

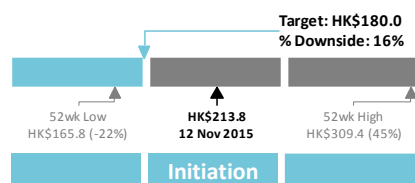
## New Pastures of Stock Connect Not Enough to Feed This Fat Cash Cow

### Diversified Financials

### Hong Kong

12 Nov 2015

## SELL



### Basic Share Information

Market cap	HK\$258.4b / US\$33.34b
Daily volume (3mth)	US\$178.3m
Shares outstanding	1,195m
Free float	94%
Net debt-to-equity	-669.6%
1 yr high	HK\$309.4
1 yr low	HK\$165.8
Major shareholding	5.7%
Last HTI contact w/ Co	03 Nov 15

### Price/Volume



Source: Bloomberg

	1mth	3mth	12mth
Absolute	7.2%	3.3%	15.9%
Absolute USD	7.2%	3.4%	15.9%
Relative to HSI	6.5%	7.6%	20.3%

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## Convertible Bond-Like Payoff, but Optionality Overvalued

**Summary:** We initiate coverage of Hong Kong Exchanges and Clearing (HKEx) with a SELL rating. HKEx operates the only exchanges and clearing houses in Hong Kong. HKEx is in a direct position to benefit from Hong Kong's capital-market development and integration with China. HKEx's high revenue visibility, attractive profitability, and strong China-related growth story contribute to its high valuation among exchanges. Combining HKEx's monopoly's status with upside potential from China integration, we believe HKEx's share price resembles a convertible-bond payoff. While we view the Stock Connect positively, we do not expect turnover to rise sufficiently to justify the option value embedded in the current share price. Although HKEx's turnover rose significantly in FY15, we forecast turnover growth to moderate in FY16 and believe that many structural issues contributing to low turnover remain. We think that investors are overpaying for HKEx's near-term turnover catalysts and underpricing the uncertainty regarding its long-term cash generation ability.

**Target Price and Catalyst:** Our target price of HK\$180 implies 16% downside potential from the latest close. We see key downside catalysts as a reversion to historical turnover levels, a delay in the Shenzhen Stock Connect, and weak turnover for the Shanghai-Hong Kong Stock Connect.

**Earnings:** We see robust revenue growth in FY15, led by a sharp rise in average daily turnover (ADT), and expect revenues to be led by turnover thereafter. For FY15, we estimate revenues from trading of HK\$5,548mn, listings of HK\$1,192mn, clearing of HK\$4,312mn, and investment income of HK\$1,187mn, resulting in total revenue of HK\$13,807mn, up 40% YoY. We forecast FY15 OP of HK\$9,925mn and net income of HK\$8,330mn. For FY16, we estimate ADT to rise modestly to HK\$96bn from HK\$91bn in FY15, resulting in total revenue of HK\$13,796mn.

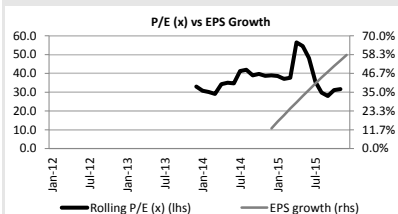
**Valuation:** We value HKEx using the dividend-discount model (DDM). Our target price is the average of a static DDM and simulated DDM. We apply a five-year explicit projection period, followed by an eight-year period of 6% growth and a four-year period of 4% growth to settle at terminal growth of 3%. We apply a 90% payout ratio and 8.5% discount rate. We apply three sets of static projections to the DDM and derive a fair value of HK\$180 per share using our base case. To complement our static projections, we apply a Monte Carlo simulation to key turnover parameters and reflect a potential China-led sharp turnover increase as a jump event. We feed simulated turnovers into our DDM 500 times to obtain 500 estimated values; we use the average of HK\$180 as our valuation.

