99 per share	-	-	-	-	-	-	(3,761)	(3,761)	-	(3,761)
- 2020 first interim dividend at \$3.71 per share	-	-	-	-	-	-	(4,692)	(4,692)	-	(4,692)
- Unclaimed HKEX dividends forfeited (note 34(a))	-	-	-	-	-	-	21	21	-	21
- Shares issued in lieu of cash dividends	1,428	-	-	-	-	-	-	1,428	-	1,428
- Shares purchased for Share Award Scheme	(31)	-	-	-	-	-	-	(31)	-	(31)
- Vesting of shares of Share Award Scheme	330	(299)	-	-	-	-	(31)	-	-	-
- Employee share-based compensation benefits	-	281	-	-	-	-	-	281	-	281
- 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

The notes on pages 132 to 214 are an integral part of these consolidated financial statements.

Consolidated Statement of Cash Flows

For the year ended 31 December 2020

	Note	2020 \$m	2019 \$m
Cash flows from principal operating activities			
Net cash inflow from principal operating activities	47(a)	11,956	11,143
Cash flows from other operating activities			
Net redemption from/(payments to) external fund managers for sales/(purchases) of financial assets measured at fair value through profit or loss		2,813	(1,081)
Net cash inflow from operating activities		14,769	10,062
Cash flows from investing activities			
Payments for purchases of fixed assets and intangible assets		(1,351)	(1,091)
Net (increase)/decrease in financial assets of Corporate Funds:			
Increase in time deposits with original maturities more than three months		(5,850)	(2,384)
Proceeds received upon maturity of financial assets measured at amortised cost (excluding time deposits)		207	536
Payments for purchases of financial assets measured at amortised cost (excluding time deposits)		(384)	(634)
Payments for financial assets measured at fair value through profit or loss		(160)	(50)
Interest received from financial assets measured at fair value through other comprehensive income		56	97
Cash acquired upon acquisition of a subsidiary		-	41
Net cash outflow from investing activities		(7,482)	(3,485)
Cash flows from financing activities			
Purchases of shares for Share Award Scheme		(31)	(285)
Repayment of borrowings	47(b)	-	(744)
Payments of interest on borrowings	47(b)	-	(11)
Payments of other finance costs		(87)	(81)
Dividends paid to shareholders of HKEX		(6,983)	(5,785)
Lease payments	47(b), 47(c)		
– Capital elements		(284)	(159)
– Interest elements		(89)	(89)
Net cash outflow from financing activities		(7,474)	(7,154)
Net decrease in cash and cash equivalents			
		(187)	(577)
Cash and cash equivalents at 1 Jan		10,603	11,180
Exchange differences on cash and cash equivalents		26	-
Cash and cash equivalents at 31 Dec			
		10,442	10,603
Analysis of cash and cash equivalents			
Cash on hand and balances and deposits with banks and short-term investments of Corporate Funds	21	10,753	11,421
Less: Cash reserved for supporting Skin-in-the-Game and default fund credits of clearing houses	21(b)	(311)	(818)
		10,442	10,603

The notes on pages 132 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 2021.

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 2020, the Group has adopted the following amendments to HKFRSs which are pertinent to the Group's operations and effective for accounting periods beginning on or after 1 January 2020:

Amendments to HKAS 1 and HKAS 8	Presentation of Financial Statements and Accounting Policies, Changes in Accounting Estimates and Errors: Definition of Material
Amendments to HKFRS 3	Business Combination: Definition of a Business

The adoption of these amendments 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 2020 but not yet effective and not early adopted

The Group has not applied the following amendments to HKFRSs which were issued before 31 December 2020 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 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 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 June 2020

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 impact on the Group.

Change in presentation of consolidated income statement

In prior years, certain licence fees, bank charges and other costs that directly vary with trading and clearing transactions (transaction-related expenses) were included under other operating expenses. From 2020 onwards, transaction-related expenses are presented under a separate line below Revenue and other income, to more appropriately reflect the nature of such direct costs. The comparative figures have been restated to conform with the revised presentation.

HKEX Foundation Limited (HKEX Foundation) was established to deepen HKEX’s connectivity and long-standing commitment to our communities. From July 2020 onwards, the donation income from the Stock Code Balloting Charity Scheme were received by HKEX Foundation, and the amounts previously paid by the issuers directly to the Hong Kong Community Chest were paid by HKEX Foundation. To facilitate readers’ understanding of the HKEX Foundation’s activities, HKEX Foundation donation income and HKEX Foundation charitable donations are presented as separate lines under Revenue and other income and Operating expenses respectively. No restatement of prior year comparative figures was made as the amounts were immaterial to the overall consolidated financial statements.

(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 (ie, 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 2020, 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 \$9,085 million (31 December 2019: \$8,256 million) which mainly comprised \$6,362 million (31 December 2019: \$6,696 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).

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 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, derivatives 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:

	2020						Group \$m
	Cash \$m	Equity and Financial Derivatives \$m	Commodities \$m	Post Trade \$m	Technology \$m	Corporate Items \$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)

4. Operating Segments (continued)

	2019						
	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	2,151	2,092	1,126	4,318	66	11	9,764
Over time	1,495	896	270	403	727	10	3,801
Revenue	3,646	2,988	1,396	4,721	793	21	13,565
Net investment income	-	-	-	1,496	-	1,233	2,729
Sundry income	-	-	3	9	3	2	17
Revenue and other income	3,646	2,988	1,399	6,226	796	1,256	16,311
Less: Transaction-related expenses	-	(41)	-	(10)	-	-	(51)
Revenue and other income less transaction-related expenses	3,646	2,947	1,399	6,216	796	1,256	16,260
Operating expenses	(603)	(510)	(668)	(814)	(245)	(1,157)	(3,997)
Reportable segment EBITDA	3,043	2,437	731	5,402	551	99	12,263
Depreciation and amortisation	(128)	(94)	(327)	(237)	(39)	(219)	(1,044)
Costs relating to proposed combination with LSEG	-	-	-	-	-	(123)	(123)
Finance costs	(15)	(12)	(8)	(82)	(1)	(59)	(177)
Share of profits less losses of joint ventures	38	(6)	-	-	-	-	32
Reportable segment profit before taxation	2,938	2,325	396	5,083	511	(302)	10,951
Other segment information:							
Interest income	-	-	-	2,750	-	443	3,193
Interest rebates to Participants	-	-	-	(1,248)	-	-	(1,248)
Other material non-cash item:							
Employee share-based compensation expenses	(36)	(30)	(35)	(37)	(4)	(98)	(240)

(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	
	2020 \$m	2019 \$m	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Hong Kong (place of domicile)	14,641	11,543	5,374	5,037
United Kingdom	2,124	1,991	17,096	17,126
Mainland China	70	31	302	286
	16,835	13,565	22,772	22,449

(b) Information about major customers

In 2020 and 2019, 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

	2020 \$m	2019 \$m
Equity securities traded on the Stock Exchange and through Stock Connect	3,409	2,100
DWs, CBBCs and warrants traded on the Stock Exchange	699	610
Futures and options contracts traded on the Stock Exchange and the Futures Exchange	1,764	1,848
Base, ferrous and precious metals futures and options contracts traded on the LME and QME	1,087	1,034
	6,959	5,592

5. Revenue (continued)

(b) Stock Exchange listing fees

	2020				2019			
	Equity		CBBCs, DWs & others	Total	Equity		CBBCs, DWs & others	Total
	Main Board	GEM			Main Board	GEM		
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Annual listing fees	713	52	3	768	704	54	2	760
Initial and subsequent issue listing fees	130	14	979	1,123	158	18	688	864
Other listing fees	7	1	-	8	8	1	-	9
	850	67	982	1,899	870	73	690	1,633

(c) Other revenue

	2020 \$m	2019 \$m
Network, terminal user, data line and software sub-license fees	610	575
Hosting services fees	230	188
Commodities stock levies and warehouse listing fees	67	63
Participants' subscription and application fees	112	94
Accommodation income (note (i))	160	79
Sales of Trading Rights	24	22
LME financial over-the-counter booking fees	49	45
BayConnect sales and service revenue	66	30
Brokerage on IPO direct allotments	26	23
Miscellaneous revenue	61	90
	1,405	1,209

(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 2020 that was included in the deferred revenue balance at the beginning of the year amounted to \$1,033 million (2019: \$1,000 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.

	2020 \$m	2019 \$m
Gross interest income from financial assets measured at amortised cost	2,066	3,096
Gross interest income from financial assets measured at fair value through other comprehensive income	56	97
Interest rebates to Participants	(349)	(1,248)
Net interest income	1,773	1,945
Net gains on financial assets mandatorily measured at fair value through profit or loss and financial liabilities at fair value through profit or loss	487	789
Others	(32)	(5)
Net investment income	2,228	2,729

7. HKEX Foundation Donation Income

Accounting Policy

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

	2020 \$m	2019 \$m
Stock Code Balloting Scheme (note (a))	105	-
Others	1	-
	106	-

- (a) From July 2020 onwards, donation income from the Stock Code Balloting Charity Scheme were received by the HKEX Foundation and recorded by the Group as HKEX Foundation donation income. The donations paid by HKEX Foundation were recorded under operating expenses as HKEX Foundation charitable donations.

