30 Dec 2019

招銀国际 CMB INTERNATIONAL
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Hong Kong Exchange & Clearing (388 HK)

Near-term catalysts take time to materialize

We initiate coverage on HKEx with a HOLD rating and TP at HK$ 248. We see the long-term growth story of HKEx still lies in its unique position of enjoying China's capital market opening-up through the Connect Scheme, with mid-term drivers from efforts to broaden product scope and optimize market microstructure to grow liquidity. But as we do not see a clear trend in market activity recovery and recent good news takes time to translate into revenue, the current 33x 1-yr forward P/E (vs. 5-yr avg. of 30x) valuation looks fair in near term.

- **Good news in the price; await future catalyst to materialize.** HKEx's equity market velocity reached close to historical low (~45%) with cash ADT down 20% YoY in 11M19, while good news like Alibaba's homecoming and potential launch of MSCI China A Index futures likely held up its stock price. Our scenario analysis suggests that these positives either have limited financial impact for now or are with uncertain materializing time.
- **Mid- to long-term growth prospect intact: three ways to grow liquidity.** Due to its turnover-driven business nature (~54% revenue contribution), growing liquidity is crucial for HKEx's organic growth. In the mid run, we expect market activity to progress through 1) further penetration of Stock Connect from both directions, 2) introducing new products esp. derivatives which delivered resilient and less volatile growth, and 3) optimizing market microstructure to allow easier access to the market.
- **We expect HKEx's net profit to grow 1%/5% YoY to HK$ 9.4bn/9.9bn in FY19E/FY20E.** Our estimates are 1%/6% lower than consensus, due to our more cautious assumptions on cash ADT and invt. yield as well as slightly higher opex.
- **Our 3-stage DDM-derived TP of HK$ 248** implies 3% downside with a dividend yield of 2.8% and target FY20E P/E of 31.8x. We noticed that market sentiment restored in the past few weeks as trade tension eased, and market ADT rebounded to HK$ 89bn (vs. Jul-Nov HK$ 77bn). Our target price implies HK$ 98bn headline cash equity ADT in FY20E. **Initiate at HOLD.**
- **Key upside risks include** 1) launch of MSCI China A Index future products; 2) substantial recovery of market turnover. **Key downside risks** include keen competition from other exchanges (esp. China onshore ones) in luring China listings and issuing China-related products.

Earnings Summary

(YE 31 Dec)	FY17A	FY18A	FY19E	FY20E	FY21E
Total revenue (HK$ mn)	13,180	15,867	16,333	17,093	18,560
Net profit (HK$ mn)	7,404	9,312	9,408	9,880	10,718
EPS (HK$)	6.03	7.50	7.49	7.79	8.38
EPS YoY growth (%)	27	24	0	4	8
P/E (x)	42.5	34.2	34.2	32.9	30.6
P/B (x)	8.5	7.8	7.1	6.8	6.4
Yield (%)	2.1	2.6	2.6	2.7	2.9
ROE (%)	21.3	23.9	21.9	21.3	21.7
EBITDA margin (%)	72.9	74.1	75.5	75.0	74.7

Source: Company data, Bloomberg, CMBIS estimates

HOLD (Initiation)

Target Price	**HK$ 248.0**
Up/Downside	**-3.2%**
Current Price	**HK$ 256.2**

Diversified Financials Sector

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Stock Data

Mkt Cap (HK$ mn)	323,120
Avg 3 mths t/o (HK$ mn)	1,035
52w High/Low (HK$)	286.2/218.8
Total Issued Shares (mn)	1,261.2

Source: Bloomberg

Shareholding Structure

The Government of the Hong Kong Special Administrative Region	5.93%

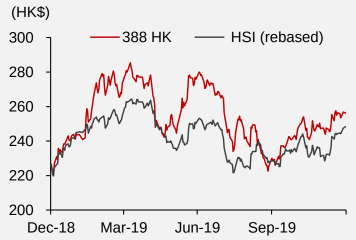
Source: Bloomberg

Share Performance

	Absolute	Relative
1-mth	3.9%	-3.0%
3-mth	13.2%	4.1%
6-mth	-6.9%	-5.8%

Source: Bloomberg

12-mth Price Performance



Source: Bloomberg

Auditor: PwC

Related Reports

1. "Potential acquisition of LSEG: Uncertainty prevails" – 12 Sep 2019
2. "Looking beyond interconnections" – 1 Mar 2019
3. "Nexus between opening-up China capital market and the world" – 20 Jul 2018

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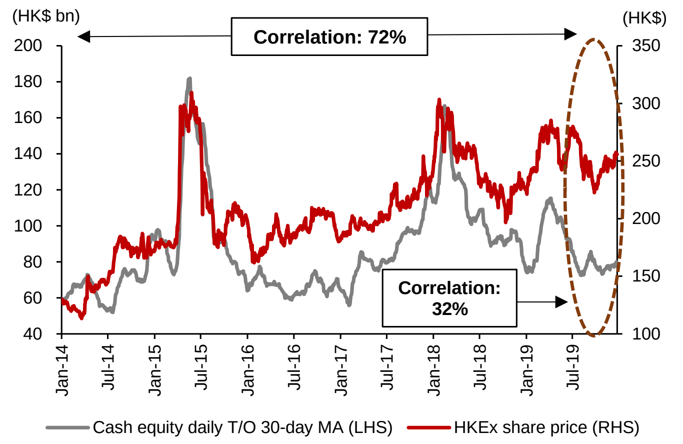
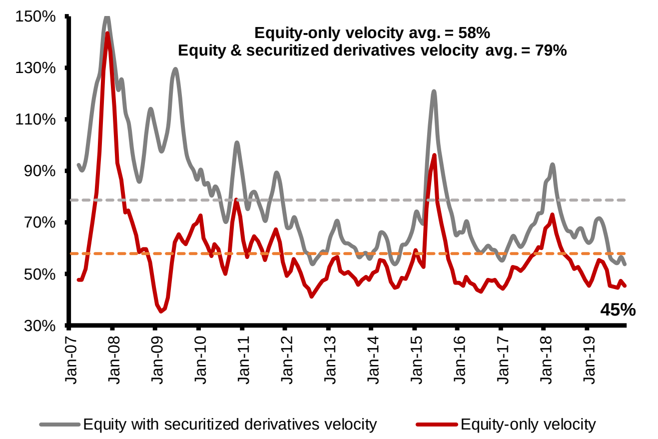


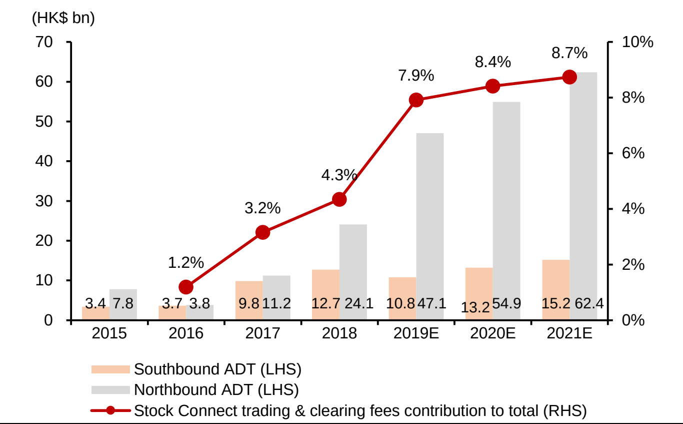
Source: Company data, Bloomberg, CMBIS

Figure 2: Cash market velocity has been trending down close to post-crisis low in 11M19



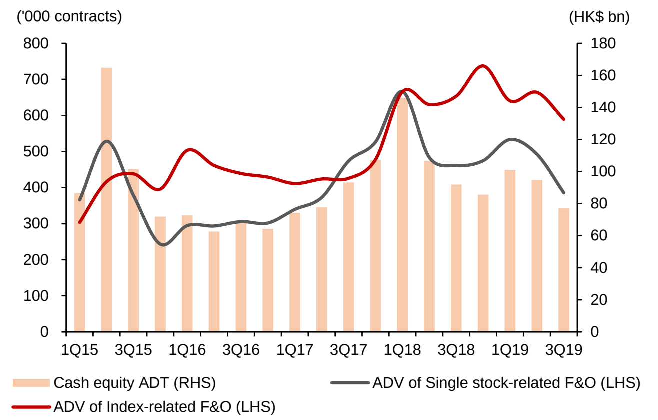
Source: Company data, CMBIS

Figure 3: We expect revenue contribution from Stock Connect will continue to increase



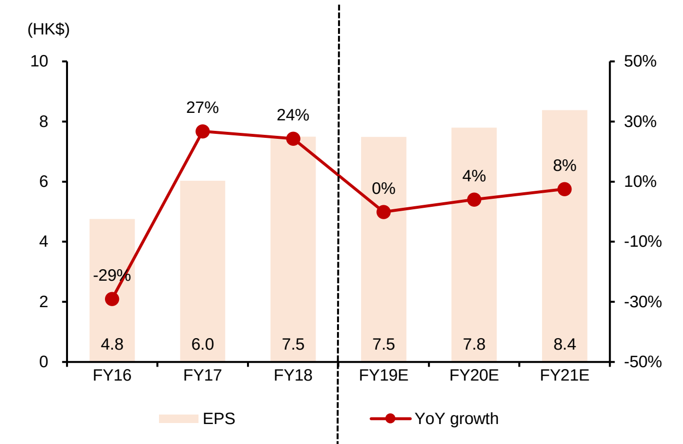
Source: Company data, CMBIS estimates

Figure 4: Resilient HKEx F&Os ADV provides a cushion to subdued cash equity ADT



Source: Company data, CMBIS

Figure 5: We estimate a 4% EPS CAGR over FY18-FY21E on modest recovery of market activity



Source: Company data, CMBIS estimates

Figure 6: HKEx trades 9% above 5-yr average (since HKEx entered Connect Era in FY14)

Source: Bloomberg, CMBIS estimates

Good news in the price; await future catalysts to materialize

Valuation diverged from subdued market activity in 2H19

HKEx runs a turnover-sensitive business as it earns majority of its revenue from stock market turnover-related trading and clearing fees (54% of total revenue in 9M19). In addition, historically, HKEx's share price appeared to be positively correlated with cash equity ADT trend. Correlation between the two was 72% since 2014 (when the Exchange entered into the "Connect Era") but has narrowed to 32% since late May 2019.

The divergence was caused by subdued stock market trading activity and resilient share price performance. The cash equity ADT contracted 20% in 11M19, and the equity-only (i.e. excluding securitized derivatives) velocity was trending down close to historical low (at 45% in Nov 2019). Meanwhile, the share price was held up by several good news, in our view, including:

1) The potential launch of MSCI China A Index future products (agreement signed in Mar 2019, market expected launch in mid-2019 yet have not realized);

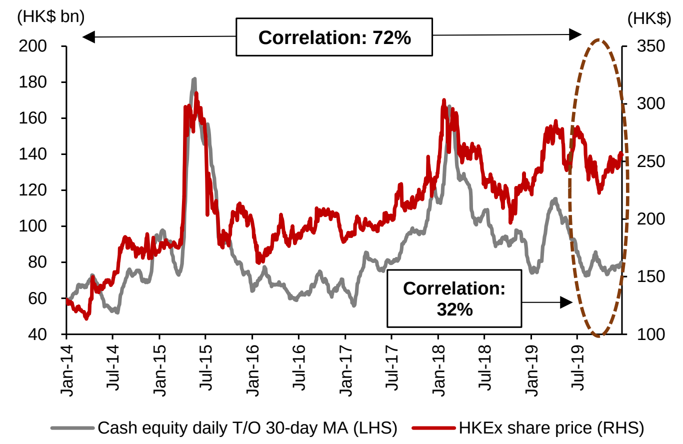
2) Expectation of WVR companies' inclusion into Southbound (reported in Dec 2018 and realized in Oct 2019);

3) The secondary listing of Alibaba (9988 HK) (reported in late May 2019 and realized in Nov); and,

4) Expectation of more tech companies' secondary listing on HKEx following Alibaba.

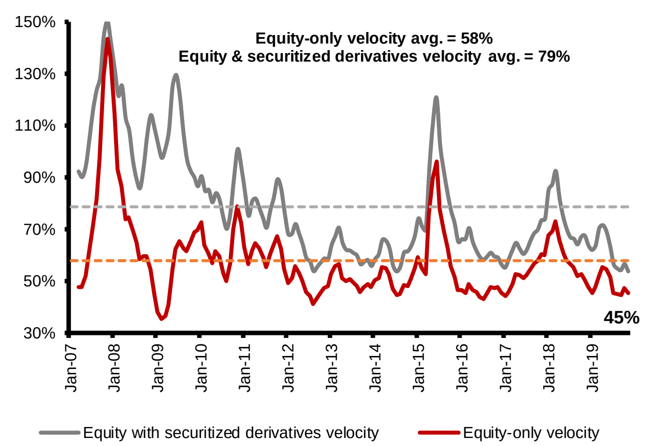
Currently, HKEx trades at 32x 1-year forward P/E, 9% above its 5-year average of 30x. We believe the market has factored in much optimism over the good news, and caused the valuation to go beyond the stagnant market activity. Moreover, some of the good news is taking longer-than-expected time to materialize (e.g. the launch of MSCI China A Index futures is delayed), while some has limited financial impact on HKEx's revenue based on our estimates. We will discuss these cases in details in following chapters.