	Dec-13A	Dec-14A	Dec-15E	Dec-16E	Dec-17E	Trend
Total turnover (HK\$m)	8,723	9,849	13,807	13,796	15,035	— ■ ■ ■ ■
Operating profit (HK\$m)	5,439	6,244	9,925	9,890	10,794	— ■ ■ ■ ■
Pre-tax profit (HK\$m)	5,246	6,038	9,800	9,816	10,716	— ■ ■ ■ ■
Net income to ord equity (HK\$m)	4,546	5,138	8,330	8,343	9,109	— ■ ■ ■ ■
Net profit growth	0.0%	13.0%	62.1%	0.2%	9.2%	— ■ ■ ■ ■
P/E (x)	54.56	48.49	30.66	30.61	28.04	■ ■ ■ ■ ■
Adj EV/EBITDA (x)	33.96	15.55	6.05	5.58	4.41	■ ■ ■ ■ ■
P/B (x)	12.16	11.71	8.82	8.46	8.07	■ ■ ■ ■ ■
ROE	23.8%	24.7%	33.2%	28.2%	29.5%	— ■ ■ ■ ■
Dividend yield	1.7%	1.9%	2.9%	2.9%	3.2%	— ■ ■ ■ ■
EPS HTI New (HK\$)	3.92	4.41	6.97	6.98	7.63	— ■ ■ ■ ■
Consensus EPS (HK\$)	4.10	4.40	6.92	7.48	8.18	— ■ ■ ■ ■
HTI EPS vs Consensus	(4.4%)	0.1%	0.7%	(6.6%)	(6.8%)	■ ■ ■ ■ ■

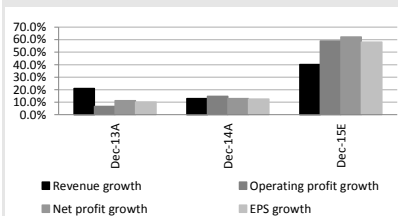
Source: Company data, Bloomberg, HTI estimates

Click [here](#) to download the working model

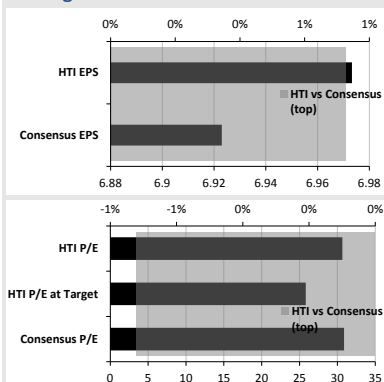
## Valuation



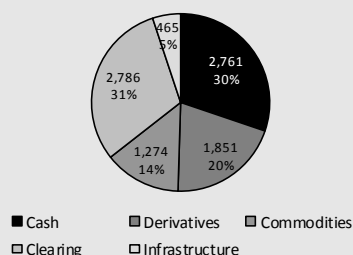
## Earnings Trends



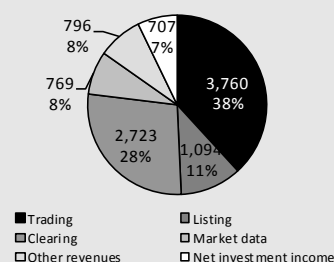
## Earnings: HTI vs Consensus



## FY14 Revenue Breakdown by Segment



## FY14 Revenue Breakdown by Product



## Investment Thesis

## SELL

► HKEx is diversified both horizontally and vertically, resulting in a mix of volatile and stable incomes. While we view this as positive, it means turnover has to rise substantially to have a material impact on total revenue. This requires a dramatic improvement in sentiment and structural reforms in Hong Kong and mainland China.

► We expect ADT of HK\$91bn in FY15, compared with HK\$56bn in FY14. To reach embedded market expectations, we estimate that ADT would at least have to double to HK\$180bn by FY19. Even if HKEx were connected to both the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE), we do not think that turnover could increase at such a rapid pace.

► Close to a year since the Stock Connect's launch, northbound and southbound aggregate quota balances are Rmb172bn and Rmb160bn, respectively, representing only 57% and 64% quota utilization. We do not see northbound flows picking up substantially unless A-shares are added to global equity benchmarks.

► HKEx's turnover velocity is among the lowest globally. We believe that this is primarily due to structural reasons, such as investor behavior, investor composition, and high trading costs. We do not think that turnover can rise substantially in the near term.

► We view northbound turnover as likely to increase strongly as A-shares gain prominence compared with their hitherto low international portfolio allocation. However, due to revenue sharing with the SSE, HKEx should realize only half of northbound-related revenues.