8. Sundry Income

	2020 \$m	2019 \$m
Forfeiture of unclaimed dividends (note (a))	9	9
Others	12	8
	21	17

- (a) In accordance with CCASS Rule 1109, the Group exercised its forfeiture right to appropriate cash dividends of \$9 million (2019: \$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 \$206 million at 31 December 2020 (31 December 2019: \$197 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

	2020 \$m	2019 \$m
Salaries and other short-term employee benefits	2,487	2,280
Employee share-based compensation benefits of Share Award Scheme (note 43)	281	240
Termination benefits	20	11
Retirement benefit costs (note (a)):		
– ORSO Plan	142	138
– MPF Scheme	5	4
– LME Pension Scheme	28	24
– PRC Retirement Schemes	4	6
	2,967	2,703

- (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

	2020 \$m	2019 \$m
Costs of services and goods:		
– consumed by the Group	551	487
– directly consumed by Participants	84	93
	635	580

12. Other Operating Expenses

	2020 \$m	2019 \$m
Bank charges	14	14
Communication expenses	13	15
Contribution to Financial Reporting Council	–	8
Custodian and fund management related fees	28	22
Financial data subscription fees	49	39
Insurance	10	14
Non-executive directors' fees	21	20
Office demolition and relocation expenses	9	12
Provision for impairment losses of receivables	12	9
Repairs and maintenance expenses	69	67
Security expenses	23	23
Travel expenses	19	49
UK regulatory fees	18	18
Other miscellaneous expenses	89	90
	374	400

- (a) In prior years, transaction-related expenses that directly vary with trading and clearing transactions were included under other operating expenses. From 2020 onwards, they are presented under a separate line below Revenue and other income. Comparative figures have been restated to conform with current year's presentation (note 2(b)).

13. Operating Profit

	2020 \$m	2019 \$m
Operating profit is stated after charging:		
Auditor's remuneration		
– audit fees	19	15
– other non-audit fees (note (a))	3	2
Lease rentals for land and buildings (note (b))	4	15
Provision for impairment losses of receivables	12	9
Net foreign exchange losses on financial assets and liabilities (excluding financial assets and financial liabilities measured at fair value through profit or loss)	32	5

- (a) In 2019, another \$10 million non-audit fees were paid to the auditor and included under “Costs relating to proposed combination with LSEG”.
- (b) 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.

	2020 \$m	2019 \$m
Interest on borrowings	5	7
Interest on lease liabilities (note 38)	89	89
Banking facility commitment fees	53	52
Negative interest on Euro and Japanese Yen deposits	34	29
	181	177

15. Directors' Emoluments and Interests of Directors

All Directors, including one Executive Director (the HKEX's Chief Executive), received emoluments during the years ended 31 December 2020 and 31 December 2019. The aggregate emoluments paid and payable to the Directors during the year were as follows:

	2020 \$'000	2019 \$'000
Executive Director:		
Salaries and other short-term employee benefits	14,684	9,679
Performance bonus	80,700	16,000
Retirement benefit costs	1,333	1,164
	96,717	26,843
Employee share-based compensation benefits (note (a))	23,773	24,262
	120,490	51,105
Non-executive Directors:		
Fees	21,327	20,236
Other benefits	37	35
	21,364	20,271
	141,854	71,376

- (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 who is an ex-officio member, are set out below. The amounts represent emoluments paid or receivable in respect of their services as a director.

Name of Director	2020							
	Fees \$'000	Salary \$'000	Other benefits (note (i)) \$'000	Performance bonus \$'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 (iii))	-	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 (iv))	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 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

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

(b) (continued)

Name of Director	2019							
	Fees \$'000	Salary \$'000	Other benefits (note (i)) \$'000	Performance bonus \$'000	Retirement benefit costs (note (ii)) \$'000	Sub-total \$'000	Employee share-based compensation benefits \$'000	Total \$'000
Laura M Cha	4,574	-	35	-	-	4,609	-	4,609
Charles X Li	-	9,315	364	16,000	1,164	26,843	24,262	51,105
Apurv Bagri	940	-	-	-	-	940	-	940
T C Chan	1,286	-	-	-	-	1,286	-	1,286
C H Cheah	1,525	-	-	-	-	1,525	-	1,525
Anita Y M Fung	1,134	-	-	-	-	1,134	-	1,134
Rafael Gil-Tienda	1,750	-	-	-	-	1,750	-	1,750
Fred Z Hu	1,123	-	-	-	-	1,123	-	1,123
Benjamin P C Hung	973	-	-	-	-	973	-	973
Margaret M Y Leung Ko (note (v))	274	-	-	-	-	274	-	274
Hugo P H Leung	1,509	-	-	-	-	1,509	-	1,509
Mary X Ma (note (vi))	413	-	-	-	-	413	-	413
John M M Williamson	1,966	-	-	-	-	1,966	-	1,966
Stephen K W Yiu	2,769	-	-	-	-	2,769	-	2,769
Total	20,236	9,315	399	16,000	1,164	47,114	24,262	71,376

Notes:

- (i) Other benefits included leave pay, insurance premium, club membership, relocation allowance, settlement of the UK tax liability on behalf of Non-Resident Director.
- (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) Mr Li retired on 31 December 2020. His performance bonus in 2020 includes a special bonus payment of \$30 million approved by the Board.
- (iv) Appointment effective 7 May 2020
- (v) Retired on 24 April 2019
- (vi) Ms Mary X Ma, who was appointed as a director effective 24 April 2019, passed away on 31 August 2019.

(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 (2019: one) of the five top-paid employees was a Director whose emoluments are disclosed in note 15. Details of the emoluments of the other four (2019: four) top-paid employees were as follows:

	2020 \$'000	2019 \$'000
Salaries and other short-term employee benefits	17,681	19,873
Performance bonus	19,716	18,173
Retirement benefit costs	1,654	1,884
	39,051	39,930
Employee share-based compensation benefits (note (a))	21,554	23,305
	60,605	63,235

- (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 (2019: four) employees, including share-based compensation benefits, were within the following bands:

	2020 Number of employees	2019 Number of employees
\$12,500,001 – \$13,000,000	1	–
\$14,500,001 – \$15,000,000	1	–
\$15,000,001 – \$15,500,000	1	3
\$17,000,001 – \$17,500,000	–	1
\$17,500,001 – \$18,000,000	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. Provisions are established where appropriate on the basis of amounts expected to be paid to the 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:

	2020 \$m	2019 \$m
Current tax – Hong Kong Profits Tax		
– Provision for the year	1,537	1,314
– Over provision in respect of prior years	(2)	–
	1,535	1,314
Current tax – Overseas Tax		
– Provision for the year	177	200
– Under/(over) provision in respect of prior years	1	(1)
	178	199
Total current tax (note (i))	1,713	1,513
Deferred tax		
– Provision for temporary differences	71	48
– Impact of changes in UK Corporate Tax rate (note (ii))	61	–
Total deferred tax (note 41(a))	132	48
Taxation charge	1,845	1,561

- (i) Hong Kong Profits Tax has been provided at the rate of 16.5 per cent (2019: 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 (2019: 19 per cent).
- (ii) Through the enactment of the Finance Act 2020, the UK Corporate Tax rate would remain at 19 per cent from 1 April 2020 instead of reducing to 17 per cent, the previously enacted rate. As a result, a one-off deferred tax charge of \$61 million was recognised during the year ended 31 December 2020.

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:

	2020 \$m	2019 \$m
Profit before taxation	13,332	10,951
Tax calculated at domestic tax rates applicable to profits in the respective countries (note (i))	2,188	1,835
Income not subject to taxation	(510)	(391)
Expenses not deductible for taxation purposes	59	61
Remeasurement of deferred tax assets and liabilities arising from changes in UK Corporate Tax rate	61	-
Change in deferred tax arising from unrecognised tax losses and other deferred tax adjustments	48	57
Over provision in respect of prior years	(1)	(1)
Taxation charge	1,845	1,561

- (i) The weighted average applicable tax rate was 16.4 per cent (2019: 16.8 per cent).

18. Earnings Per Share

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

- (a) Basic earnings per share

	2020	2019
Profit attributable to shareholders (\$m)	11,505	9,391
Weighted average number of shares in issue less shares held for Share Award Scheme (in '000)	1,262,746	1,253,730
Basic earnings per share (\$)	9.11	7.49

- (b) Diluted earnings per share

	2020	2019
Profit attributable to shareholders (\$m)	11,505	9,391
Weighted average number of shares in issue less shares held for Share Award Scheme (in '000)	1,262,746	1,253,730
Effect of Awarded Shares (in '000)	3,057	2,971
Weighted average number of shares for the purpose of calculating diluted earnings per share (in '000)	1,265,803	1,256,701
Diluted earnings per share (\$)	9.09	7.47

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.