Figure 7: HKEx's stock price has diverged from cash equity ADT since late May 2019



Source: Wind, CMBIS

Figure 8: Velocity on the Exchange has been trending down close to post-crisis low in 11M19



Source: Company data, CMBIS

Tech giants' coming home is encouraging, but revenue impact is limited by tradable market cap

Alibaba completed the first secondary listing on HKEx under the new listing regime on 26 Nov, which has raised market's expectation on more U.S.-listed tech giants to come back home, especially amid the prolonged trade dispute.

But our scenario analysis suggests that, even for Alibaba, the incremental trading and clearing fees from its secondary listing will have a limited positive impact on HKEx's profitability. And **the main constraint is the number of tradable shares in local market.**

With 2.7% of total issued shares tradable on HKEx and velocity assumption of 800%, Alibaba will contribute 1.7% to the Exchange's FY20E revenue through cash equity and derivatives trading, based on our estimates. If we lift the free float assumption to 22.1% (indicating that all shares under CCASS's custody are converted to be eligible for trading in Hong Kong) while revise down the velocity assumption to similar level of its ADS, the revenue contribution could rise to 2.6%. However, we do not expect a large number of shares to be exchanged from ADS to shares on HKEx in the short run, as 1) the trading costs in Hong Kong is much higher than those in the U.S. and 2) the trading hours in HKEx and NYSE are different.

Figure 9 sets forth our scenario analysis. We use trading data of Tencent (700 HK) and other HK-listed WVR companies as important references. Key assumptions we adopt are as follows:

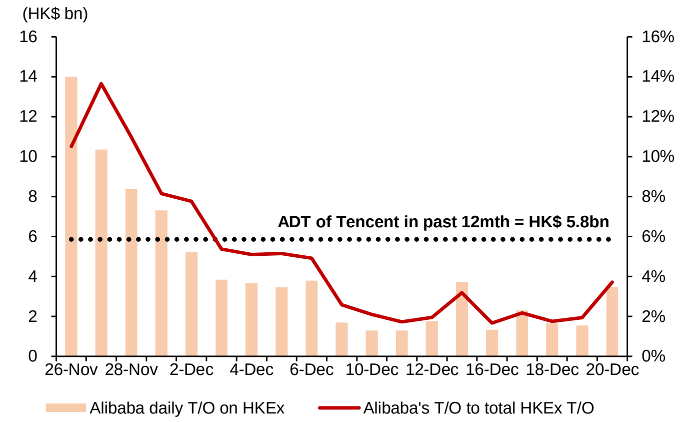
- **% of tradable market cap on HKEx:** 2.7% indicates only shares issued through secondary listing in HK are tradable in local market, while 22.1% indicates all shares under CCASS's by custody are eligible for trading;
- **Velocity:** 160%/75% is similar to average velocity of Alibaba's ADS/Tencent in the past 12 months before Alibaba's secondary listing; 800% is similar to Alibaba's actual velocity on HKEx since listing.
- **% of DWs/CBBCs ADT to equity ADT:** equivalent to that of Tencent in Sep-Nov 2019.
- **% of total stock options/futures:** 3% is equivalent to that of Meituan (3690 HK) and Xiaomi (1810 HK), and 16% is similar to that of Tencent in Sep-Nov 2019.
- **Cost and tax:** assume that incremental revenue will not cause incremental D&A; EBITDA margin/effective tax rate is estimated to be 75.0%/14.6% in FY20E.

Figure 9: Scenario analysis of Alibaba's trading impact on HKEx's revenue/net profit

Item	Calculation			
Equity				
Assumption: % of tradable mrkt cap on HKEx	*2.7%*		*22.1%*	
Assumption: velocity	*160%*	*800%*	*75%*	*160%*
Incremental ADT (HK$ bn)	0.7	3.7	2.9	6.1
Impact on FY20E cash ADT	0.9%	4.7%	3.6%	7.8%
DWs/CBBCs				
Assumption: % of DWs/CBBCs to cash ADT	*33%*			
Incremental DWs/CBBCs ADT (HK$ bn)	0.2	1.2	0.9	2.0
Impact on FY20E DWs/CBBCs ADT	0.1%	0.3%	0.3%	0.6%
Stock options/futures				
Assumption: % of incremental stock F&Os ADV	*3%*	*16%*	*3%*	*16%*
Impact on FY20E revenue	**0.3%**	**1.7%**	**1.2%**	**2.6%**
Impact on FY20E net profit	**0.4%**	**1.9%**	**1.3%**	**2.9%**

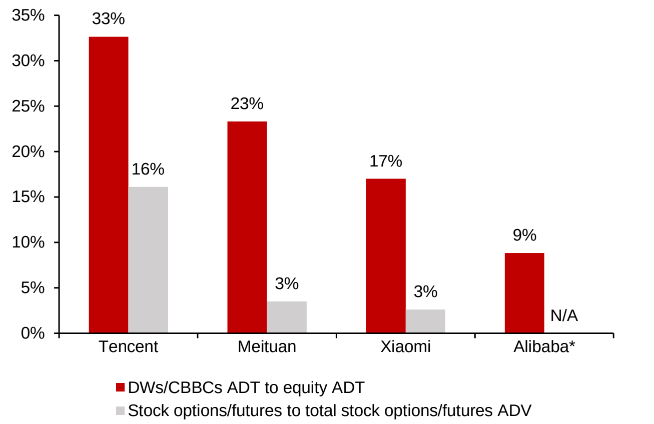
Source: CMBIS estimates

Figure 10: Alibaba's daily T/O since listing on HKEx



Source: Bloomberg, CMBIS
Note: data as of 20 Dec 2019.

Figure 11: DWs/CBBCs and stock options/futures data in Sep-Nov 2019 of Tencent/Meituan/Xiaomi/ Alibaba



Source: HKEx, CMBIS
*Alibaba's DWs/CBBCs ADT data was from 26 Nov to 20 Dec; stock options/futures data not available.

In our view, the successful secondary listing debut of Alibaba may enhance other U.S.-listed Chinese companies' confidence to "come back". On the other hand, the on-going trade tension also imposed potential threats on Chinese companies' listings in the U.S. (i.e. restricting U.S. investments into Chinese companies, precluding Chinese companies with VIE structure to list in the U.S.), which could passively drive some demands to Hong Kong.

To study the impact of potential secondary listings, we conduct a similar scenario analysis as did on Alibaba. We selected U.S.-listed Chinese companies with over US$ 5bn market cap, excl. corporate WVR ones that are not yet allowed to be listed on HKEx. As their aggregate market cap is smaller than Alibaba's (US$ 368bn vs. US$ 569bn), and we assume they are less popular than Alibaba (i.e. with lower trading activity), **the revenue impact on FY20E revenue is limited at 2.7% even in our bullish scenario.**

Figure 12: Scenario analysis of U.S.-listed companies coming-back on HKEx's revenue/net profit

Company	Mrkt cap (US$ bn)
JD.com	51.6
Baidu	44.2
Pinduoduo	43.4
NetEase	39.1
TAL Education	28.0
Ctrip.com	20.3
New Oriental Education	19.6
Yum China	18.3
ZTO Express	17.9
Huazhu Group	11.7
Weibo	10.4
58.com	9.7
Vipshop	9.7
Autohome	9.4
GDS Holding	7.8
Luckin	7.7
Momo	7.3
Bilibili	5.9
51job	5.7
Total	**367.7**

Item	Calculation			
Size of issuance				
Assumption: % of issuance in HK secondary listing	*5%*		*25%*	
Tradable mrkt cap in HK local market (HK$ bn)	143		717	
Impact on HKEx trading				
Equity				
Assumption: velocity	*100%*	*200%*	*100%*	*200%*
Incremental ADT (HK$ bn)	0.6	1.2	2.9	5.9
Impact on FY20E cash market ADT	0.8%	1.5%	3.8%	7.5%
DWs/CBBCs				
Assumption: % of DWs/CBBCs ADT to equity ADT	*20%*			
Incremental DWs/CBBCs ADT (HK$ bn)	0.1	0.2	0.6	1.2
Impact on FY20E DWs/CBBCs ADT	0.0%	0.1%	0.2%	0.3%
Stock options/stocks				
Assumption: % of incremental stock F&Os ADV	*10%*	*30%*	*10%*	*30%*
Impact on FY20E revenue	**0.4%**	**0.9%**	**1.2%**	**2.7%**
Impact on FY20E net profit	**0.4%**	**1.0%**	**1.4%**	**2.9%**

Source: CMBIS estimates
Note: Market cap data as of 20 Dec 2019.

Although we do not expect a significant revenue contribution from Alibaba's secondary listing given limited tradable market cap, we see **two possible situations could improve its trading activity** and may be positive to HKEx's share price, should the stock:

1) Be included into HSI Index. Local media cited management of Hang Seng Index that the index compiler would launch a consultation on the inclusion of WVR and secondary listing companies into HSI Index in 1Q20. Being included into Hong Kong's benchmark index will likely increase trading demands for Alibaba.

2) Be included into the Southbound of Stock Connect. HKEx, SSE and SZSE had agreed to include WVR companies into Southbound in Oct 2019, but secondary listed WVR companies are not yet eligible for trading through the Connect Scheme. The engagement of onshore investors will help raise the turnover of Alibaba, but it is still not clear whether or when the regulators and exchanges will review the rules.

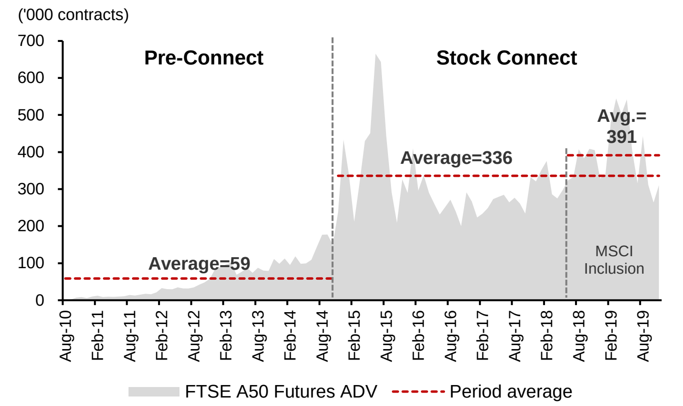
MSCI China A Index futures: A major potential catalyst, but needs time to materialize

HKEx signed an agreement with MSCI in Mar 2019 which licensed the Exchange to issue future contracts on MSCI China A Index. While we believe that such new product could **1)** broaden HKEx's derivatives offering (vs. heavily HSI/HSCEI Index and local stock-focused structure currently), **2)** in turn, improve Northbound trading activity and **3)** lift HKEx's revenue and earnings, lack of product details (e.g. fee schedule, launch date, etc.) makes it difficult to estimate the financial impact. The launch time of the product was delayed from the expected mid-2019, and is still pending for regulatory approvals. We think it is too early to factor in the positives with uncertain materializing timetable.

That being said, we could get a picture of the new product's growth potential from its closest comparable, or later a possible competitor, the Singapore Exchange (SGX)'s FTSE A50 Index Future. Launched in 2010, this product is the only offshore future for onshore A-shares, and its trading volume has been growing along with the foreign fund flows into A-share market. The product's ADV quintupled to 0.34mn after the launch of Stock Connect, and now accounts for ~40% of SGX's total derivatives trading volume.

Theoretically, assume that SGX's revenue from FTSE A50 Index Future representing the whole offshore hedging demands of A-share, fully diverting it from SGX to HKEx's MSCI China A Index Future could raise HKEx's FY20E revenue by 4-7%, based on our estimates.

Figure 13: ADV of SGX's FTSE A50 Futures soared after Stock Connect was launched



Source: SGX, CMBIS

Figure 14: A similar revenue of FTSE A50 Futures could boost HKEx's top-line by single digit

Item	Calculation
Index points*	14,190
Contract size	US$ 14,190
11M19 ADV (contracts)	0.40
Fees	US$ 0.4/0.8 per side per lot
Total fees earned	US$ 80mn - 161mn
Total fees earned in HK$	HK$ 628mn - 1,255mn
% of HKEx's FY20E revenue	**4%-7%**

Source: SGX, CMBIS estimates

But this may not be the real case. First, the demands for MSCI China A Index futures do not necessarily completely overlap with those for FTSE A50 Index Future. This could be due to the different underlying of the index; FTSE A50 Index comprises the largest 50 China A-share stocks by market cap, while MSCI China A Index has a broader scope of 472 stocks, including both large- and mid-caps. This may also be relating to market microstructure, as SGX accepts cross-margining but HKEx does not, or the difference in trading hours. Second, even if the MSCI China A Index could be launched in the near term, we still expect an up to two-year ramp-up period for nurturing the new product and growing liquidity, so the material revenue and earnings impact will come much later.

The good thing is, HKEx or the market may not have to wait too long, as the launch of this products becomes crucial for further inclusion of A-shares into MSCI indices. After completed its scheduled A-share inclusion with an inclusion factor of 20% by 26 Nov 2019, MSCI mentioned that four investors' concerns should be addressed before it considers further increasing A-share weighting, first one of which was the access to hedging tools, as international investors required both onshore and offshore futures and options in order to expand their allocation and manage their A-share exposure.