► As China is still at an early stage in restoring market confidence, we do not think that the Shenzhen-Hong Kong Stock Connect is likely to be implemented until H2 2016. Connecting with China's commodity exchanges is unlikely, in our view.

## Company Snapshot

HKEx is the sole operator of exchanges in Hong Kong. It owns and operates the Hong Kong Stock Exchange, Hong Kong Futures Exchange, London Metal Exchange, and the related clearing houses. HKEx enjoys monopoly status in Hong Kong. Off-exchange trading accounts for only 1–3% of turnover in Hong Kong, significantly less than in other developed markets. HKEx's listed assets include cash equity, debts, futures, options, structured products, exchange-traded funds (ETFs), and commodities. With the Shanghai-Hong Kong Stock Connect, investors can now trade SSE-listed A-shares via HKEx, subject to a quota.

## Key Investment Metrics

### Revenue Growth

Low Medium High

We expect total revenue to increase 40% YoY in FY15 to HK\$13,807mn owing to strong turnover-led revenues. For FY15 trading revenue, we estimate HK\$5,548mn, comprising HK\$2,504mn from cash equities, HK\$1,708mn from derivatives, and HK\$1,336mn from base metals. For FY15 clearing revenue, we estimate HK\$4,312mn, comprising HK\$2,538mn from clearing and settlement, HK\$768mn from LME Clear, and HK\$1,006mn from custodian services.

### Profit Margins

Low Medium High

Given HKEx's high operating leverage, we expect OPM and NPM to increase to 72% and 60% in FY15, from 63% and 52% in FY14, respectively. We forecast OPM to remain high at 71–72% over FY16–19, owing to a robust trading environment.

### Shareholder Returns

Low Medium High

Although we expect book equity to increase due to convertible-bond conversion, we forecast ROE to rise to 33% in FY15 from 25% in FY14. As HKEx maintains a 90% payout ratio, we see book equity rising only modestly thereafter, primarily from stock options and share dividends. Thus, we see revenue growth flowing directly to ROE.

### Balance Sheet Risks

High Medium Low

We think that HKEx's balance sheet is uncomplicated. Although it expanded significantly in FY14 compared with FY13, we believe that this was largely due to the accounting treatment of LME Clear collaterals. Since HKEx is an experienced operator, we view the clearing risks as well managed. Also, all its margin and clearing funds are invested in high-quality fixed-income securities.

## Barriers to Entry

Low Medium High

Competition is largely non-existent as HKEx's monopoly position is entrenched in Hong Kong's Securities and Futures Ordinance (SFO). Off-exchange trading is insignificant and trades executed in dark pools must be reported to and cleared with HKEx.

## Asia Exposure

Low Medium High

HKEx has joint ventures with other exchanges in China. Turnovers are closely linked to global, particularly China's, monetary conditions and economic growth. HKEx plans to introduce the London Metal Exchange (LME) in Asian time zones. HKEx lists various CNY-denominated securities. The business model rests on Hong Kong being the capital gateway to China.

## FX Exposure

Low Medium High

HKEx accepts foreign currency as margins. It invests a portion of its funds in non-USD denominated assets. Its borrowings are USD-denominated, so it has minimal forex risk in HKD terms. A portion of its Stock Connect revenue is denominated in CNY. LME's functional currency has been changed from GBP to USD, but there remains currency exposure to the GBP and EUR.

## Corporate Governance

Low Medium High

As the sole exchange operator in Hong Kong, HKEx is subject to high public scrutiny and has adopted all the best practices set out in its Corporate Governance Code.