	2020 \$m	2019 \$m
First interim dividend paid: \$3.71 (2019: \$3.72) per share	4,704	4,680
Less: Dividend for shares held by Share Award Scheme (note (a))	(12)	(12)
	4,692	4,668
Second interim dividend declared (note (b)): \$4.46 (2019: \$2.99) per share based on issued share capital at 31 Dec	5,655	3,771
Less: Dividend for shares held by Share Award Scheme at 31 Dec (note (a))	(9)	(10)
	5,646	3,761
	10,338	8,429

- (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 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
	At 31 Dec 2019				
	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	1,460	10,359	42,399	7,643	61,861
Reverse repurchase investments	-	1,062	57,696	7,533	66,291
	1,460	11,421	100,095	15,176	128,152

- (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 2020, cash and cash equivalents of Corporate Funds of \$311 million (31 December 2019: \$818 million) were solely used to support Skin-in-the-Game and default fund credits for HKSCC Guarantee Fund, SEOCH Reserve Fund and HKCC Reserve Fund (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 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
<hr/>			
	At 31 Dec 2019		
	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	2,647	–	2,647
– unlisted	6,696	–	6,696
	9,343	–	9,343
Unlisted equity securities	50	–	50
Derivative financial instruments:			
– base, ferrous and precious metals futures and options contracts cleared through LME Clear (note (a))	–	48,008	48,008
	9,393	48,008	57,401
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months	8,721	48,008	56,729
More than twelve months	672	–	672
	9,393	48,008	57,401

- (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 (ie, 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.

	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

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

	At 31 Dec 2019		Total \$m
	Margin Funds (note 33) \$m	Clearing House Funds (note 37) \$m	
Unlisted debt securities (note (a))	4,569	–	4,569
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months (note (b))	4,569	–	4,569

- (a) No provision for impairment loss was made at 31 December 2020 and 31 December 2019 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 2019: Aa1 (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 \$3,435 million (31 December 2019: \$2,684 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.

24. Financial Assets Measured at Amortised Cost (continued)

Accounting Policy (continued)

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 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
	At 31 Dec 2019		
	Corporate Funds (notes (b) and 25) \$m	Margin Funds (note 33) \$m	Total \$m
Debt securities	633	–	633
Time deposits with original maturities over three months	7,592	32,348	39,940
Other financial assets	99	–	99
	8,324	32,348	40,672
The expected recovery dates of the financial assets are analysed as follows:			
Within twelve months	7,606	32,348	39,954
More than twelve months	718	–	718
	8,324	32,348	40,672

- (a) No provision for impairment loss for these financial assets was made at 31 December 2020 and 31 December 2019 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 2019: Aaa (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 2020, debt securities of Corporate Funds of \$930 million (31 December 2019: \$Nil) were solely used to support Skin-in-the-Game and default fund credits for 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 2020 \$m	At 31 Dec 2019 \$m
Corporate Funds comprised the following instruments:		
Cash and cash equivalents (notes (b) and 21)	10,753	11,421
Financial assets measured at fair value through profit or loss (note 22)	7,713	9,393
Financial assets measured at amortised cost (notes (b) and 24)	15,281	8,324
	33,747	29,138

- (a) Financial assets held by the Group which are funded by share capital and funds generated from operations are classified as Corporate Funds (ie, 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 2020, cash and cash equivalents and financial assets measured at amortised cost of Corporate Funds of \$1,241 million (31 December 2019: \$818 million) were solely used to support Skin-in-the-Game and default fund credits for HKSCC Guarantee Fund, SEOCH Reserve Fund and HKCC Reserve Fund (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 2020 \$m	At 31 Dec 2019 \$m
Receivable from ChinaClear, and Exchange and Clearing Participants:		
– CNS money obligations receivable (note (a))	32,910	18,730
– transaction levy, stamp duty and fees receivable	1,321	670
– Settlement Reserve Fund and Settlement Guarantee Fund held by ChinaClear (note 33)	11,862	5,516
– others	17	7
Receivables for collective investment schemes sold before 31 Dec	28	–
Other receivables, prepayments and deposits	984	918
Less: Provision for impairment losses of receivables (notes (b) and (c))	(42)	(29)
	47,080	25,812

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 2020 and 31 December 2019 was determined as follows:

	At 31 Dec 2020			Total
	Current or within 30 days past due	31 to 180 days past due	More than 180 days past due	
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
	At 31 Dec 2019			Total
	Current or within 30 days past due	31 to 180 days past due	More than 180 days past due	
Expected loss rate	<1%	9%	100%	
Gross carrying amount – accounts receivable subject to expected credit loss provision (\$m)	543	58	19	620
Loss allowance (\$m)	5	5	19	29

For the remaining receivables and other deposits (excluding prepayments) amounting to \$46,266 million as of 31 December 2020 (31 December 2019: \$25,089 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:

	2020 \$m	2019 \$m
At 1 Jan	29	10
Acquisition of a subsidiary	-	11
Provision for loss allowance for receivables under other operating expenses	12	9
Exchange differences	1	(1)
At 31 Dec	42	29

(d) CNS money obligations receivable mature within two days after the trade date. 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 2020	At 31 Dec 2019
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 (HKSCC)	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 2020, the Group held 76 per cent (31 December 2019: 76 per cent) interest in OTC Clear, while the remaining 24 per cent (31 December 2019: 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 2020, the Group held 90 per cent (31 December 2019: 90 per cent) interest in QME, while the remaining 10 per cent (31 December 2019: 10 per cent) interest was held by non-controlling interests.

BayConnect is a limited company established in Mainland China. At 31 December 2020, the Group held 51 per cent (31 December 2019: 51 per cent) interest in BayConnect, while the remaining 49 per cent (31 December 2019: 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	
	2020 \$m	2019 \$m	2020 \$m	2019 \$m	2020 \$m	2019 \$m
Profit/(loss) allocated to non-controlling interests	9	13	(13)	(14)	(14)	-
	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Accumulated non-controlling interests	195	186	(28)	(13)	151	155

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 2020 was \$327 million (31 December 2019: \$394 million).

27. Principal Subsidiaries and Controlled Structured Entities (continued)

(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 2020 \$m	At 31 Dec 2019 \$m
Share of net assets of joint ventures	164	95

(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 2020	At 31 Dec 2019
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 and it is expected to enhance the competitiveness of Hong Kong, help 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.

28. Interests in Joint Ventures (continued)

(a) (continued)

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

Name	Measurement method	Carrying amount	
		At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
CESC	Equity	38	37
BCCL	Equity	126	58
		164	95

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 (ie, 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.

29. Goodwill and Other Intangible Assets (continued)

Accounting Policy (continued)

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 (ie, 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.

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 (ie, 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 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				Total \$m
	Goodwill \$m	Tradenames \$m	Customer relationships \$m	Software systems \$m	
Cost:					
At 1 Jan 2019	13,298	899	3,141	3,420	20,758
Exchange differences	(65)	(4)	(15)	(11)	(95)
Acquisition of a subsidiary	111	-	18	20	149
Additions	-	-	-	830	830
Disposals	-	-	-	(85)	(85)
At 31 Dec 2019	13,344	895	3,144	4,174	21,557
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
Accumulated amortisation:					
At 1 Jan 2019	-	-	792	1,947	2,739
Exchange differences	-	-	(5)	(8)	(13)
Amortisation	-	-	132	406	538
Disposals	-	-	-	(85)	(85)
At 31 Dec 2019	-	-	919	2,260	3,179
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
Net book value:					
At 31 Dec 2020	13,286	891	2,083	2,477	18,737
At 31 Dec 2019	13,344	895	2,225	1,914	18,378
Cost of software systems under development included above:					
At 31 Dec 2020	-	-	-	1,143	1,143
At 31 Dec 2019	-	-	-	1,044	1,044

Amortisation of \$644 million (2019: \$538 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 2020		At 31 Dec 2019	
	Goodwill \$m	Tradenames \$m	Goodwill \$m	Tradenames \$m
Commodities segment	10,310	698	10,361	701
Post Trade segment	2,858	193	2,872	194
Technology segment	118	-	111	-
	13,286	891	13,344	895

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 2020.

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 2020			At 31 Dec 2019		
	Commodities segment	Post Trade segment	Technology segment	Commodities segment	Post Trade segment	Technology segment
EBITDA margin (average of next five years)	65%	49%	33%	65%	50%	24%
Growth rate	3%	3%	3%	3%	3%	3%
Discount rate	9%	9%	14%	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 2020 and 31 December 2019. Accordingly, no provision for impairment loss for goodwill or tradenames is considered necessary.