Mid- to long-term growth prospect intact: three ways to grow liquidity

Although in the near-term, we think the market has priced in many positives from good news which are yet to materialize, in the mid-to-long run, we still hold a constructive view on the Exchange. We think HKEx's long-term growth potential lies in its unique position in enjoying China's capital market opening-up through initiatives like the Connect Scheme. In the mid-term, its turnover-driven business model suggests that liquidity is still the key to its earnings growth. We expect the Exchange to tackle the current stagnant situation through deepening connectivity with China, expanding product scope and optimizing market microstructure, which are included in its Strategic Plan for 2019-2021.

Deepening connectivity: China strategy remains the theme of growth

HKEx highlighted its "China Anchored" positioning in the new Strategic Plan, and Connect Scheme will continue to play an important role in achieving the goal. **Going forward, we see the China related growth will mainly come in two ways: growing turnover in the established and smoothly-running Stock Connect, and expanding the Connect scope.** We expect to see more progress from the former way, and the latter may take more than a Strategic Plan's time span to realize.

1) Growing turnover of Stock Connect

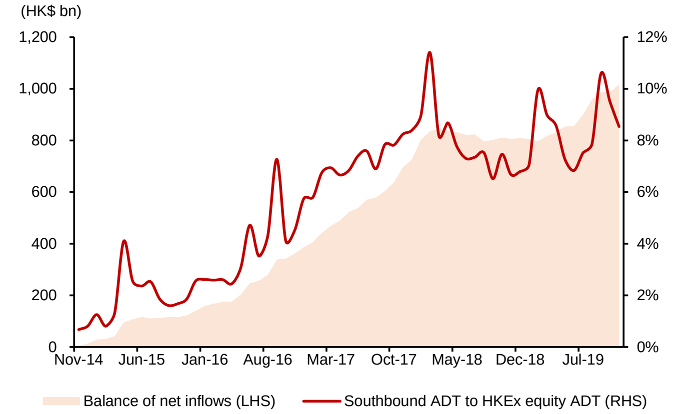
Since its launch in Nov 2014, revenue contribution from Stock Connect has been growing rapidly. In 9M19, it contributed 7.8% of total trading and clearing fees as well as 6.0% of total revenue. On one hand, the Southbound helped increase local market activity; on the other hand, Northbound created a non-local market revenue stream that could cushion some local market volatility.

For Northbound, we see the growth continues to benefit from A-share's inclusion and further weighting increase in major global indices. It took Korea/Taiwan stock market six/ten years to be included into MSCI indices with 100% weighting, so this driver is likely to exist for a longer time.

Except for directly guiding fund flows, global index compilers may help improve Northbound liquidity in other ways, like introducing associated product offerings and optimizing market microstructure. For example, MSCI required China regulators to address four investor concerns, i.e. onshore and offshore hedging tools, short settlement cycle of A-shares, holiday arrangement and Ominibus trading mechanism in Stock Connect Scheme, before they start consultation on increasing weighting of A-shares.

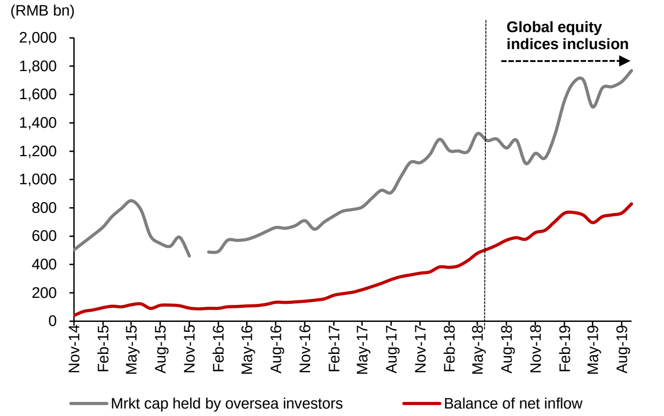
For Southbound, we think the trading activity is more about interesting and popular names unique in Hong Kong market and finding valuation laggards. For example, the two WVR companies became ones of the most actively traded Southbound stocks since they were included in the scheme. By leveraging its offshore listing hub position and forerunner advantage in new economy listings (ahead of SSE's STAR Market), we believe HKEx could attract more China domestic inflows through making more attractive names eligible for Southbound trading.

Figure 15: Southbound ADT accounted for over 8% in HKEx equity ADT in 11M19



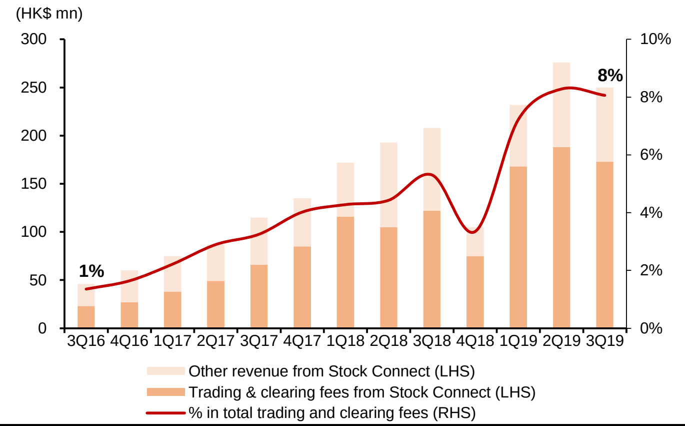
Source: Wind, Company data, CMBIS

Figure 16: Foreign holding in China onshore stocks and net inflow of Northbound grew consistently



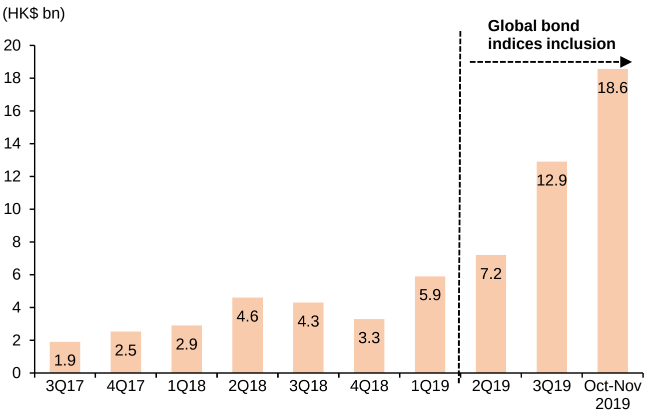
Source: PBoC, Wind, CMBIS

Figure 17: Trading and clearing fee contribution from Stock Connect accounted for 8% of total in 3Q19



Source: Company data, CMBIS

Figure 18: Bond Connect ADT surged after major global bond indices inclusion



Source: Company data, CMBIS

2) Expanding the Connect scope

The Connect Scheme expanded from stock to bond in Jul 2017. Bond Connect Northbound ADT has been skyrocketing since 2Q19, which we attribute largely to the China government bonds and policy bank bonds' inclusion into Bloomberg Barclay Global Aggregate Index starting from Apr 2019. We expect the high growth to continue as this inclusion will last for 20 months and more indices inclusion is already on schedule. Moreover, China seems to be a better allocation as the world is entering into a low interest rate era.

Through Bond Connect, HKEx aims at something bigger than just trading fees. As foreign investors' holding in RMB bonds grow, the Exchange could benefit from rising demands for RMB-related forex or interest rate derivatives. We see this as an achievable incremental business chance, which could gradually diversify HKEx's derivatives revenue stream.

HKEx had also mentioned several other types of Connect, e.g. ETF Connect, Primary Connect, etc. While we do not see clear timetable or potential material financial impact from these kind of initiatives, new product offerings will for sure enhance the HKEx's local market trading turnover and therefore raise its revenue.

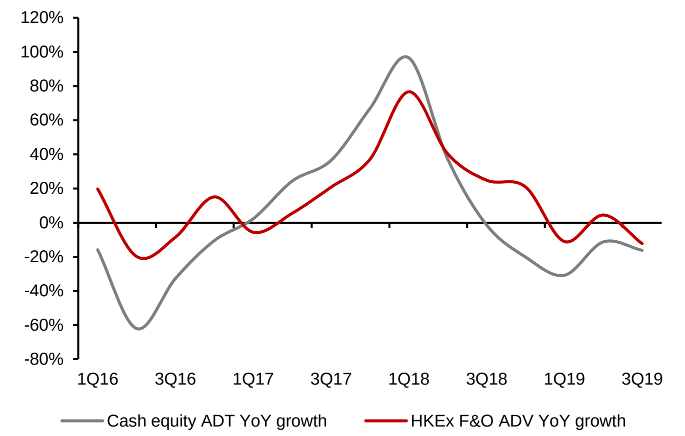
Broadening product scope: Derivatives could be next star

- **HKEx F&Os delivered resilient and less volatile growth; structure could be improved by product diversification**

The ADV of HKEx future and options (F&Os) has seen more rapid growth and less volatile trend in the past several years. It has been growing much faster than cash equity ADT, with a CAGR of 13% over 2009 to 2018 (vs. 6% of cash equity ADT). It became a revenue buffer especially when cash market suffered from trough turnover and heightened market volatility in FY18. Contribution from HKEx F&Os to total trading and clearing fees therefore rose from 11% in FY14 to 18% in FY18.

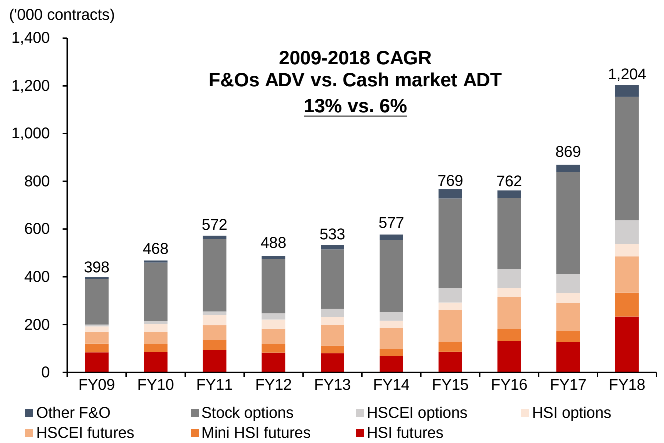
If we look into the product offering of HKEx's F&Os, it comprises dominantly derivatives related to local equity market, with 57% from HSI/HSCEI Index-related F&Os and 41% from single stock futures and options, though index-related products seem to be less sensitive to cash market ADT change than single stock-related ones (Figure 22). Other derivatives, including forex futures, metal futures and derivatives of other indices, altogether accounted for only 2% of ADV in 11M19.

Figure 19: Trading activity of HKEx F&Os appeared to be less volatile than that of cash market…



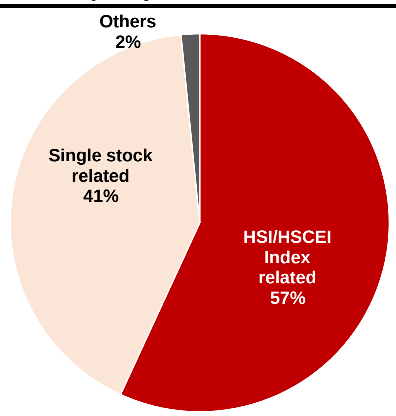
Source: Company data, CMBIS

Figure 20: … and has saw much faster ADV growth than cash market ADT in the past 10 years



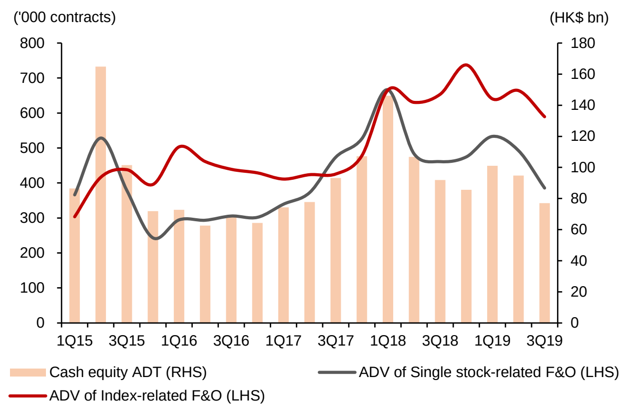
Source: Company data, CMBIS

Figure 21: Index-related and single stock-related derivatives were majority of 11M19 HKEx F&O ADV



Source: Company data, CMBIS

Figure 22: ADV of index-related F&Os was more resilient esp. when cash equity ADT softened



Source: Company data, CMBIS

To further fuel the growth of derivatives, we think the Exchange should gradually diversify its product offerings with new underlying that could bring in incremental liquidity and balance the revenue structure. In this case, MSCI China A Index future will suit well, with existing demands and non-local market-related underlying. The ADV of USD/CNH Future also experienced a vigorous growth when the volatility of RMB/USD exchange rate heightened; and we expect there will be more demands for this product if the trend maintains and RMB bond holding through Bond Connect continues to increase.

In addition, HKEx has accelerated to introduce more new products to improve liquidity in derivatives. The Exchange launched Weekly Options on HSI and HSCEI Index in Sep, as well as a new securitized derivative, Inline Warrants (IWs), to boost short-term hedging demands. The weekly options have already accounted for >1% of F&O ADV in Nov. The successful launch of these products will help support the revenue of HKEx traded derivatives in the mid run.