## Our Model Assumptions

We estimate cash equity ADT of HK\$91bn, HK\$96bn, and HK\$110bn in FY15, FY16, and FY17, respectively

We expect compensation cost and maintenance and premises cost to account for about 50% and 20% of total operating cost, respectively, over our forecast period

We expect finance cost to fall over our forecast period as convertible bonds were exercised in H1 FY15

### ✓ Key P/L Takeaway

Despite diverse revenues, HKEx is still highly dependent on a robust trading environment to sustain profit growth, which coupled with high operating leverage makes it more sensitive to turnover changes than brokerages

Profit & Loss (HK\$m)	Dec-13A	Dec-14A	Dec-15E	Dec-16E	Dec-17E
Total turnover	8,723	9,849	13,807	13,796	15,035
<b>Gross profit</b>	<b>8,723</b>	<b>9,849</b>	<b>13,807</b>	<b>13,796</b>	<b>15,035</b>
Total operating costs	(3,284)	(3,605)	(3,882)	(3,906)	(4,241)
<b>Operating profit</b>	<b>5,439</b>	<b>6,244</b>	<b>9,925</b>	<b>9,890</b>	<b>10,794</b>
Operating EBITDA	5,946	6,891	10,562	10,554	11,502
<b>Depreciation and amortisation</b>	<b>(507)</b>	<b>(647)</b>	<b>(637)</b>	<b>(664)</b>	<b>(708)</b>
<b>Operating EBIT</b>	<b>5,439</b>	<b>6,244</b>	<b>9,925</b>	<b>9,890</b>	<b>10,794</b>
Net income from investments	(10)	(10)	-	-	-
Interest expense	(183)	(196)	(125)	(74)	(77)
<b>Pre-tax profit</b>	<b>5,246</b>	<b>6,038</b>	<b>9,800</b>	<b>9,816</b>	<b>10,716</b>
Taxation	(700)	(900)	(1,470)	(1,472)	(1,607)
<b>Net income to ord equity</b>	<b>4,546</b>	<b>5,138</b>	<b>8,330</b>	<b>8,343</b>	<b>9,109</b>

Source: Company, HTI estimates

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Turnover-dependent revenues accounted for 66% of total revenues in FY13 and FY14. We expect this percentage to increase above 70% from FY15 as ADT continues to rise and LME Clear starts contributing materially to clearing revenue. We expect revenues to rise slowly as the numbers of listed companies and market-data vendors increase gradually. We assume close to no change in 'fixed revenue' such as platforms, market infrastructure, and hosting services. We forecast investment income to increase due to more margin and clearing funds becoming available for investment. Compensation cost is the major semi-variable cost, which we assume at 15% of revenue. The absence of other significant variable costs contributes to the high OPM and operating leverage, benefiting NPM in a robust external environment.

## Our Model Assumptions

We estimate margin funds over our forecast period by assuming all margins are deposited for Hong Kong futures, Hong Kong options, and LME futures trading, assuming HK\$250 per Hong Kong position and HK\$320 per LME position

We assume accounts receivable at 17% of margin funds over our forecast period

We set accounts payable equal to accounts receivable over our forecast period as both arise due to marking to market

We assume an 11% debt-to-equity ratio over our forecast period, with debts equally split between bank borrowings and notes

We largely ignore stock dividends and stock options by only assuming a HK\$10m annual increase in share capital over our forecast period



## Key B/S Takeaway

The majority of HKEx's balance sheet is from the assets and liabilities of exchange participants and clearing members, so we believe that HKEx's assets-to-liabilities structure is much less complicated than it appears, and see less than 10% of liabilities as economically attributable to HKEx