If the LME trading fee in the forecast period was 10 per cent lower than forecast, or the discount rate increased to 10 per cent, the recoverable amount of the Commodities segment would be approximately equal to its carrying amount. If LME Clear clearing fees in the forecast period was 8 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 approximately equal to the 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 2020.

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 (ie, 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 2019	708	1,427	649	428	1,163	4,375
Exchange differences	-	(1)	(2)	-	(1)	(4)
Additions	-	44	95	12	87	238
Disposals	-	(370)	(111)	-	(142)	(623)
At 31 Dec 2019	708	1,100	631	440	1,107	3,986
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
Accumulated depreciation:						
At 1 Jan 2019	178	1,240	509	167	692	2,786
Exchange differences	-	-	(1)	-	(1)	(2)
Depreciation	28	42	33	29	103	235
Disposals	-	(370)	(111)	-	(141)	(622)
At 31 Dec 2019	206	912	430	196	653	2,397
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
Net book value:						
At 31 Dec 2020	474	297	253	221	412	1,657
At 31 Dec 2019	502	188	201	244	454	1,589
Cost of fixed assets in the course of construction included above:						
At 31 Dec 2020	-	150	91	-	102	343
At 31 Dec 2019	-	56	118	-	86	260

Depreciation of \$248 million (2019: \$235 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 (ie, 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 2019	20	2,398	38	19	2,475
Additions	-	172	-	1	173
Adjustment relating to reassessment of lease liabilities	-	(11)	-	-	(11)
Depreciation	(1)	(255)	(10)	(5)	(271)
At 31 Dec 2019	19	2,304	28	15	2,366
At 1 Jan 2020	19	2,304	28	15	2,366
Exchange differences	-	3	-	-	3
Additions	-	60	69	-	129
Depreciation	(1)	(285)	(14)	(5)	(305)
At 31 Dec 2020	18	2,082	83	10	2,193

- (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 10 years.
- (b) Depreciation of \$305 million (2019: \$271 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 2020 \$m	At 31 Dec 2019 \$m
<u>Held by LME Clear in its capacity as a central counterparty</u>		
Derivative financial instruments:		
– base, ferrous and precious metals futures and options contracts cleared through LME Clear (note (a))	92,884	48,008
	92,884	48,008

- (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 2020 \$m	At 31 Dec 2019 \$m
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants comprised:		
SEOCH Clearing Participants' margin deposits	16,873	8,174
HKCC Clearing Participants' margin deposits	59,422	55,664
HKSCC Clearing Participants' margin deposits, Mainland security and settlement deposits, and cash collateral	27,111	12,367
OTC Clear Clearing Participants' margin deposits	6,899	5,180
LME Clear Clearing Participants' margin deposits	76,703	61,151
	187,008	142,536
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)	122,184	100,095
Financial assets measured at fair value through other comprehensive income (note 23)	5,538	4,569
Financial assets measured at amortised cost (note 24)	47,407	32,348
Settlement Reserve Fund and Settlement Guarantee Fund held by ChinaClear (note 26)	11,862	5,516
Margin receivable from Clearing Participants	17	8
	187,008	142,536

34. Accounts Payable, Accruals and Other Liabilities

Accounting Policy

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

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Payable to ChinaClear and Exchange and Clearing Participants:		
– CNS money obligations payable (note 26(a))	39,120	20,076
– HKD/USD cash collateral for A shares (note 21(a)(ii))	2	115
– others	553	298
Transaction levy payable to the SFC	185	97
Unclaimed dividends (note (a))	376	343
Stamp duty payable to the Collector of Stamp Revenue	914	420
Payables for collective investment schemes traded before 31 Dec	504	–
Other payables, accruals and deposits received	1,320	1,098
	42,974	22,447

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 \$9 million (2019: \$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 \$21 million (2019: \$19 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 2020 \$m	At 31 Dec 2019 \$m
Deferred revenue arising from unsatisfied performance obligations	1,420	1,436
Analysed as:		
Non-current liabilities	371	403
Current liabilities	1,049	1,033
	1,420	1,436

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 under HKFRS 9 (2014) 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 2020 \$m	At 31 Dec 2019 \$m
Financial liabilities of Clearing House Funds (note 37)	28	39
Financial liabilities of Corporate Funds:		
Financial guarantee contract (note (a))	20	20
	48	59

- (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 2020 \$m	At 31 Dec 2019 \$m
The Clearing House Funds comprised:		
Clearing Participants' cash contributions	20,439	14,394
Contribution to OTC Clear Rates and FX Guarantee Resources	156	156
Clearing house funds reserves (note 45)	628	587
	21,223	15,137
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)	18,847	15,176
Financial assets measured at fair value through other comprehensive income (note 23)	2,404	-
Less: Other financial liabilities of Clearing House Funds (note 36)	(28)	(39)
	21,223	15,137
The Clearing House Funds comprised the following Funds:		
HKSCC Guarantee Fund	5,667	2,281
SEOCH Reserve Fund	909	947
HKCC Reserve Fund	1,205	1,660
OTC Clear Rates and FX Guarantee Fund	2,730	2,548
OTC Clear Rates and FX Guarantee Resources	171	168
LME Clear Default Fund	10,541	7,533
	21,223	15,137

- (a) At 31 December 2020, the Skin-in-the-Game, together with default fund credits granted to HKSCC and HKCC Participants (note 53(c)), amounted to \$1,241 million (31 December 2019: \$818 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 is subsequently increased 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 2020 \$m	At 31 Dec 2019 \$m
Total lease liabilities	2,358	2,506
Analysed as:		
Non-current liabilities	2,054	2,234
Current liabilities	304	272
	2,358	2,506

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. At 31 December 2020, the potential undiscounted future lease payments under extension options for a leased property of \$14 million (31 December 2019: \$14 million) have not been included in the lease liabilities as the renewal options are unlikely to be exercised.

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 (ie, 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 2020 \$m	At 31 Dec 2019 \$m
Written put options to non-controlling interests	423	418
Analysed as:		
Non-current liabilities	83	80
Current liabilities	340	338
	423	418

The amounts were repayable as follows:

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Within one year	340	338
After two years but within five years	83	80
	423	418

At 31 December 2020, 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 2020, \$340 million of the written put options were exercisable (31 December 2019: \$252 million) and the remaining \$83 million of the options will become exercisable in October 2023. During the year ended 31 December 2020, none of the written put options was exercised (2019: none).

The effective interest rate of the options before they are exercisable was 3.0 per cent (2019: 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 2020	105	89	194
Provision for the year	2	126	128
Amount used during the year	-	(90)	(90)
Amount paid during the year	(1)	(19)	(20)
At 31 Dec 2020	106	106	212
Analysed as:			
Non-current liabilities	98	-	98
Current liabilities	8	106	114
	106	106	212

- (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 10 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 account were as follows:

	2020 \$m	2019 \$m
At 1 Jan	775	724
Exchange differences	(3)	(3)
Acquisition of a subsidiary	-	6
Charged to the consolidated income statement (note 17(a))	132	48
Charged to the consolidated statement of comprehensive income	5	-
Credited directly to retained earnings	(5)	-
At 31 Dec (note (d))	904	775

41. Deferred Taxation (continued)

- (b) The Group had unrecognised tax losses of \$1,623 million at 31 December 2020 (31 December 2019: \$1,443 million) that may be carried forward for offsetting against future taxable income. Tax losses of PRC entities amounting to \$662 million (31 December 2019: \$556 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.
- (c) 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	
	2020 \$m	2019 \$m	2020 \$m	2019 \$m	2020 \$m	2019 \$m	2020 \$m	2019 \$m	2020 \$m	2019 \$m	2020 \$m	2019 \$m	2020 \$m	2019 \$m
At 1 Jan	305	226	533	555	(22)	(39)	(21)	(18)	(20)	-	-	-	775	724
Exchange differences	-	-	(3)	(3)	-	-	-	-	-	-	-	-	(3)	(3)
Acquisition of a subsidiary	-	-	-	6	-	-	-	-	-	-	-	-	-	6
Charged/(credited) to the consolidated income statement	77	79	36	(25)	3	17	(3)	(3)	19	(20)	-	-	132	48
Charged to the consolidated statement of comprehensive income	-	-	-	-	-	-	-	-	-	-	5	-	5	-
Credited directly to retained earnings	-	-	-	-	-	-	(5)	-	-	-	-	-	(5)	-
At 31 Dec	382	305	566	533	(19)	(22)	(29)	(21)	(1)	(20)	5	-	904	775

1 Intangible assets include customer relationships and tradenames.

- (d) 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 2020 \$m	At 31 Dec 2019 \$m
Deferred tax assets	(26)	(17)
Deferred tax liabilities	930	792
	904	775

- (e) The analysis of deferred tax (assets)/liabilities is as follows:

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Deferred tax assets		
Amounts to be recovered after more than 12 months	(25)	(17)
Amounts to be recovered within 12 months	(1)	-
	(26)	(17)
Deferred tax liabilities		
Amounts to be settled after more than 12 months	921	788
Amounts to be settled within 12 months	9	4
	930	792
Net deferred tax liabilities	904	775

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 2019	1,250,632	(3,115)	27,750	(682)	27,068
Shares issued in lieu of cash dividends (note (a))	10,569	(84)	2,694	(21)	2,673
Shares purchased for Share Award Scheme (note (b))	–	(1,115)	–	(285)	(285)
Vesting of shares of Share Award Scheme (note (c))	–	1,040	5	218	223
At 31 Dec 2019	1,261,201	(3,274)	30,449	(770)	29,679
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

1 Excluding shares vested but not yet transferred to awardees of 307,960 shares at 31 December 2020 (31 December 2019: 50,341 shares)

42. Share Capital and Shares Held for Share Award Scheme (continued)

- (a) During the year, 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
	2019				
	Number of shares	Scrip price \$	Share capital \$m	Shares held for Share Award Scheme \$m	Total \$m
Issued as 2018 second interim scrip dividends:					
– total	7,476,293	260.77	1,950	–	1,950
– to Share Award Scheme	(36,539)	260.77	–	(10)	(10)
Issued as 2019 first interim scrip dividends:					
– total	3,092,966	240.40	744	–	744
– to Share Award Scheme	(47,800)	240.40	–	(11)	(11)
	10,484,920		2,694	(21)	2,673

- (b) During the year, the Share Award Scheme (note 43) acquired 84,000 HKEX shares (2019: 1,115,300 shares) through purchases on the open market. The total amount paid to acquire the shares during the year was \$31 million (2019: \$285 million).
- (c) During the year, a total of 1,419,931 HKEX shares (2019: 1,040,143 shares) were vested. The total cost of the vested shares was \$326 million (2019: \$218 million). In 2020, \$4 million (2019: \$5 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 on a straight-line basis 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:

	2020 \$m	2019 \$m
At 1 Jan	250	218
Employee share-based compensation benefits (note 10)	281	240
Vesting of shares of Share Award Scheme	(299)	(208)
At 31 Dec	232	250

The Scheme allows shares to be granted to employees under the following two categories of awards:

- (i) Employee Share Awards – for all employees of the Group (including the Executive Director); and
- (ii) Senior Executive Awards – for selected senior executives of the Group (including the Executive Director).

Following the Board's decision to award an award sum (Awarded Sum) for the purchase of Awarded Shares to eligible employees and/or selected senior executives, 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, 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 2019 and 2020

Date of award	Number of Awarded Shares awarded	Average fair value per share \$	Vesting period
13 Jun 2019	996	259.65	13 Jun 2019 – 12 Dec 2019
13 Jun 2019	9,603	259.65	8 Apr 2021 – 8 Apr 2022
18 Nov 2019	6,400	245.67	18 Nov 2019 – 10 Jun 2022
31 Dec 2019	1,261,069 ^{1,2}	254.40	12 Dec 2021 – 12 Dec 2022
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

1 55,169 were awarded to the HKEX's Chief Executive on 31 December 2019.

2 219,143 shares were awarded by re-granting the forfeited or unallocated shares held by the Scheme on 31 December 2019.

In addition to the above, total Awarded Shares amounting to \$327 million were also granted to selected employees in 2020. At 31 December 2020, the purchase of shares had not yet been completed.

Details of Awarded Shares (excluding dividend shares) vested during 2019 and 2020

During the year, 1,112,075 HKEX shares (2019: 944,989 shares) were vested at an aggregate fair value of \$257 million (2019: \$200 million), of which 146,156 shares (2019: 61,031 shares) were for the HKEX's Chief Executive.

43. Employee Share-based Arrangements (continued)

(b) Senior Executive Awards

The actual number of shares to be transferred to the awardees under the Senior Executive Awards is conditional on the satisfaction of performance conditions set by the Board. The Board has full discretion to determine the actual amount of award to be paid at the end of a performance assessment period (which shall normally be a period of at least three financial years) in accordance with these criteria.

The vesting of Senior Executive Awards is not affected by the awardees ceasing employment with the Group before the end of the performance assessment period. The Senior Executive Awards are considered to be vested immediately upon grant and the performance conditions are considered as non-vesting conditions.

Details of Senior Executive Awards awarded during 2019 and 2020

No Senior Executive Awards were awarded in 2020, and details of Senior Executive Awards awarded during 2019 were as follows:

Date of award	Number of Awarded Shares awarded	Average fair value per share \$	Total fair value \$m	Performance period
31 Dec 2019	56,154	190.80	11	2020 – 2022

All of the Senior Executive Awards were awarded to the HKEX's Chief Executive. The fair value per share is determined by taking into account various factors including the probability of the performance conditions being satisfied.

Details of Senior Executive Awards transferred to awardee during 2019 and 2020

Details of Senior Executive Awards transferred to awardee during 2019 and 2020 (including shares transferred upon retirement of the HKEX's Chief Executive in December 2020) were as follows:

Date of award	Month of transfer	Number of Awarded Shares awarded	Number of Awarded Shares transferred	Total cost of Awarded Shares transferred \$m
31 Dec 2015	Mar 2019	56,800	30,672	6
30 Dec 2016	Mar 2020	67,400	47,854	9
29 Dec 2017	Dec 2020	62,123	62,123	14
31 Dec 2018	Dec 2020	61,560	61,560	14
31 Dec 2019	Dec 2020	56,154	56,154	15

The total cost of shares transferred to the HKEX's Chief Executive during 2020 amounted to \$52 million (2019: \$6 million), and \$10 million was debited to retained earnings as the cost of the Awarded Shares vested was higher than the fair value of shares previously charged to the consolidated income statement (2019: \$2 million was credited to share capital).

43. Employee Share-based Arrangements (continued)

(c) Summary of Awarded Shares awarded and dividend shares

Movements in number of Awarded Shares awarded and dividend shares

	2020	2019
Number of Awarded Shares and dividend shares:		
Outstanding at 1 Jan	3,272,042	3,114,689
Awarded ³	52,200	1,334,222
Forfeited	(246,576)	(207,979)
Vested	(1,339,766)	(975,661)
Dividend shares:		
– allocated to awardees	73,046	79,809
– allocated to awardees but subsequently forfeited	(8,737)	(8,556)
– vested ⁴	(80,165)	(64,482)
Outstanding at 31 Dec	1,722,044	3,272,042

3 Average fair value per share was \$373.85 (2019: \$251.72).

4 In 2020, 80,165 dividend shares (2019: 64,482 shares), including 21,065 shares (2019: 7,134 shares) for the HKEX's Chief Executive, at a cost of \$21 million (2019: \$15 million) were vested.

Remaining vesting periods or performance period of Awarded Shares awarded and dividend shares outstanding at 31 December

	At 31 Dec 2020		At 31 Dec 2019	
	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				
2016	-	-	-	67,400
2017	-	-	0.04 year to 1.00 year	482,125
2018	0.05 year to 1.05 years	523,567	0.05 year to 2.06 years	1,323,153
2019	0.11 year to 1.95 years	1,093,163	0.12 year to 3.00 years	1,330,394
2020	0.11 year to 3.11 years	52,200	-	-
Dividend shares	0.05 year to 2.46 years	53,114	0.00 year to 2.27 years	68,970
		1,722,044		3,272,042

43. Employee Share-based Arrangements (continued)

(d) Total number of shares held by Share Award Scheme

	At 31 Dec 2020	At 31 Dec 2019
Number of Awarded Shares and dividend shares (note (c))	1,722,044	3,272,042
Forfeited or unallocated shares ⁵	261,516	2,322
Number of shares held by Share Award Scheme ⁶ (note 42)	1,983,560	3,274,364

5 The shares will be regranted to eligible employees in future.

6 Excluding shares vested but not yet transferred to awardees of 307,960 shares at 31 December 2020 (31 December 2019: 50,341 shares).

44. Hedging and Revaluation Reserves

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Hedging reserve (note (a))	-	6
Revaluation reserve (note (b))	25	(3)
	25	3

(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 qualify 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.

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:

	2020 \$m	2019 \$m
At 1 Jan	6	-
Cash flow hedges:		
– net fair value gains/(losses) of hedging instruments	10	(2)
– reclassified to goodwill as part of acquisition cost of BayConnect (note (i))	-	9
– reclassified to the consolidated income statement as staff costs and related expenses (note (ii))	(15)	-
– reclassified to the consolidated income statement as information technology and computer maintenance expenses (note (ii))	(1)	(1)
At 31 Dec	-	6
Fair value of hedging instruments at 31 Dec	-	103

- (i) During the year ended 31 December 2019, the Group designated certain bank deposits of RMB233 million as cash flow hedges for hedging the foreign exchange risk of the acquisition of a 51 per cent equity interest of BayConnect. The net fair value loss of the bank deposits of \$9 million was initially deferred in hedging reserve and included as part of the cost of the acquisition completed on 28 June 2019.
- (ii) 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, and information technology and computer maintenance expenses. At 31 December 2020, there was no outstanding bank balance designated as cash flow hedges (31 December 2019: GBP10 million of the bank balances was outstanding).
- (iii) The total amounts arising from ineffective cash flow hedges recognised in the consolidated income statement of the Group during the year amounted to \$Nil (2019: \$Nil).