- **Market data could possibly drive the next leg of growth**

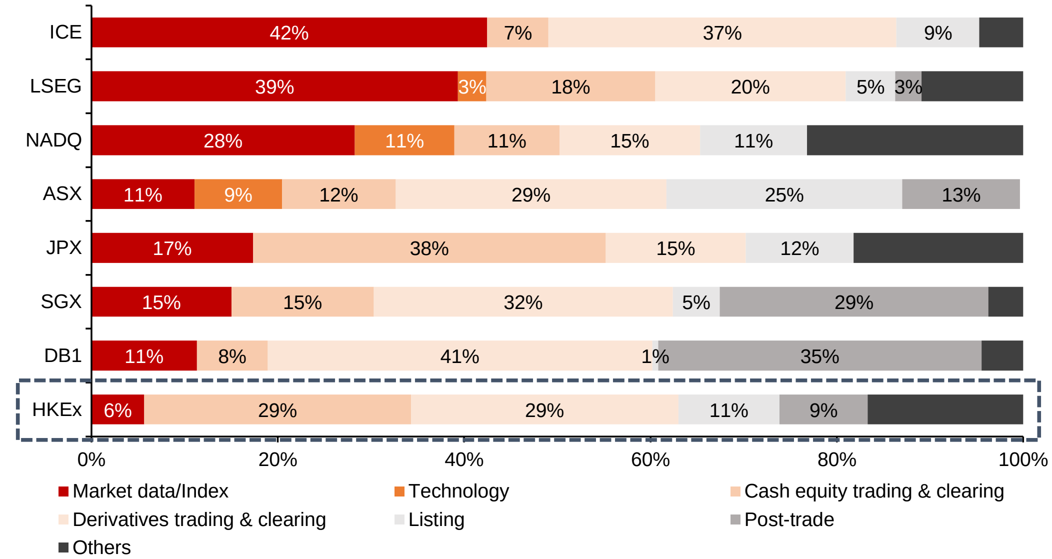
Market data became a rising new asset class for exchanges in recent years, for its recurring and non-turnover sensitive nature against a backdrop of declining velocities globally. Market data and indexing revenue grew much faster than the overall revenue of leading exchanges (Figure 25). After years of M&A of data/index business and successful consolidation, major U.S. and Europe exchanges have already earned a material percentage of revenue from these businesses (~30-40% in FY18), while HKEx lagged much behind global peers (6% in FY18).

In addition to revenue contribution, we noticed that market data/indexing business could possibly boost an exchange's valuation. LSEG is a good example. It is now one of the most expensive exchanges in the world, trading at 34.2x FY20E P/E. The share price jumped 36.8% to-date after media reported that it would wholly acquire Refinitiv in late Jul 2019. According to LSEG's estimates, the combined company with Refinitiv will earn ~70% of its revenue from data/indexing- related business, and will become the first major exchange that earns most of its revenue other than transaction-related business. A structural change in revenue stream may become a re-rating booster.

HKEx is on its way to explore this new revenue stream. The "Technology Empowered" focus in its new Strategic Plan has included the potential monetization of market data. And we believe to obtain the most revenue-earning index provider in the world in FY18, the FTSE Russell Index (according to Burton-Taylor International Consulting), was one of the major reasons that HKEx raised the bid for LSEG in Sep 2019.

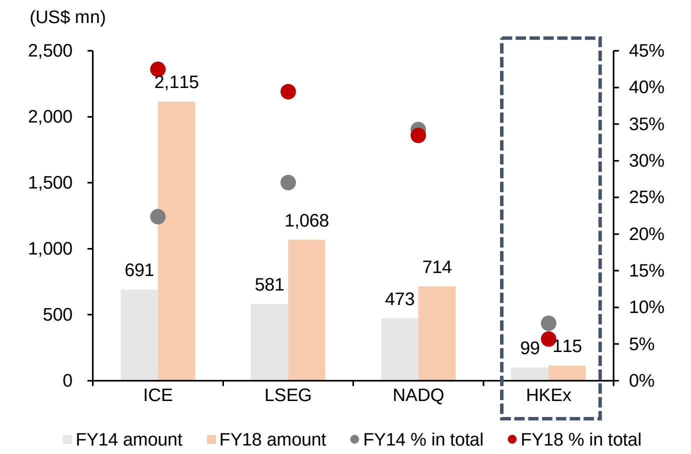
Though HKEx finally withdrew the bid, progress on market data business was made in other way. In Sep 2019, the Exchange had agreed to acquire a minority stake in a data technology company, Huakong TsingJiao Information Science (Beijing) Limited, which was owned and backed by Tsinghua University. Huakong TsingJiao focuses on Multi-party Computation (MPC) technologies, which is used in data security and privacy. HKEx expected to leverage MPC technologies to build its own data marketplace. While we expect this business to develop in a gradual way unless a large-scale M&A happens, increasing revenue contribution from market data could help alleviate concerns over volatility of market trading and therefore stabilize valuation.

Figure 23: Revenue mix of leading global exchanges; HKEx lagged behind in market data/index and technology revenue contribution



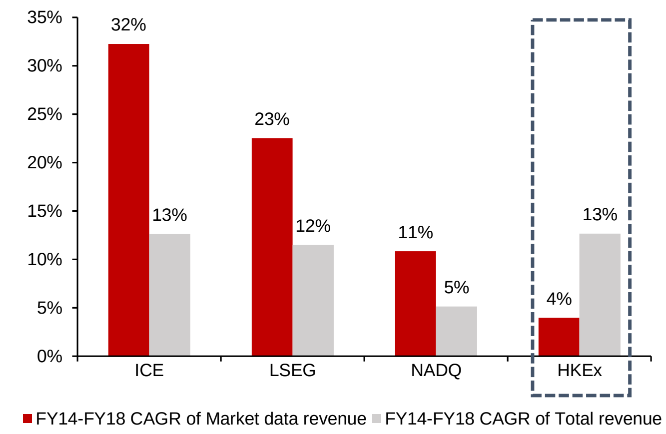
Source: Company data, CMBIS estimates
Note: All data as of FY18 except for JPX and SGX as of FY19.

Figure 24: Market data's revenue contribution raised significantly for ICE and LSEG over FY14-FY18



Source: Company data, CMBIS

Figure 25: Market data revenue grew much faster than overall revenue for ICE, LSEG and NADQ



Source: Company data, CMBIS

Optimizing market microstructure: Difficult to quantify but essential

As we have mentioned in previous pages, HKEx's velocity has kept falling. When compared with global peers, HKEx was ranked 6th place by total market cap of listed companies, while having one of the lowest velocities in 11M19 (40% vs. peers' average of 93% according to WFE data).

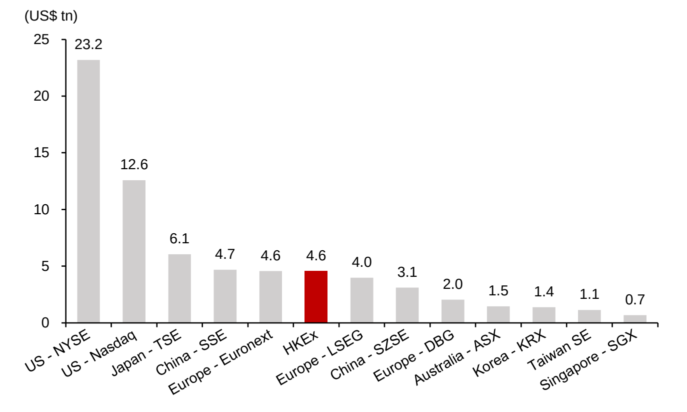
In order to improve market liquidity, other than launching new products and banking on more robust market sentiment, HKEx has included a bunch of initiatives in its Strategic Plan to optimize market microstructure, reduce market frictions and facilitate easier access to the market, to further incentivize investors' participation.

Some of the measures have been rolled out or are scheduled to roll out, including:

- HKEx launched the Client Connect in May 2019, which digitalized a lot of paper-work through the platform and providing 24hr online service to clients.
- Local media reported that HKEx was gauging market response to merge three of its clearing houses (i.e. HKCC, SEOCH with HKSCC). The Exchange may start a consultation in 2020 and the merger may happen in 2022. This could reduce clients' margin deposit requirement for better capital utilization.
- Media reported in Sep that the Exchange aimed to shorten the pricing-to-trading period of IPO from five days to one day, in consistent with common practice in most U.S. and European exchanges, to reduce impact from market volatility and lock-up of investors' application funds. HKEx would expect this to be achieved in 4Q20.

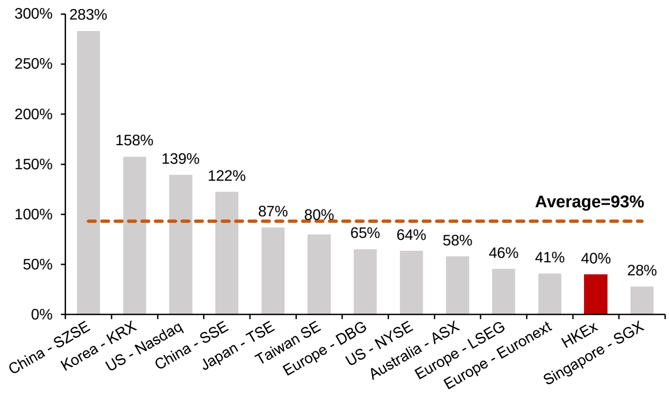
Though the effect of these measures is difficult to quantify and changes may not appear in a conspicuous way, we are positive on HKEx's moves. Our sensitivity analysis suggests that every 10% increase in equity-only velocity will lead to a 4% increase in HKEx's FY20E revenue. If HKEx's velocity could catch up with that of Tokyo SE at 87%, FY20E revenue will be driven up by 16%, based on our estimates.

Figure 26: HKEx was 6th largest stock exchange by total market cap of listed companies…



Source: WFE, CMBIS
Note: Data as of 11M19

Figure 27: … but lagged much behind major global and Asian peers in turnover velocity



Source: WFE, CMBIS estimates
Note: Data as of 11M19; WFE velocities may differ from CMBIS calculated ones due to different statistic methods.

Figure 28: A scenario analysis on revenue impact of increasing velocity on equity-only ADT

	Base		Velocity scenarios		
Item	**CMBIS FY20E**	**Item**	**FY20E Vel. +10%**	**Tokyo SE 11M19**	**SSE 11M19**
Velocity	**46%**	**Velocity**	**56%**	**87%**	**122%**
Equity-only ADT (HK$ bn)	**74**	**Equity ADT (HK$ bn)**	**90**	**140**	**198**
		Impact on:			
Equity ADT (HK$ bn)	74	FY20E Equity ADT	+22.2%	+89.5%	+167.3%
Revenue (HK$ bn)	17.1	FY20E Revenue	+5.7%	+22.8%	+42.5%
Net profit (HK$ bn)	9.9	FY20E Net profit	+6.3%	+25.2%	+47.1%

Source: WFE, Company data, CMBIS estimates
Note: Assume the incremental ADT will cause no incremental D&A and FY20E EBITDA margin/tax rate is estimated as 75.0%/14.6%.

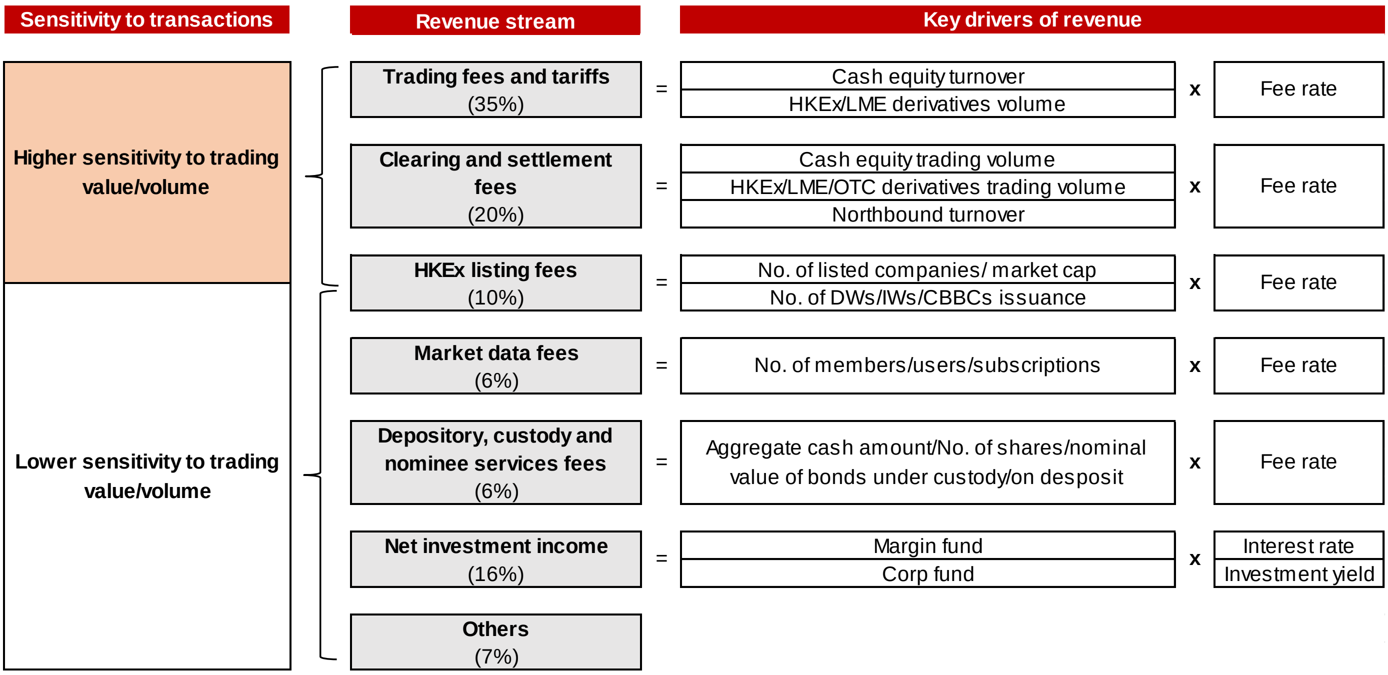
Earnings forecast

We expect HKEx's net profit to grow at a CAGR of 5% over FY18 to FY20E. Our FY19E forecast has factored in 9M19 results and 4QTD actual market data. For FY20E/FY21E, we expect the growth to mainly come from the gradual bottom-out of market activity and continuous fund flows through Stock Connect.