Balance Sheet (HK\$m)	Dec-13A	Dec-14A	Dec-15E	Dec-16E	Dec-17E
Total cash and equivalents	54,400	150,041	195,364	200,452	208,726
Accounts receivable	10,946	22,523	28,427	28,904	29,808
Other current assets	164	59,792	85,656	87,366	89,102
<b>Total current assets</b>	<b>65,510</b>	<b>232,356</b>	<b>309,447</b>	<b>316,722</b>	<b>327,636</b>
Tangible fixed assets	1,753	1,603	1,754	1,893	1,966
Intangible assets	18,680	17,901	17,938	17,935	17,904
<b>Total non-current assets</b>	<b>20,433</b>	<b>19,504</b>	<b>19,692</b>	<b>19,828</b>	<b>19,870</b>
<b>Total assets</b>	<b>85,943</b>	<b>251,860</b>	<b>329,139</b>	<b>336,550</b>	<b>347,506</b>
Accounts payable	12,834	22,849	28,427	28,904	29,808
Other current liabilities	44,770	199,787	267,752	273,336	281,782
<b>Total current liabilities</b>	<b>57,604</b>	<b>222,636</b>	<b>296,179</b>	<b>302,240</b>	<b>311,590</b>
Total long-term debt	3,314	3,325	3,120	3,243	3,389
Other liabilities	4,507	4,540	800	800	800
<b>Total non-current liabilities</b>	<b>7,821</b>	<b>7,865</b>	<b>3,920</b>	<b>4,043</b>	<b>4,189</b>
<b>Total liabilities</b>	<b>65,425</b>	<b>230,501</b>	<b>300,099</b>	<b>306,283</b>	<b>315,779</b>
Common stocks	1,161	12,225	17,414	17,424	17,434
Retained earnings reserve	7,800	8,800	11,329	12,169	13,424
Other reserves	11,444	248	211	588	783
<b>Shareholders' equity</b>	<b>20,405</b>	<b>21,273</b>	<b>28,954</b>	<b>30,181</b>	<b>31,641</b>
Minority interests	113	86	86	86	86
<b>Total equity</b>	<b>20,518</b>	<b>21,359</b>	<b>29,040</b>	<b>30,267</b>	<b>31,727</b>
<b>Total liabilities &amp; shareholders' equity</b>	<b>85,943</b>	<b>251,860</b>	<b>329,139</b>	<b>336,550</b>	<b>347,506</b>

Source: Company, HTI estimates

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HKEx's balance sheet expanded by close to 200% in FY14 from FY13, primarily due to the establishment of LME Clear, which resulted in increasing clearing funds, margin funds, and metal collaterals. Improving ADT in Hong Kong also contributed to the larger balance sheet as clearing and margin funds increased accordingly. We expect the balance sheet to further expand following the first full year of operations at LME Clear and a robust turnover period. We see fixed and intangible assets as mostly flat, since increasing software-development costs are offset by high amortization. HKEx's liabilities appear substantial, but about 90% are attributable to accounting for margin and clearing funds and collaterals, so HKEx's actual assets and liabilities are significantly lower than the headline figures.

## Our Model Assumptions

We assume HK\$450m per year in intangible asset investments over our forecast period

We assume a 90% payout ratio over our forecast period, in line with HKEx's historical trend and dividend policy

Cash Flow (HK\$m)	Dec-13A	Dec-14A	Dec-15E	Dec-16E	Dec-17E
<b>Operating profit</b>	<b>5,439</b>	<b>6,244</b>	<b>9,925</b>	<b>9,890</b>	<b>10,794</b>
Depreciation and amortisation	507	647	637	664	708
Changes in working capital	11	60,095	23,908	2,001	1,687
<b>Operating cash flow</b>	<b>5,957</b>	<b>66,986</b>	<b>34,470</b>	<b>12,555</b>	<b>13,188</b>
Interest paid	(183)	(196)	(125)	(74)	(77)
Tax paid	(700)	(900)	(1,470)	(1,472)	(1,607)
<b>Cash flow from operations</b>	<b>5,074</b>	<b>65,890</b>	<b>32,876</b>	<b>11,009</b>	<b>11,504</b>
Capex	(797)	(665)	(825)	(800)	(750)
<b>Cash flow from investing activities</b>	<b>(797)</b>	<b>(665)</b>	<b>(825)</b>	<b>(800)</b>	<b>(750)</b>
Dividends paid to ordinary shareholders	(3,952)	(4,372)	(4,589)	(7,503)	(7,854)
Proceeds from issue of shares	(2)	(405)	10	10	10
Increase in debt	(4)	4	(205)	123	146
Other financing cash flow	275	(1,029)	229	377	194
<b>Cash flow from financing activities</b>	<b>(3,683)</b>	<b>(5,802)</b>	<b>(4,555)</b>	<b>(6,993)</b>	<b>(7,503)</b>
Cash at beginning of period	4,035	41,452	136,778	167,782	172,449
<b>Total cash generated</b>	<b>594</b>	<b>59,423</b>	<b>27,495</b>	<b>3,215</b>	<b>3,250</b>
<b>Implied cash at end of period</b>	<b>4,629</b>	<b>100,875</b>	<b>164,273</b>	<b>170,997</b>	<b>175,699</b>
<b>Free cash flow</b>	<b>4,277</b>	<b>65,225</b>	<b>32,051</b>	<b>10,209</b>	<b>10,754</b>