(b) Revaluation reserve

	2020 \$m	2019 \$m
At 1 Jan	(3)	(6)
Changes in fair value of financial assets measured at fair value through other comprehensive income	33	3
Deferred tax on financial assets measured at fair value through other comprehensive income	(5)	-
At 31 Dec	25	(3)

45. Designated Reserves

Clearing House Funds reserves (note 37)

	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 2019	161	106	231	17	8	523
Surplus of net investment income net of expenses of Clearing House Funds transfer from retained earnings (note 46)	13	5	8	34	4	64
At 31 Dec 2019	174	111	239	51	12	587
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

46. Retained Earnings

	2020 \$m	2019 \$m
At 1 Jan	14,204	13,371
Profit attributable to shareholders	11,505	9,391
Transfer to Clearing House Funds reserves (note 45)	(41)	(64)
Dividends:		
2019/2018 second interim dividend	(3,761)	(3,830)
2020/2019 first interim dividend	(4,692)	(4,668)
Unclaimed HKEX dividends forfeited (note 34(a))	21	19
Vesting of shares of Share Award Scheme	(31)	(15)
Tax relating to Share Award Scheme	9	-
At 31 Dec	17,214	14,204

47. Notes to the Consolidated Statement of Cash Flows

(a) Reconciliation of profit before taxation to net cash inflow from principal operating activities

	2020 \$m	2019 \$m
Profit before taxation	13,332	10,951
Adjustments for:		
Net interest income	(1,773)	(1,945)
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	(487)	(789)
Finance costs	181	177
Depreciation and amortisation	1,197	1,044
Employee share-based compensation benefits	281	240
Provision for impairment losses of receivables	12	9
Share of profits less losses of joint ventures	(69)	(32)
Other non-cash adjustments	12	6
Net increase in financial assets of Margin Funds	(44,439)	(18,805)
Net increase in financial liabilities of Margin Funds	44,472	18,808
Net (increase)/decrease in Clearing House Fund financial assets	(6,075)	329
Net increase/(decrease) in Clearing House Fund financial liabilities	6,034	(393)
(Increase)/decrease in cash prepayments and collateral for A shares	(4,752)	1,554
Increase in Corporate Funds used for supporting Skin-in-the-Game and default fund credits	(423)	(94)
Increase in accounts receivable, prepayments and deposits	(14,901)	(5,479)
Increase in other liabilities	19,957	4,145
Net cash inflow from principal operations	12,559	9,726
Interest received from financial assets measured at amortised cost and cash and cash equivalents	2,066	3,096
Interest paid to Participants	(349)	(1,248)
Income tax paid	(2,320)	(431)
Net cash inflow from principal operating activities	11,956	11,143

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 2019	1,166	2,512
New leases	–	156
Adjustment relating to reassessment of lease liabilities	–	(11)
Interest on borrowings (note 14)	7	–
Interest on lease liabilities (note 14)	–	89
Cash flows		
– Repayment of notes	(744)	–
– Payments of interest on notes	(11)	–
– Payments of capital elements of lease liabilities	–	(159)
– Payments of interest elements of lease liabilities	–	(89)
Exchange differences	–	8
At 31 Dec 2019	418	2,506
At 1 Jan 2020	418	2,506
New 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

(c) Cash outflow for leases

Amounts for leases included in the consolidated statement of cash flow comprise the following:

	2020 \$m	2019 \$m
Within operating cash flows	(4)	(17)
Within financing cash flows	(373)	(248)
Total lease rental paid	(377)	(265)

48. Commitments

- (a) Commitments in respect of capital expenditures

	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Contracted but not provided for:		
– fixed assets	15	24
– intangible assets	146	82
Authorised but not contracted for:		
– fixed assets	260	461
– intangible assets	469	650
	890	1,217

- (b) Commitments for investment in an unlisted equity investment

In November 2020, the Group entered into an agreement to acquire a 7 per cent equity interest in Guangzhou Futures Exchange Co. Ltd. (GFE), a newly established futures exchange in Guangdong-Hong Kong-Macao Greater Bay Area, which will focus on serving the real economy and green development initiatives. At 31 December 2020, the total capital investment to be made by the Group was RMB210 million.

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 2020, 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 2019: \$71 million). Up to 31 December 2020, 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 635 trading Participants (31 December 2019: 658) covered by the indemnity at 31 December 2020 defaulted, the maximum contingent liability of the Group under the indemnity would amount to \$127 million (31 December 2019: \$132 million).
- (c) HKEX has 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

	2020 \$m	2019 \$m
Salaries and other short-term employee benefits	233	187
Employee share-based compensation benefits	68	80
Retirement benefit costs	8	8
	309	275

(ii) Post-retirement benefit plans

The Group has sponsored an ORSO Plan and the LME Pension Scheme as its post-retirement benefit plans (note 10(a)).

(iii) Save as aforesaid, the Group has entered into other transactions in the ordinary course of business with companies that are related parties but the amounts were immaterial.

51. Pledges of Assets

LME Clear receives securities, gold bullion and warrants as collateral for margins posted by its Clearing Participants. The total fair value of this collateral was US\$2,241 million (HK\$17,376 million) at 31 December 2020 (31 December 2019: US\$1,872 million (HK\$14,586 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 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\$11,486 million (HK\$89,061 million) at 31 December 2020 (31 December 2019: US\$8,904 million (HK\$69,378 million)).

The above non-cash collateral, which LME Clear is permitted to sell or repledge in the absence of default by the counterparties, was not recorded on the consolidated statement of financial position of the Group at 31 December 2020. Such non-cash collateral, together with certain financial assets amounting to US\$496 million (HK\$3,845 million) at 31 December 2020 (31 December 2019: US\$474 million (HK\$3,692 million)), have been repledged to LME Clear's investment agent and custodian banks under first floating charge and security arrangements for the settlement and depository services they provide in respect of the collateral and investments held. The floating charge could convert to a fixed charge in the event of contract termination, or default or insolvency of LME Clear.

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 2020 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 \$1,536 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 \$3,072 million).
HKSCC, HKCC, SEOCH, OTC Clear	SFC, Hong Kong	Maintain at all times liquid net assets funded by equity (ie, 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 \$703 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 \$1,406 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\$73.7 million (approximately HK\$572 million).
LME Clear	Bank of England, UK	Maintain cash or highly liquid financial instruments with minimal market and credit risk, amounting to US\$92.7 million (HK\$719 million), plus 10 per cent minimum reporting threshold of US\$9.3 million (HK\$72 million) and US\$23.2 million (HK\$180 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 2020, the Group had set aside \$4,000 million (31 December 2019: \$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 2019: \$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 2020 and 31 December 2019.

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 (ie, gross debt divided by adjusted capital) and net gearing ratio (ie, 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 2020 \$m	At 31 Dec 2019 \$m
Borrowings (note 39)	423	418
Less:		
Cash and cash equivalents of Corporate Funds (note 21)	10,753	11,421
Less: Amounts reserved for supporting Skin-in-the-Game and default fund credits of Clearing House Funds (note 21(b))	(311)	(818)
	(10,442)	(10,603)
Net debt (note (a))	-	-
Equity attributable to shareholders of HKEX	48,918	44,173
Less: Designated reserves	(628)	(587)
Adjusted capital	48,290	43,586
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 Investment Policy, Restrictions and Guidelines (Investment Guidelines), which is approved by the Board and reviewed regularly. Investment restrictions and guidelines form an integral part of risk control. Fund-specific restrictions and guidelines are set according to the investment objectives of each fund (ie, Corporate Funds, Clearing House Funds, Margin Funds and Cash for A shares). Specific limits are set for each fund to control risks (eg, permissible asset type, asset allocation, liquidity, credit requirement, counterparty concentration, maturity, foreign exchange exposures and interest rate risks) of the investments.

A portion of the Corporate Funds is invested in collective investment schemes (External Portfolio) under the External Investment Guidelines (the Investment Policy, Restrictions and Guidelines for externally-managed Corporate Funds) approved by the Board. 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 (eg, permissible asset type, asset allocation, liquidity and 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 (ie, 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 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 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:

- Under the External Investment Guidelines, up to 50 per cent of the External Portfolio may be invested in non-HKD or non-USD investments not hedged back to HKD or USD.
- 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.