■ Key assumptions for our revenue projections

As illustrated in Figure 29, HKEx's revenue comprises dominantly (60%) of high turnover-sensitive revenues, which is underpinned by trading turnover/volume of both cash and derivative market, in our view. We also consider HKEx listing fees as highly sensitive to turnovers, as new listings of IPOs and securitized derivatives account for ~50% of total listing fees, of which the activity is impacted by secondary market momentum.

Figure 29: HKEx's revenue stream and key revenue drivers



Source: Company data, CMBIS estimates
Note: All numbers based on CMBIS FY19E estimates.

As we expect the fee rates to remain mostly unchanged in our forecast period, our revenue projections are mainly based on following key assumptions:

1) Cash equity ADT: We expect the cash equity ADT (excl. Southbound Connect) to grow -19%/12%/13% YoY to HK$ 82bn/92bn/103bn in FY19E/FY20E/FY21E. The growth in following two years is mainly based on our estimation that the velocity will gradually bottom out and global liquidity remains abundant.

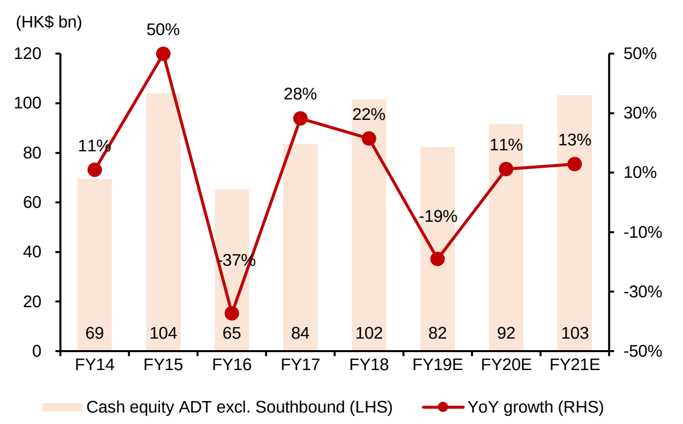
2) Stock Connect ADT: We expect the Southbound ADT to rebound from HK$ 10.8bn in FY19E to HK$ 13.2bn/15.2bn in FY20E/FY21E, with an increasing contribution to equity-only ADT of 8.4%/8.9%/9.2%. For Northbound, we estimated the ADT to be RMB 41.5bn/49.3bn/55.9bn in FY19E/FY20E/FY21E, representing 103%/19%/14% YoY growth. The slowing down growth is due to high-base in FY19E and based on the assumption that no major indices will increase A-share weighting in next two years.

3) HKEx F&Os ADV: We expect the HKEx F&Os ADV to decline 11% YoY in FY19E, but to pick up 10%/13% YoY in FY20E/FY21E. We see the growth to be primarily attributable to recovering market activity, growing demands for hedging tools and marginally from HKEx's efforts to introduce more new products.

4) LME commodities ADV: We expect a relatively stable trend of LME's commodities ADV, i.e. -1%/6%/7% in FY19E/FY20E/FY21E. We do not expect a material revenue contribution from QME in our forecast period.

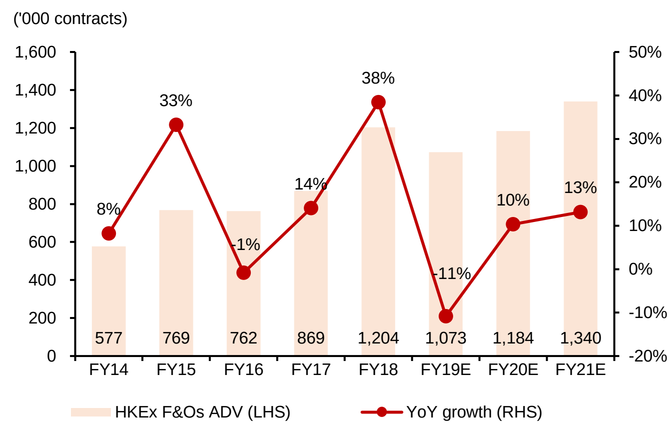
5) Investment yield: Net investment income consists of gains from margin/clearing house fund and from corporate fund. The latter became a big swing factor for HKEx's top-line performance, especially from FY19E, accounting for 8% of 9M19 total revenue. As the gains from corp fund (esp. from the collective investment scheme) could be quite volatile, we make conservative estimates for corp fund investment yield of 4.6%/2.2%/2.1% for FY19E/FY20E/FY21E (vs. ~12% in 1H19) and to reflect lower interest rate outlook.

Figure 30: HKEx cash equity ADT (excl. Southbound) estimates



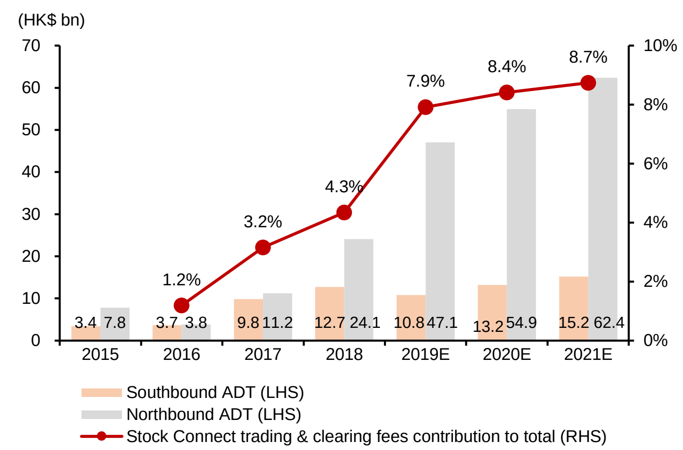
Source: Company data, CMBIS estimates

Figure 31: HKEX F&Os ADV estimates



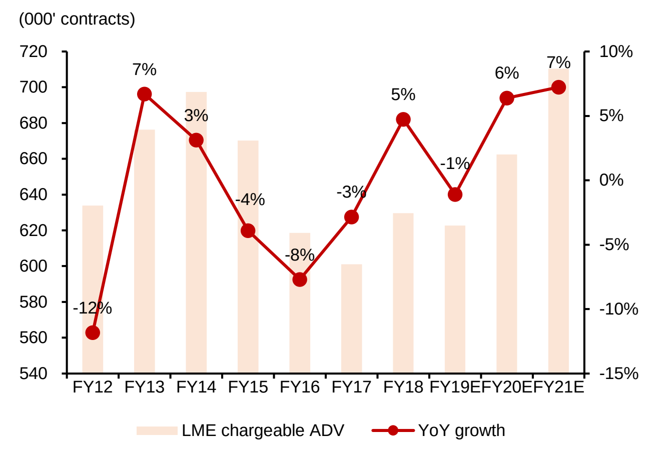
Source: Company data, CMBIS estimates

Figure 32: Stock Connect Southbound and Northbound ADT and revenue contribution estimates



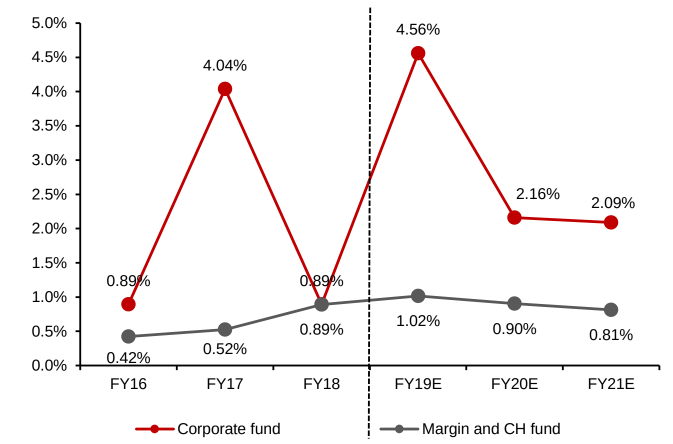
Source: Company data, CMBIS estimates

Figure 33: LME chargeable ADV estimates



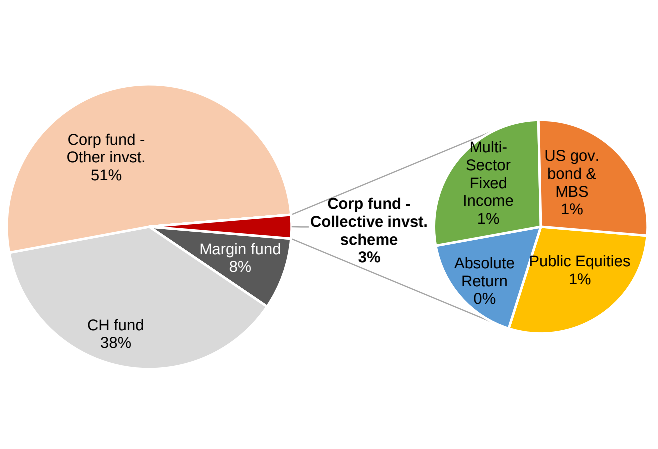
Source: Company data, CMBIS estimates

Figure 34: Calculated and estimated investment yields



Source: Company data, CMBIS estimates

Figure 35: 1H19 Investment funds mix

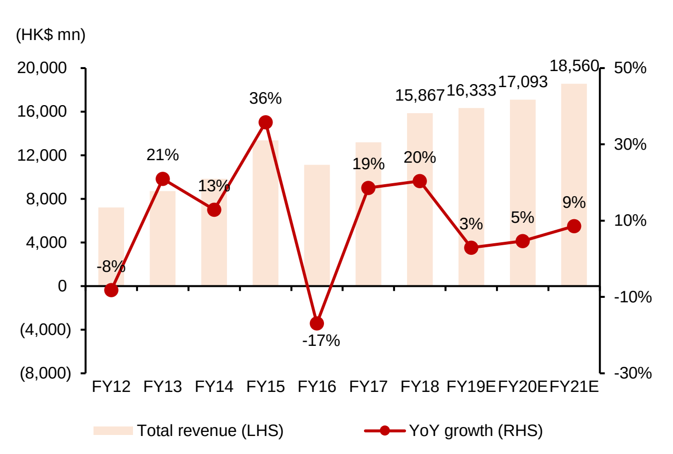


Source: Company data, CMBIS

■ Flattish revenue in FY19E and gradual pick-up from FY20E

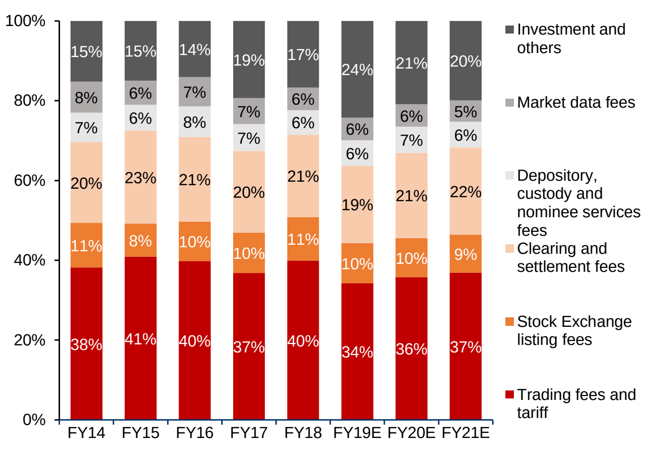
Based on the above estimates, we expect a 3%/5%/9% YoY revenue growth for HKEx from FY19E to FY21E. The flattish top-line growth in FY19E was mainly due to 19%/11% YoY decline of cash market ADT and F&O ADV on HKEx by our estimates, which was more than offset by strong investment gains. Looking into FY20E, we expect the turnovers to gradually pick up as market sentiment restores and HKEx's efforts to improve liquidity marginally materializes, while we maintain cautious on HKEx's investment gains outlook.

Figure 36: HKEx total revenue estimates



Source: Company data, CMBIS estimates

Figure 37: HKEx total revenue breakdown



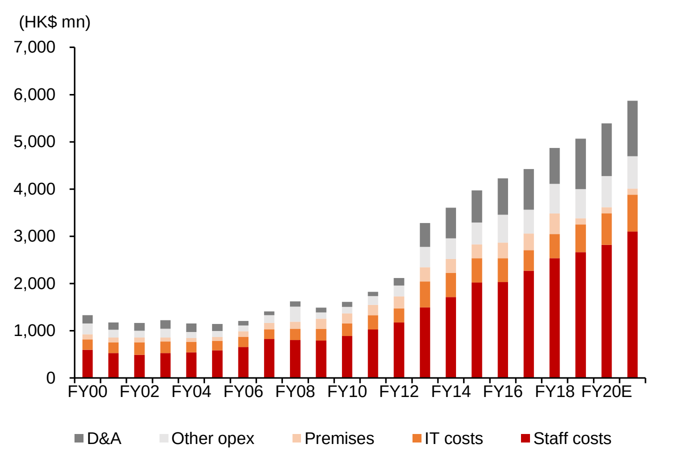
Source: Company data, CMBIS estimates

■ **Decent margin to maintain; EPS CAGR at 4% over FY18 to FY21E**

HKEx has been maintaining good cost discipline for the past several years. The cost-to-income ratio, calculated by (Opex + D&A) /total revenue, kept declining after the acquisition of LME in FY12, from 38% in FY13 to 31% in FY18. Staff, IT and premises are the main components of operating expenses, accounting for 68%, 15% and 3% of total in 9M19.

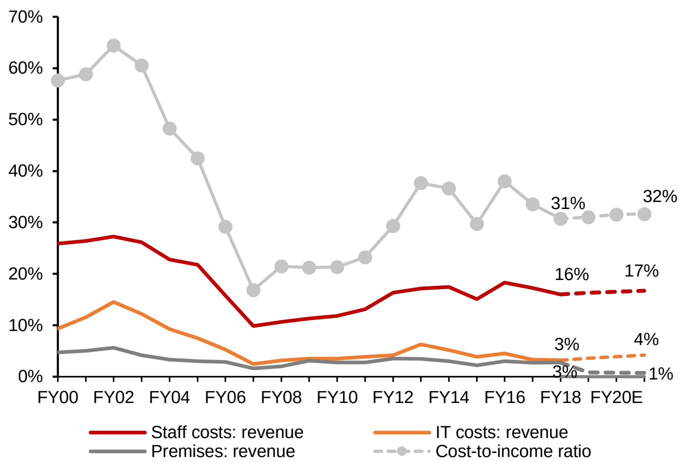
Going forward, we expect the cost-to-income ratio to stay largely stable, at 31%-32% each year for FY19E to FY21E, with slightly higher expenses on staffs and IT, as we think the Exchange will invest more in talents and technology to support its future development.

Figure 38: Operating expenses and D&A



Source: Company data, CMBIS estimates

Figure 39: Staff/IT/premises/total costs: revenue

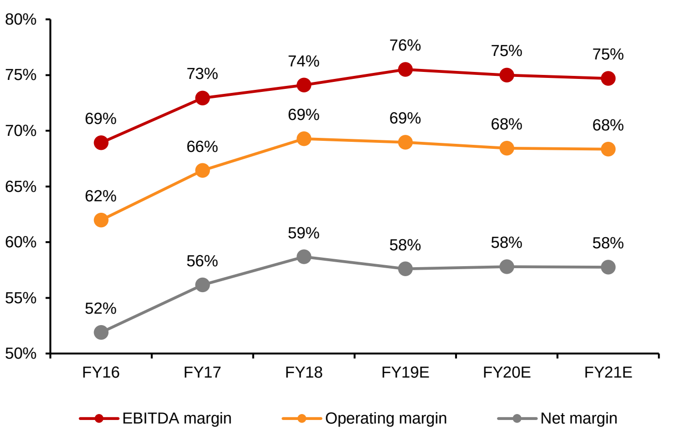


Source: Company data, CMBIS estimates
Note: cost-to-income ratio=(Opex+D&A)/ total revenue

Thanks to well-controlled operating expenses, HKEx delivered decent EBITDA and operating margins. We expect EBITDA margin to remain as high as 76%/75%/75% for FY19E/FY20E/FY21E. Net margin is to dip 1ppt YoY to 58% in FY19E, as the bid for LSEG has caused a one-off expense of HK$ 130mn.

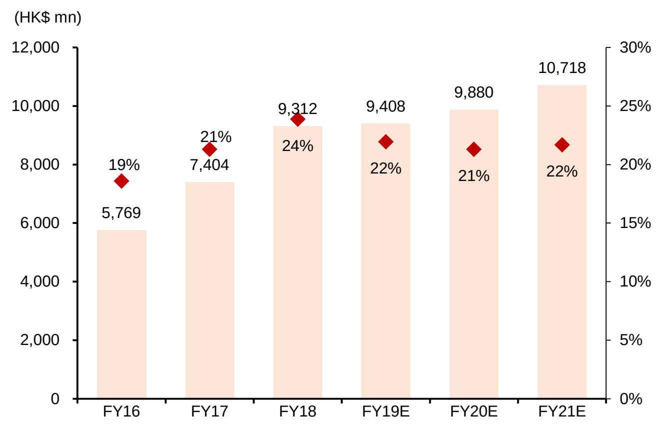
As a result, we expect HKEx's net profit to grow at 1%/5%/9% to HK$ 9.4bn/9.9bn/10.7bn in FY19E/FY20E/FY21E, and ROE at 22%/21%/22%. We expect the Exchange's high payout (~90%) to remain unchanged in the foreseeable future, and assume the scrip dividend scheme will dilute EPS by less than 1% each year.

Figure 40: Profit margins



Source: Company data, CMBIS estimates

Figure 41: Net profit and ROE



Source: Company data, CMBIS estimates

CMBIS estimates vs. consensus

Our FY19E/FY20E net profit is 1%/6% lower than consensus, which is likely due to our more cautious assumption of cash market ADT and invt. yield with inching up cost-to-income ratio. We are yet to factor in any near-term potential catalysts (e.g. the launch of MSCI China A Index futures) as the timing and details are still uncertain, and we would rather maintain a moderate growth outlook on the trading activity until we see a convincing improvement in market sentiment.

Figure 42: CMBIS estimates vs. consensus

	CMBIS			Consensus			Diff (%)		
(HK$ mn)	FY19E	FY20E	FY21E	FY19E	FY20E	FY21E	FY19E	FY20E	FY21E
Total revenue	16,333	17,093	18,560	16,302	17,756	19,408	0%	-4%	-4%
Net profit	9,408	9,880	10,718	9,505	10,521	11,675	-1%	-6%	-8%
EPS (HK$)	7.49	7.79	8.38	7.59	8.40	9.22	-1%	-7%	-9%
EBITDA margin (%)	75.5	75.0	74.7	75.1	76.3	77.0	0.4ppt	-1.3ppt	-2.3ppt
ROE (%)	21.9	21.3	21.7	22.5	23.9	24.8	-0.6ppt	-2.6ppt	-3.2ppt

Source: Bloomberg, CMBIS estimates

Financial summary

Income statement

YE 31 Dec (HK$ mn)	FY17A	FY18A	FY19E	FY20E	FY21E
Trading fees and tariff	4,856	6,339	5,592	6,111	6,851
Clearing & settlement fees	2,691	3,281	3,168	3,650	4,064
Listing fees	1,333	1,721	1,642	1,680	1,755
Depository & custody fees	892	979	1,048	1,121	1,199
Market data fees	857	899	925	957	996
Net investment income	952	1,064	1,170	1,287	1,416
Others	1,599	1,584	2,788	2,288	2,279
Total revenue	**13,180**	**15,867**	**16,333**	**17,093**	**18,560**
Staff costs	(2,273)	(2,540)	(2,664)	(2,822)	(3,101)
IT costs	(433)	(508)	(588)	(667)	(780)
Other opex	(860)	(1,062)	(750)	(785)	(815)
Total opex	**(3,566)**	**(4,110)**	**(4,002)**	**(4,273)**	**(4,696)**
EBITDA	**9,614**	**11,757**	**12,331**	**12,820**	**13,864**
D&A	(858)	(762)	(1,067)	(1,120)	(1,176)
Pre-tax profit	8,756	10,995	11,265	11,700	12,688
Taxation	(1,255)	(1,592)	(1,611)	(1,692)	(1,835)
Minority interests	49	21	6	7	7
Net profit	**7,404**	**9,312**	**9,408**	**9,880**	**10,718**

Balance sheet

YE 31 Dec (HK$ mn)	FY17A	FY18A	FY19E	FY20E	FY21E
Cash & Financial assets	281,514	217,840	243,454	253,507	282,754
Fixed assets	1,469	1,625	4,049	4,170	4,296
Goodwill & intangible assets	17,925	18,019	18,199	18,381	18,565
Interest in JV/ assoc.	61	63	76	83	91
Other assets	16,635	18,401	16,566	17,477	18,699
Total assets	**317,604**	**255,948**	**282,345**	**293,619**	**324,405**
Margin deposits	157,814	123,728	151,727	152,435	170,731
CP's Clearing Funds	16,626	14,787	14,935	15,831	16,781
Borrowings	1,860	1,166	415	415	415
Other liabilities	103,929	75,364	70,040	77,058	85,151
Total liabilities	**280,229**	**215,045**	**237,117**	**245,739**	**273,078**
Shareholders' fund	**37,273**	**40,729**	**45,045**	**47,687**	**51,126**
Minority interest	102	174	183	192	201

Key ratios

YE 31 Dec	FY17A	FY18A	FY19E	FY20E	FY21E
Key market indicators					
Cash equity ADT (HK$ bn)	88	107	87	98	110
Southbound ADT (HK$ bn)	9.8	12.7	10.8	13.2	15.2
Northbound ADT (HK$ bn)	11.2	24.1	47.1	54.9	62.4
HKEx F&Os ADV ('000)	869	1204	1073	1184	1340
LME commodities ADV ('000)	601	630	623	662	710
Biz segment revenue mix					
Cash	26%	24%	23%	23%	24%
Equity & financial derivatives	17%	22%	17%	18%	18%
Commodities	11%	9%	9%	9%	9%
Post-trade	37%	39%	39%	41%	41%
Others	10%	6%	12%	9%	9%
Total	100%	100%	100%	100%	100%
% of total revenue					
Trading fees and tariff	37%	40%	34%	36%	37%
Listing fees	10%	11%	10%	10%	9%
Clearing and settlement fees	20%	21%	19%	21%	22%
Staff costs	17%	16%	16%	17%	17%
IT costs	3%	3%	4%	4%	4%
Growth, YoY					
Total revenue	19%	20%	3%	5%	9%
EBITDA	25%	22%	5%	4%	8%
Net profit	28%	26%	1%	5%	8%
Efficiency					
Cost-to-income ratio	34%	31%	31%	32%	32%
EBITDA margin	73%	74%	76%	75%	75%
Profitability					
ROE	21.3%	23.9%	21.9%	21.3%	21.7%
ROA	2.6%	3.2%	3.5%	3.4%	3.5%
Per share					
EPS (HK$)	6.03	7.50	7.49	7.79	8.38
DPS (HK$)	5.37	6.68	6.71	6.98	7.51
BVPS (HK$)	30.15	32.71	35.84	37.60	39.95

Source: Company data, CMBIS estimates

Valuation and peer comparison

Valuation: fair at current market activity

We initiate HKEx with a HOLD rating. Our target price of HK$ 248 is derived from a 3-stage DDM, implying 3% downside potential and target FY20E P/E of 31.8x (vs. 5-year average of 30.3x).

In DDM, we assume: 1) a 3-year 1st stage, using our exact forecasts for FY20E to FY22E, 2) a 10-year 2nd stage (FY23E-FY32E), with a 10% net profit CAGR, and 3) a terminal stage starting from the 14th year (FY33E), with a terminal growth of 5.0%. We assume payout of 90% for all stages. Our 9.2% COE is predicated on a risk-free rate of 1.5%, a market risk premium of 7.7%, and beta of 1.0.

Figure 43: 3-stage DDM valuation

CAPM assumptions	
Risk free rate	1.5%
Expected market return	9.2%
Market risk premium	7.7%
Beta	1.0
Cost of equity	**9.2%**

3-stage DDM	1st Stage			2nd Stage	Terminal Stage
Year	FY20E	FY21E	FY22E	FY23E - FY32E	
Year #	**1**	**2**	**3**	**4 - 13**	**Terminal**
Net profit (HK$ mn)	9,880	10,718	12,029		
NP growth	5%	8%	12%	10%	5%
Payout ratio	90%	90%	90%	90%	90%
PV of dividend (HK$ mn)			24,546	86,561	204,743

Fair value (HK$ mn)	**315,850**
End-FY20E shares issued (mn)	1,273
Target price (HK$)	**248**

Source: CMBIS estimates

Figure 44: TP sensitivity analysis to COE and growth rate in 2nd stage assumptions

		Growth rate in 2nd stage						
		7%	8%	9%	10%	11%	12%	13%
	7.5%	342	370	401	434	470	509	551
	8.0%	283	306	331	357	386	417	451
	8.5%	241	260	281	303	326	352	380
Cost of equity	9.2%	200	215	231	**248**	267	287	309
	9.5%	186	199	214	230	247	266	286
	10.0%	167	178	191	205	220	236	253
	10.5%	151	161	172	184	197	211	226

Source: CMBIS estimates

Cash equity ADT and HKEx derivatives ADV are key assumptions in our earnings forecast as 54% of HKEx's FY19E revenue is stock market turnover-related based on our estimates. Below we conduct a sensitivity analysis on our TP to changes in cash equity ADT and F&Os ADV assumptions under different target P/E scenarios.