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 (ie, gross positions less forward foreign exchange contracts and other offsetting exposures (hedges)), at 31 December presented in HKD equivalents.

	Foreign currency	At 31 Dec 2020			At 31 Dec 2019		
		Gross open position \$m	Hedges \$m	Net open position \$m	Gross open position \$m	Hedges \$m	Net open position \$m
Financial assets ¹	EUR	3,902	(3,897)	5	9,649	(9,640)	9
	GBP	5,499	(5,193)	306	11,455	(11,026)	429
	JPY	4,908	(4,906)	2	8,264	(8,262)	2
	RMB	25,951	(25,602)	349	10,601	(10,468)	133
	USD	7,285	(4,353)	2,932	3,192	(1,553)	1,639
	Others	6	(1)	5	2	-	2
Financial liabilities ²	EUR	(3,897)	3,897	-	(9,640)	9,640	-
	GBP	(5,469)	5,193	(276)	(11,445)	11,026	(419)
	JPY	(4,906)	4,906	-	(8,262)	8,262	-
	RMB	(25,606)	25,602	(4)	(10,473)	10,468	(5)
	USD	(4,918)	4,354	(564)	(1,598)	1,553	(45)
	Others	(6)	1	(5)	(1)	-	(1)
Total net open positions for the Group	EUR			5			9
	GBP			30			10
	JPY			2			2
	RMB			345			128
	USD			2,368			1,594
	Others			-			1
				2,750			1,744

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.

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.

(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 residual 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 2020	At 31 Dec 2019	At 31 Dec 2020	At 31 Dec 2019
Carrying value (\$m)	84,696	58,305	89,503	70,779
Highest contractual interest rates	3.25%	4.50%	1.33%	3.00%
Lowest contractual interest rates ¹	0.03%	0.66%	-2.00%	-0.70%

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 2020 \$m	At 31 Dec 2019 \$m
Foreign exchange risk	16	11
Interest rate risk	18	20
Total VaR	19	26

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.

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 2020 \$m	At 31 Dec 2019 \$m
Public Equities	1,684	2,440
Absolute Return	1,914	1,604
Multi-Sector Fixed Income	2,216	2,583
Government Bonds and Mortgage-backed Securities ¹	1,679	2,716
Total	7,493	9,343
Number of Funds	25	23

¹ Includes \$264 million invested in money market funds (31 December 2019: \$Nil)

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 2020, the simplified 1-year VaR calculated at a 95 per cent confidence interval was 1.5 per cent (31 December 2019: 2.3 per cent), implying that the market value of the Group's Funds could potentially change by approximately \$112 million (2019: \$215 million).

53. Financial Risk Management (continued)

(a) Market risk (continued)

(iv) Sensitivity analysis (continued)

Collective investment schemes (continued)

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.

(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 2020, the Group's total available banking facilities for its daily operations amounted to \$21,223 million (31 December 2019: \$21,246 million), which included \$14,722 million (31 December 2019: \$14,745 million) of committed banking facilities and \$6,500 million (31 December 2019: \$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 2020, the total amount of such facilities was HK\$30,244 million (31 December 2019: HK\$24,052 million).

In addition, the Group has arranged contingency banking facilities amounting to RMB13,000 million (HK\$15,516 million) (31 December 2019: RMB13,000 million (HK\$14,543 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 2020					Total \$m
	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	
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
	At 31 Dec 2019					Total \$m
	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	
Cash and cash equivalents	128,152	-	-	-	-	128,152
Financial assets measured at fair value through profit or loss	6,242	2,033	446	622	50	9,393
Financial assets measured at fair value through other comprehensive income	4,569	-	-	-	-	4,569
Financial assets measured at amortised cost	40,573	-	-	23	76	40,672
Accounts receivable and deposits ¹	25,647	28	5	-	-	25,680
	205,183	2,061	451	645	126	208,466

¹ Amounts exclude prepayments of \$196 million (31 December 2019: \$132 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 2020					Total \$m
	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	
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

	At 31 Dec 2019					Total \$m
	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	
Margin deposits, Mainland security and settlement deposits, and cash collateral from Clearing Participants	142,536	-	-	-	-	142,536
Accounts payable, accruals and other liabilities	22,321	16	110	-	-	22,447
Other financial liabilities:						
Other financial liabilities of Clearing House Funds	34	4	1	-	-	39
Other financial liabilities of Corporate Funds:						
Financial guarantee contract (maximum amount guaranteed) (note 49(b))	132	-	-	-	-	132
Participants' contributions to Clearing House Funds	13,873	468	53	-	-	14,394
Borrowings:						
Written put options to non-controlling interests	-	-	340	93	-	433
Lease liabilities	38	55	264	1,276	1,325	2,958
Total	178,934	543	768	1,369	1,325	182,939

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 (ie, 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 2020, 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 2019: Aa1 (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 2020, HKSCC had 643 Clearing Participants (31 December 2019: 647) and the total amounts of Margin Credit and Dynamic Contribution Credit utilised by HKSCC Clearing Participants amounted to \$1,212 million (31 December 2019: \$949 million), while HKCC had 166 Clearing Participants (31 December 2019: 169) and the total amount of Dynamic Contribution Credit utilised by HKCC Clearing Participants amounted to \$58 million (31 December 2019: \$65 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 2020		At 31 Dec 2019	
	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)	127	(20)	132

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 2020		At 31 Dec 2019	
	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	46,884	11,953	25,680	6,914
Fair value of base, ferrous and precious metals futures and options contracts cleared through LME Clear	92,884	92,884	48,008	48,008
Reverse repurchase investments	84,981	84,981	66,291	66,291

1 Amounts exclude prepayments of \$196 million (31 December 2019: \$132 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 2020 and 31 December 2019, 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 2020				At 31 Dec 2019			
	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	1,131	6,362	–	7,493	2,647	6,696	–	9,343
– equity securities	–	–	220	220	–	–	50	50
– base, ferrous, and precious metals futures and options contracts cleared through LME Clear	–	92,884	–	92,884	–	48,008	–	48,008
Financial assets measured at fair value through other comprehensive income:								
– debt securities	5,439	2,503	–	7,942	3,059	1,510	–	4,569
	6,570	101,749	220	108,539	5,706	56,214	50	61,970
Financial liabilities								
Financial liabilities at fair value through profit or loss:								
– base, ferrous, and precious metals futures and options contracts cleared through LME Clear	–	92,884	–	92,884	–	48,008	–	48,008

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 2020 and 2019, 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 inputs 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)

	2020 \$m	2019 \$m
At 1 Jan	50	–
Investment in minority stakes in unlisted companies	160	50
Gains recognised in other comprehensive income	10	–
At 31 Dec	220	50
Total gains or losses recognised in the consolidated income statement for assets held at 31 Dec	–	–

Level 3 valuations are prepared on bi-annually basis, at each interim and annual reporting date, by a team in the Finance Division. 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 2020 \$m	At 31 Dec 2019 \$m			
Minority stake in Fusion Bank Limited	100	50	Market approach	N/A	N/A
Minority stake in Huakong TsingJiao Information Science (Beijing) Limited	120	–	Market approach	N/A	N/A
Total	220	50			

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 2020, the latest fair value was based on recent market transactions.

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. Management believes that investment in the company would be one of the building blocks for HKEX in developing its data strategy. The investment is not traded in an active market. At 31 December 2020, 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)

(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 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 2020		At 31 Dec 2019	
	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	–	–	619	619
– other financial assets maturing over one year ²	99	94	99	79
Liabilities				
Borrowings:				
– written put options to non-controlling interests ³	423	430	418	422
Financial guarantee to the Collector of Stamp Revenue ⁴	20	76	20	50

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 0.12 per cent to 0.60 per cent at 31 December 2020 (31 December 2019: 2.44 per cent to 2.58 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 1.19 per cent at 31 December 2020 (31 December 2019: 2.82 per cent to 2.99 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 2.10 per cent at 31 December 2020 (31 December 2019: 3.26 per cent).