Figure 45: TP sensitivity to cash equity ADT under different P/Es

		FY20E P/E scenarios						
		29x	30x	31x	31.8x	33x	34x	35x
	60	188	194	201	206	214	220	226
Cash	70	198	205	211	217	225	232	239
Equity	80	208	215	222	228	237	244	251
ADT	Base=98	226	234	242	**248**	257	265	273
(HK$ bn)	110	239	247	255	262	271	280	288
	120	249	257	266	273	283	292	300
	130	259	268	277	284	295	304	312

Source: CMBIS estimates

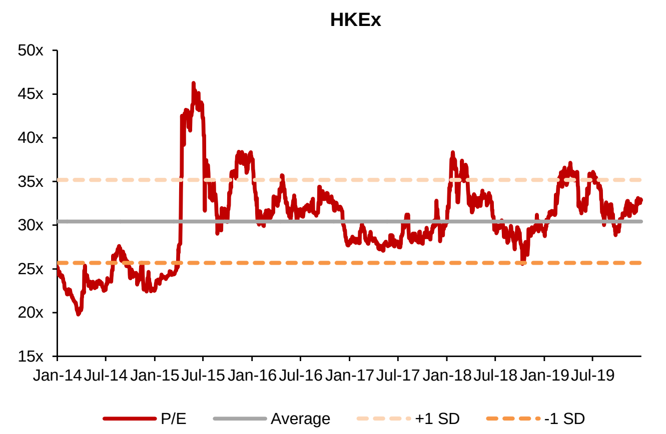
Figure 46: TP sensitivity to HKEx F&Os ADV under different P/Es

		FY20E P/E scenarios						
		29x	30x	31x	31.8x	33x	34x	35x
	1,000	134	138	142	142	151	156	175
HKEx	1,050	161	166	171	171	182	188	201
F&Os	1,100	188	194	200	200	213	219	234
ADV	Base=1,184	226	234	242	**248**	257	265	273
('000	1,250	261	270	279	286	297	306	315
contracts)	1,300	287	297	307	314	327	337	346
	1,350	313	324	335	343	357	367	378

Source: CMBIS estimates

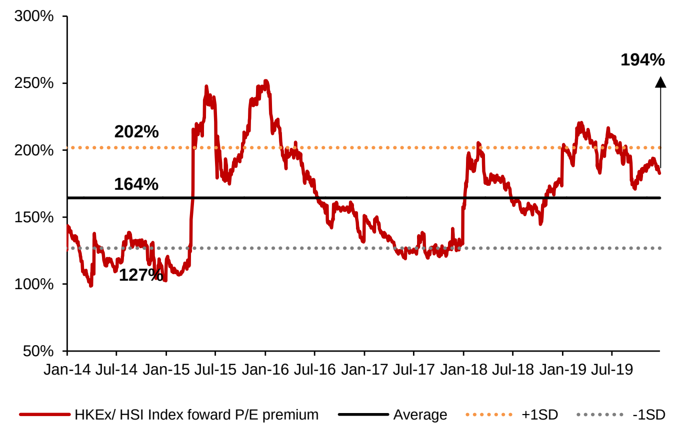
Currently, HKEx trades at 32.9x 1-year forward P/E, slightly higher than its 5-year average of 30.3x. We see the Exchange is fairly valued given no clear sign of a turnover recovery. In addition, HKEx now trades at 194% premium to HSI Index's FY20E P/E, 18% above 5-year average premium (164%).

Figure 47: HKEx trades modestly above its historical avg. since 2014 (the Connect Era) …



Source: Bloomberg, CMBIS

Figure 48: …and trades above its 5-year average premium to HSI Index



Source: Bloomberg, CMBIS

Peer comparison: high operating efficiency and China growth story explains the premium

We select 10 leading mid-to large-cap exchange operators in the world for peer comparison. **HKEx now trades at a 29% premium to global peers' average**, which we believe could be explained by 1) its monopoly status in Hong Kong and 2) its unique position in enjoying the growth potential from China capital market's opening-up.

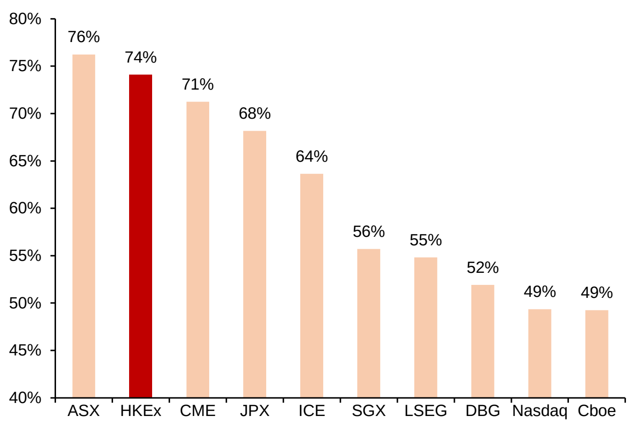
Figure 49: Valuation comp

Company	Ticker	Last price (LCY)	Mkt. Cap (US$ mn)	P/E (x) FY1	P/E (x) FY2	Yield (%) FY1	Yield (%) FY2	ROE (%) FY1	ROE (%) FY2
Asia Pacific									
Hong Kong Exchanges & Clearing	388 HK	256.20	41,498	34.2	32.9	2.6	2.7	21.9	21.3
Singapore Exchange*	SGX SP	8.91	7,073	24.2	21.8	3.6	3.7	36.9	35.6
Japan Exchange Group*	8697 JP	1,930	9,481	23.2	22.5	2.6	2.7	16.2	15.2
ASX Ltd	ASX AU	80.79	10,933	30.8	29.8	2.9	3.0	13.0	13.5
			Average	**28.1**	**26.7**	**2.9**	**3.0**	**22.0**	**21.4**
U.S.									
Intercontinental Exchange	ICE US	93.00	51,787	23.8	22.0	1.2	1.3	12.2	12.7
Nasdaq	NADQ US	107.99	17,701	21.7	20.1	1.7	1.8	14.8	16.1
Cboe Global Markets	CBOE US	118.84	13,175	25.5	24.3	1.1	1.3	15.6	15.9
CME Group	CME US	202.78	72,669	29.4	27.4	2.6	3.0	9.0	9.5
			Average	**25.1**	**23.4**	**1.7**	**1.9**	**12.9**	**13.6**
Europe									
London Stock Exchange Group	LSE LN	7,718	35,396	38.2	34.2	0.9	1.0	18.1	17.7
Deutsche Boerse Group	DB1 GR	140.55	29,904	23.6	22.0	2.1	2.3	20.8	20.4
			Average	**30.9**	**28.1**	**1.5**	**1.6**	**19.4**	**19.1**
Global			**Average**	**27.3**	**25.6**	**2.2**	**2.3**	**17.8**	**17.7**

Source: Bloomberg, CMBIS
*: FY1/FY2 estimates of JPX are for FY20E/FY21E ended 31 Mar, and those of SGX are for FY20E/FY21E ended 30 Jun

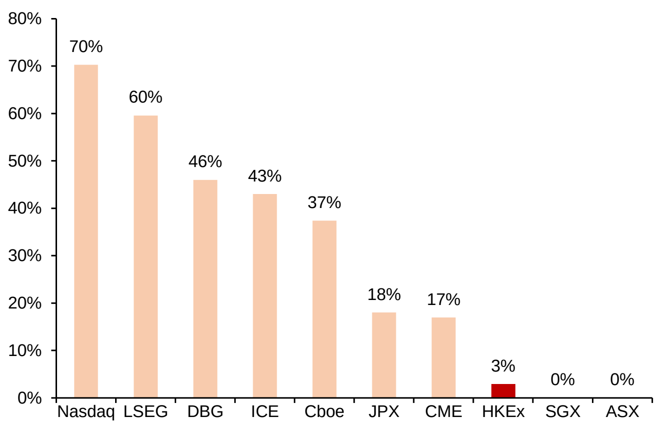
The valuation premium could also be justified by HKEx's outstanding financial performance when we compare certain FY18 operating indicators with the peers. The Exchange outranks in operating efficiency with one of the highest EBITDA margins. It also bears much lighter debt burden (net debt accounting for only 3% of total equity). This also leaves HKEx with ample room for leverage to finance a potential large-scale M&A.

Figure 50: EBITDA margin comparison



Source: Company data, CMBIS
Note: All data for FY18 except SGX and JPX for FY19.

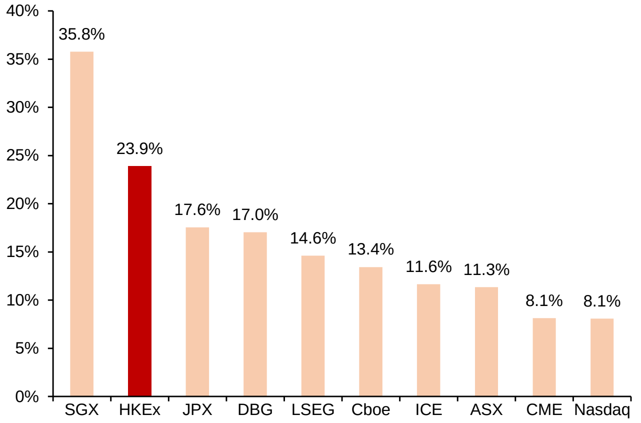
Figure 51: Net debt/ total equity comparison



Source: Bloomberg, CMBIS
Note: All data for FY18 except SGX and JPX for FY19.

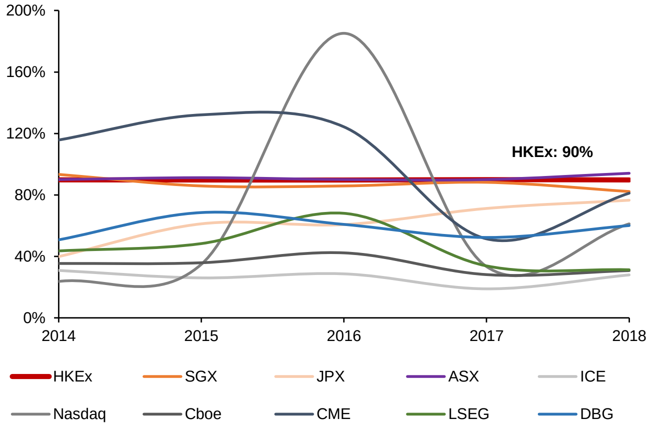
Better operating profitability and less finance cost pressure, together with a low-rate tax system in Hong Kong, has enabled HKEx to deliver one of the highest ROE among peers. The Exchange maintains a constant and high payout ratio at ~90%, offering one of the highest yields among peers, which could provide it with a valuation floor.

Figure 52: ROE comparison



Source: Company data, CMBIS
Note: All data for FY18 except SGX and JPX for FY19.

Figure 53: Dividend pay-out ratio comparison



Source: Bloomberg, CMBIS
Note: All data for FY18 except SGX and JPX for FY19.

Key risk factors

■ Cash equity ADT and Northbound ADT

Cash market ADT is a crucial factor in our earnings projection for HKEx, as stock market turnover-related revenue accounts for 54% of HKEx's topline in FY19E. Therefore, any negative/positive changes in equity market turnover would pose a downside/upside risk to HKEx's profitability. Factors that may affect local cash equity ADT include: liquidity condition and macro outlook in both mainland China and Hong Kong, market sentiment and investors' risk appetite, etc.

In addition, we expect increasing revenue from Northbound of Stock Connect to the Exchange, so an unexpected slower pace or smaller size of foreign inflows into A-shares may adversely affect Northbound flows as well as our forecast. This could be resulted from an unfavorable change in global index issuers' schedule to include A-shares, a drastic fluctuation of A-share market, regulations that may hinder accessibility to China's domestic stock market, etc.

■ Execution of strategic plan

We see HKEx's Strategic Plan for 2019-2021 as a key guidance for its mid-term development, hence how effectively and efficiently the Exchange executes the plan will affect its growth potential and our view on it. For example, we notice that initiatives related to deepening connectivity with China usually requires negotiations with mainland exchanges and approvals from regulators on both sides, so these initiatives may not be rolled out on time as HKEx expects. Other factors such as unexpected changes of key management (esp. the Chief Executive) may also be disruptive to the execution of current strategies.

■ Competition from other exchanges, esp. from SSE

We think HKEx competes with other exchanges primarily in the following three aspects: 1) luring Chinese listings, as other venues may offer better valuation, higher liquidity and more flexible listing rules; 2) trading of derivatives, esp. China-related and RMB-related products; and 3) forging linkage between China onshore market and foreign market, e.g. "Shanghai-London Stock Connect" and "China-Japan ETF Connectivity" initiated by SSE. Though we have not seen any meaningful threats being posed to HKEx, the trends should be closely watched. Stronger competitors may divert capital from the Exchange and undermine its role as a gateway connecting China and the rest of the world, thus weakening its profitability.

■ Potential M&A

Though HKEx stopped pursuing an acquisition of LSEG this time, we believe M&A is still in the Exchange's sight, to "trade money for time" for crucial skillset and enhance its China strategy. A similar sized M&A may impose short-term pressure on HKEx, including unreasonable bidding price, increasing financial burden, lower operating efficiency (given the Exchange's EBITDA margin one of the highest among global peers), while unsuccessful integration may dampen the Exchange's long-term profitability picture. In contrast, a successful M&A that could bring about revenue and cost synergies with strategic benefits will strengthen the Exchange's growth prospect.

■ Regulation changes

HKEx has a statutory monopoly in operating securities market in Hong Kong. Though we expect this to be maintained within the current regulatory framework, any moves in regulations that could change HKEx's monopoly and expose it to heightened competition in local market will negatively impact the financial performance of the Exchange.

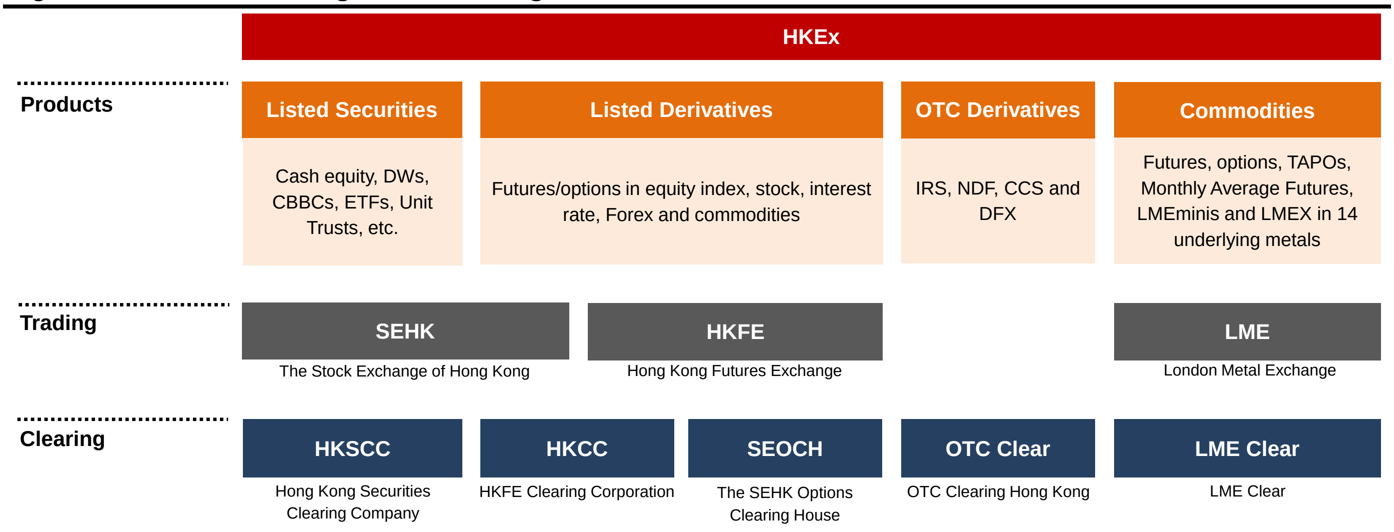
Company background

In 1999, as part of Hong Kong Government's plan to reform its financial market, Stock Exchange of Hong Kong ("SEHK") and Hong Kong Future Exchange ("HKFE"), as well as Hong Kong Securities Clearing Company Limited ("HKSCC") demutualized and merged under a new holding company, Hong Kong Exchange and Clearing Limited ("HKEx"). Later in Jun, 2000, HKEx was listed on SEHK by introduction.

In 2012, HKEx expanded its business scope into commodity market by fully acquiring the historic London Metal Exchange ("LME") with a consideration of GBP 1.4bn.

On 22 Mar, 2019, HKEx announced a proposed acquisition of 51% stake in Shenzhen Ronghui Tongjin Technology Co., Ltd., a technology services provider specializing in financial exchanges, regulation technologies and data applications, at a consideration of RMB 233mn.

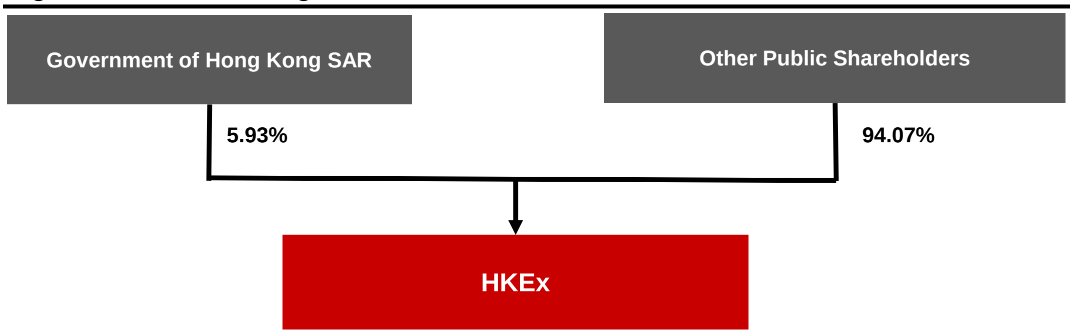
Figure 54: HKEx's exchanges and clearing houses



Source: Company data, CMBIS

As of 30 Dec, 2019, the Government of HKSAR held 6.12% of HKEx's total issued shares and was the largest sole shareholder. According to the Securities and Futures Ordinance of Hong Kong, nobody is allowed to become a minority controller, i.e. owning no less than 5% equity interest, in HKEx, unless it obtains written approval from the SFC after consultation with the Financial Secretary of Hong Kong. Currently, the SFC has granted approval to 9 entities to be minority controllers on the basis that the shares are held by them in custody for their clients.

Figure 55: Shareholding structure of HKEx



Source: Bloomberg, CMBIS

Appendix 1: Strategic plan of HKEx (2019-2021)

Figure 56: Overview of HKEx's Strategic Plan 2019-2021

Strategic vision

To be the Global Market Leader in the Asian Time Zone - Connecting China, Connecting the World.

Key themes	Key strategies	Key initiatives
China Anchored: Facilitating China's Internationalization and Investment Diversification	A) Expand Northbound inflows B) Expand Southbound allocation C) Expand post-trade infrastructure	1) Expand Stock Connect product coverage, e.g. to include international companies, ETFs, listed bonds/CBs, IPOs (Primary Connect), etc., and allow stock borrowing and lending for Southbound as well as allowing short-selling by Northbound on onshore markets 2) Launch A-share future products 3) Enhance Bond Connect, including preparing for Southbound trading 4) Develop connectivity to support cross-border execution in the RMB FIC derivatives market 5) Support improved access to the CNY market 6) Leverage Bond Connect to expand FIC value chain and explore the development of Hong Kong as an international custody hub 7) Offer an expanded commodities product suite 8) Extend LME trading into Asian time zone and expand commodity spot price discovery capabilities 9) Extend onshore commodities capabilities, e.g. establishing LME warehouse in Mainland and developing QME
Globally Connected: Bringing Global Liquidity to China and Asia Pacific Underlying	A) Enhance product ecosystem across asset classes B) Improve market microstructure C) Expand international footprint further	1) Build upon the 2018 Listing Reforms by further enhancing IPO regime structure 2) Develop a listing and fund-raising hub for major global and regional companies 3) Become the ETF issuance and trading hub for the Asia Pacific time zone 4) Accelerate the development of new derivatives and structured products 5) Increase market liquidity in both cash and derivatives 6) Improve the ease of access to the HK markets 7) Expand international footprint and customer engagement
Technology Empowered: Leveraging New Technology for Modernization and Growth	A) Modernize core systems B) Leverage new technology C) Expand horizon	1) Roll out the Next Generation Post-Trade platform 2) Introduce a series of core system enhancements 3) Expand technology resources through acquisitions or alliances 4) Leverage the Innovation Lab to stay abreast of emerging new technologies 5) Launch Client Connect, a unified single platform for Exchange Participants 6) Execute an enterprise data strategy by integrating data architecture 7) Explore an opportunity to create a scalable Data Marketplace platform 8) Unlock new growth opportunities through strategic partnerships with China's tech leaders or via investments

Source: Company data, CMBIS

Appendix 2: Fee schedule

Figure 57: Trading and clearing & settlement fees of securities

Item	Fees	Charged by
Hong Kong Market & Stock Connect Southbound*		
Trading fee	0.005% of transaction value per side	HKEx
Trading tariff	HK$ 0.05 per transaction	HKEx
Transaction levy	0.0027% of transaction value per side	SFC
Stamp duty	0.1% of transaction value per side	IRD
Settlement fee	0.002% of transaction value per side (min. HK$ 2 and max. HK$ 100)	HKEx
Stock Connect Northbound*		
Handling fees	0.00487% of transaction value per side	SSE/SZSE
Securities management fee	0.002% of transaction value per side	CSRC
Stamp duty	0.1% of transaction value on seller	SAT
Transfer fee	0.002% of transaction value per side	CSDC
	0.002% of transaction value per side	HKEx (HKSCC)

Source: Company data, CMBIS

*: All trading fees generated from Stock Connect Scheme will be equally shared by HKEx and SSE/SZSE, and all clearing & settlement fees shared by HKEx and CSDC.

Figure 58: Trading and clearing & settlement fees of major F&O products

Product	Trading fees (per contract per side)	Settlement and exercise fees (per lot)
HSI Futures/ Options	HK$ 10.0	HK$ 10.0
HSCEI Futures/ Options	HK$ 3.5	HK$ 3.5
Mini HSI Futures	HK$ 3.5	HK$ 3.5
Mini HSI Options	HK$ 2.0	HK$ 2.0
Mini HSCEI Futures	HK$ 2.0	HK$ 2.0
Stock Futures	Tier 1: HK$ 3.0 Tier 2: HK$ 1.0 Tier 3: HK$ 0.5	HK stock futures: HK$ 2.0 US stock futures: US$ 1.3
Stock Options	Tier 1: HK$ 3.0 Tier 2: HK$ 1.0 Tier 3: HK$ 0.5	HK$ denominated stock option: HK$ 2.0 per contract RMB denominated stock option: RMB 2.0 per contract

Source: Company data, CMBIS

Figure 59: Annual listing fees of listed securities

Nominal value of listed shares (HK$ mn)	Fees (HK$)
Mainboard	
0 - 200	145,000
200 - 300	172,000
300 - 400	198,000
400 - 500	224,000
500- 750	290,000
750 - 1,000	356,000
1,000 - 1,500	449,000
1,500 - 2,000	541,000
2,000 - 2,500	634,000
2,500 - 3,000	726,000
3,000 - 4,000	898,000
4,000 - 5,000	1,069,000
Over 5,000	1,188,000
GEM	
0 - 100	100,000
100 - 2,000	150,000
Over 2,000	200,000

Source: Company data, CMBIS

Appendix 3: Key management

Figure 60: Profile of key management

Name	Role	Time of appointment	Working experience
Laura May-Lung CHA	Chairman, Independent non-executive director	May 2018 Apr 2018	Ms. CHA was appointed as Chairman of HKEx in May 2018. She is also a non-executive Chairman of The Hongkong and Shanghai Banking Corporation Limited. Formerly, she was Vice Chairman of the CSRC and Deputy Chairman of SFC.
LI Xiaojia, Charles	Chief Executive Executive Director	Jan 2010 Jan 2010	Mr. LI joined HKEx in Oct 2009, and has been the Chief Executive since Jan 2010. Previously, he was Chairman at JP Morgan China and President of Merrill Lynch International, Inc. (China).
TAI Chi Kin, Calvin	Co-President Chief Operating Officer	Mar 2019 Jan 2019	Mr. TAI joined HKEx in Jul 1998, and has worked as Head of Markets, Head of Clearings, Joint COO, etc. Prior to HKEx, he used to work for ABN-Amro Bank NV, Royal Bank of Canada and HSBC.
Romnesh LAMBA	Co-President	Mar 2019	Mr. LAMBA joined HKEx in Feb 2010, and has been responsible for market department. Prior to HKEx, he had worked with JP Morgan (Hong Kong), Merrill Lynch (Asia Pacific) and Indosuez WI Carr Securities (Hong Kong).
John KILLIAN	Group Chief Financial Officer	Dec 2017	Mr. KILLIAN joined HKEx in Dec 2017. Previously, he was controller (Asia Pacific) of Goldman Sachs (Hong Kong), and served in several senior positions at Deutsche Bank AG / Bankers Trust Co.
Richard LEUNG	Group Chief Technology Officer	Feb 2019	Mr. LEUNG joined HKEx in Oct 2011. He previously worked as CTO of Chi-X Global, CTO of Cicada Corporation, and Regional Technical Development Manager (Asia Pacific) of Telerate Inc.
Matthew CHAMBERLAIN	Chief Executive Officer of LME	Apr 2017	Mr. CHAMBERLAIN joined in LME in Nov 2012, and was previously the COO and Head of Strategy of LME and co-Head of Business Development across LME and LME Clear. Previously, he was a founding member of the financial institutions coverage team at Perella Weinberg.
Adrian FARNHAM	Chief Executive of LME Clear	Jan 2016	Mr. FARNHAM was appointed as COO of LME Clear in 2013 and Chief Executive in 2016. Prior to LME Clear, he worked as COO and Chief Executive for Turquoise Global Holdings Ltd., and as an executive director of operations at Morgan Stanley.

Source: Company data, CMBIS

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