The carrying amounts of short-term financial assets and receivables (eg, accounts receivable, financial assets measured at amortised cost and cash and cash equivalents) and short-term payables (eg, 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 2020					
	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		Net amounts \$m
				Amounts subject to master netting arrangements \$m	Cash collateral \$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

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 2019					
	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	244,632	(225,902)	18,730	(3,249)	(5,267)	10,214
Base, ferrous and precious metals futures and options contracts cleared through LME Clear ²	967,485	(919,477)	48,008	(32,429)	(15,579)	-
Other accounts receivable from Participants, ChinaClear, information vendors and hosting services customers, net of provision for impairment losses	502	-	502	-	(106)	396
Total	1,212,619	(1,145,379)	67,240	(35,678)	(20,952)	10,610
Financial liabilities:						
CNS money obligations payable ¹	245,978	(225,902)	20,076	(3,249)	-	16,827
Base, ferrous and precious metals futures and options contracts cleared through LME Clear ²	967,485	(919,477)	48,008	(32,429)	-	15,579
Total	1,213,463	(1,145,379)	68,084	(35,678)	-	32,406

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 (ie, 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 2020 \$m	At 31 Dec 2019 \$m	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Net amounts of financial assets after offsetting as stated above:				
– CNS money obligations receivable	32,910	18,730	–	–
– Other accounts receivable from Participants, ChinaClear, information vendors and hosting services customers, net of provision for impairment losses	878	502	–	–
– Base, ferrous and precious metals futures and options contracts cleared through LME Clear	–	–	92,884	48,008
Financial assets not in scope of offsetting disclosures	13,096	6,448	7,713	9,393
Prepayments	196	132	–	–
Amounts presented in the consolidated statement of financial position	47,080	25,812	100,597	57,401

	Accounts payable, accruals and other liabilities		Financial liabilities at fair value through profit or loss	
	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m	At 31 Dec 2020 \$m	At 31 Dec 2019 \$m
Net amounts of financial liabilities after offsetting as stated above:				
– CNS money obligations payable	39,120	20,076	–	–
– Base, ferrous and precious metals futures and options contracts cleared through LME Clear	–	–	92,884	48,008
Financial liabilities not in scope of offsetting disclosures	3,854	2,371	–	–
Amounts presented in the consolidated statement of financial position	42,974	22,447	92,884	48,008

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 2020			At 31 Dec 2019		
	Current \$m	Non-current \$m	Total \$m	Current \$m	Non-current \$m	Total \$m
Assets						
Cash and cash equivalents	4,057	-	4,057	2,309	-	2,309
Financial assets measured at fair value through profit or loss	7,197	296	7,493	8,721	622	9,343
Financial assets measured at amortised cost	7,263	74	7,337	3,856	75	3,931
Accounts receivable, prepayments and deposits	96	21	117	62	21	83
Amounts due from subsidiaries	1,008	11,581	12,589	798	11,822	12,620
Interests in joint ventures	-	114	114	-	114	114
Intangible assets	-	457	457	-	340	340
Fixed assets	-	434	434	-	446	446
Right-of-use assets	-	1,867	1,867	-	1,985	1,985
Investments in subsidiaries	-	15,451	15,451	-	15,141	15,141
Total assets	19,621	30,295	49,916	15,746	30,566	46,312
Liabilities and equity						
Liabilities						
Financial liabilities at fair value through profit or loss	347	-	347	325	-	325
Accounts payable, accruals and other liabilities	994	-	994	528	-	528
Amounts due to subsidiaries	345	-	345	269	-	269
Taxation payable	299	-	299	236	-	236
Other financial liabilities	11	-	11	11	-	11
Lease liabilities	211	1,745	1,956	189	1,867	2,056
Provisions	103	63	166	81	66	147
Deferred tax liabilities	-	90	90	-	57	57
Total liabilities	2,310	1,898	4,208	1,639	1,990	3,629
Equity						
Share capital			31,891			30,449
Shares held for Share Award Scheme			(485)			(770)
Employee share-based compensation reserve			232			250
Merger reserve			694			694
Retained earnings			13,376			12,060
Equity attributable to shareholders of HKEX			45,708			42,683
Total liabilities and equity			49,916			46,312
Net current assets			17,311			14,107

Approved by the Board of Directors on 24 February 2021

Laura M CHA
Director

TAI Chi Kin, Calvin
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 2019	218	694	11,668
Profit attributable to shareholders	–	–	8,886
2018 second interim dividend at \$3.07 per share	–	–	(3,830)
2019 first interim dividend at \$3.72 per share	–	–	(4,668)
Unclaimed HKEX dividends forfeited	–	–	19
Vesting of shares of Share Award Scheme	(208)	–	(15)
Employee share-based compensation benefits	240	–	–
At 31 Dec 2019	250	694	12,060
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

Shareholder Information

Financial Calendar 2021

Announce 2020 final results	24 February
2021 AGM	28 April
Announce 2021 first quarter results	April
Announce 2021 interim results	August
Announce 2021 third quarter results	October

For Shareholders to Attend and Vote at 2021 AGM

Latest time to lodge transfer documents for registration with HKEX's registrar	At 4:30 pm on 22 April 2021
Closure of HKEX's Register of Members	23 to 28 April 2021 (both dates inclusive)
Record date	28 April 2021

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.

2020 Dividends

First interim dividend	\$3.71 per share
Second interim dividend	\$4.46 per share
Dividend payout ratio	90 per cent *

* Based on the Group's profit attributable to Shareholders for the year ended 31 December 2020, excluding the financial results of HKEX Foundation

The second interim dividend for 2020 will be payable wholly in cash.

Key Dates for 2020 Second Interim Dividend

Ex-dividend date	9 March 2021
Latest time to lodge transfer documents for registration with HKEX's registrar	At 4:30 pm on 10 March 2021
Closure of HKEX's Register of Members	11 to 12 March 2021 (both dates inclusive)
Record date	12 March 2021
Despatch of dividend warrants	23 March 2021

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 [CG](#).

Stock Codes

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

Listing

As at 31 December 2020

• Number of issued shares	1,267,836,895 shares
• Market capitalisation	\$538.8 billion
Board lot size	100 shares

American Depositary Receipt

Ticker Symbol	HKXCY
CUSIP	43858F109

HKEX Share Price Performance vs HSI in 2020



Shareholding Distribution as at 31 December 2020 (based on HKEX's Register of Members)

Size of shareholding	Number of Shareholders	% of Shareholders	Number of shares held	% of HKEX ¹ shares in issue
1 – 1,000	2,375	49.3	995,828	0.1
1,001 – 5,000	1,516	31.4	3,731,032	0.3
5,001 – 10,000	356	7.4	2,683,918	0.2
10,001 – 100,000	454	9.4	13,492,843	1.1
100,001 and above	120	2.5	1,246,933,274	98.4
Total	4,821	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

2020 AGM • AGM held on 7 May 2020 at 4:30 pm at the HKEX Connect Hall on the 1st Floor, One and Two Exchange Square, Central, Hong Kong

2021 AGM • AGM to be held on 28 April 2021

ADT • Average daily turnover value

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

AGM(s) • HKEX's annual general meeting(s)

Awarded Shares • Shares awarded under the Share Award Scheme

BayConnect • BayConnect Technology Company Limited

BBS • Bronze Bauhinia Star

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 will be explored at a later stage

Cash Market • HKEX's securities related business excluding stock options

CBBCs • Callable Bull/Bear Contracts

CCASS • Central Clearing and Settlement System

CCP • Central counterparty

ChinaClear • China Securities Depository and Clearing Corporation Limited

CNH • Offshore RMB traded outside Mainland China

CNS • Continuous Net Settlement

CNY • Onshore RMB traded in Mainland China

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)

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

Financial Secretary • Financial Secretary of the Hong Kong Special Administrative Region of the People's Republic of China

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 or HKSAR government •

The Government of the Hong Kong Special Administrative Region of the People's Republic of China

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

HKCC • HKFE Clearing Corporation Limited

HKEX or the Company • Hong Kong Exchanges and Clearing Limited

HKEX's Articles • HKEX's Articles of Association

HKEX Foundation • HKEX Foundation Limited

HKFRS(s) • Hong Kong Financial Reporting Standard(s)

HKICPA • Hong Kong Institute of Certified Public Accountants

HKSCC • Hong Kong Securities Clearing Company Limited

HONIA • Hong Kong Dollar Overnight Index Average

HSCEI • Hang Seng China Enterprises Index

HSI • Hang Seng Index

Innovation Lab • HKEX Innovation and Data Lab

INR • Indian Rupee

INED(s) • Independent Non-executive Director(s) of HKEX

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)

JD.com • JD.com, Inc.

JP • Justice of the Peace

L&I Products • Leveraged and Inverse Products

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.

NetEase • NetEase, Inc.

Nongfu Spring • Nongfu Spring Co., Ltd.

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 • Members of the Executive Committee of HKEX, and the membership list as at the date of this Annual Report is 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 Employees’ Share Award Scheme adopted by the Board on 14 September 2005 which was subsequently amended on 16 August 2006, 13 May 2010, 17 December 2013 and 17 June 2015

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

SPSA • Special Segregated Account

SSE • Shanghai Stock Exchange

STAGE • HKEX’s Sustainable and Green Exchange

STAR Market • Sci-Tech Innovation Board of SSE

SZSE • Shenzhen Stock Exchange

Stock Connect • Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect

UK • United Kingdom

US • United States of America

US\$/USD • United States dollar

WVR • Weighted Voting Rights

\$/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)



Hong Kong Exchanges and Clearing Limited

8/F, Two Exchange Square

8 Connaught Place, Central, Hong Kong

T (852) 2522 1122 F (852) 2295 3106

info@hkex.com.hk

hkexgroup.com | hkex.com.hk