Source: Company, HTI estimates

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✓ **Key Cash Flow Takeaway**

We believe that the majority of HKEx's earnings are of high-quality, should directly correspond to cash flows, and that almost all earnings are paid out as dividends

We believe that HKEx's operating-capital requirements are low as a large portion of its balance-sheet expansion is contributed by exchange participants and clearing members. Thus, the major consumers of cash flows are investing activities and financing activities. We assume intangible-related capex outpaces fixed-asset capex over our forecast period as HKEx upgrades its trading system and Stock Connect platform. As share dividends are often selected by its shareholders, actual cash outlays from financial activities could be less than our projections.



## Our Model Assumptions

We expect EPS to continue growing over our forecast period owing to a positive turnover environment

We believe that HKEx's high PER for FY14 was due to cyclically low turnover and high market expectations for the Stock Connect, which have already been realized, and think that turnover growth must now be delivered to sustain the currently high PER

Although a dividend yield of close to 3% appears attractive, we argue that the yield spread is insufficient given the uncertain outlook for turnover

We forecast HKEx's ROE to rise to 28–33% over our forecast period

✓ **Key Driver Takeaway**  
Although PER is lower than historical levels, we argue that the share price reflects positive sentiment related to turnover spillover from China; however, we believe that the Stock Connect has largely disappointed and that expectations should be curtailed, leading to multiple contraction

Per Share Data	Dec-13A	Dec-14A	Dec-15E	Dec-16E	Dec-17E
EPS (HK\$)	3.92	4.41	6.97	6.98	7.63
FDEPS (HK\$)	3.91	4.42	7.06	6.98	7.63
Revenue per share (HK\$)	7.52	8.45	11.56	11.55	12.59
Operating EBITDA per share (HK\$)	5.13	5.91	8.84	8.83	9.63
BVPS (HK\$)	17.59	18.26	24.24	25.26	26.49
DPS (HK\$)	3.54	3.98	6.28	6.29	6.86
Recurrent cash flow per share (HK\$)	4.37	56.55	27.52	9.22	9.63
Shares in issue (million)	1,160	1,165	1,195	1,195	1,195
Year end adjusted shares in issue (m)	1,160	1,165	1,195	1,195	1,195
Key Ratios	Dec-13A	Dec-14A	Dec-15E	Dec-16E	Dec-17E
<b>Valuation Measures</b>					
P/Sales (x)	28.43	25.30	18.50	18.51	16.99
P/E (x)	54.56	48.49	30.66	30.61	28.04
P/CF (x)	48.88	3.78	7.77	23.20	22.20
P/B (x)	12.16	11.71	8.82	8.46	8.07
Adj EV/EBITDA (x)	33.96	15.55	6.05	5.58	4.41
Dividend yield	1.7%	1.9%	2.9%	2.9%	3.2%
<b>Growth</b>					
Revenue growth	0.0%	12.9%	40.2%	(0.1%)	9.0%
Operating profit growth	0.0%	14.8%	59.0%	(0.4%)	9.1%
Net profit growth	0.0%	13.0%	62.1%	0.2%	9.2%
<b>Margins</b>					
Gross margin	100.0%	100.0%	100.0%	100.0%	100.0%
Operating EBITDA margin	68.2%	70.0%	76.5%	76.5%	76.5%
Operating margin	62.4%	63.4%	71.9%	71.7%	71.8%
Pretax profit margin	60.1%	61.3%	71.0%	71.2%	71.3%
Tax rate	13.3%	14.9%	15.0%	15.0%	15.0%
Net profit margin	52.1%	52.2%	60.3%	60.5%	60.6%
<b>Key Ratios</b>					
ROE	23.8%	24.7%	33.2%	28.2%	29.5%
ROA	5.5%	3.0%	2.9%	2.5%	2.7%
Capex/revenue	9.1%	6.8%	6.0%	5.8%	5.0%
Current ratio (x)	1.14	1.04	1.04	1.05	1.05
Debtor days	458.0	834.7	751.5	766.8	723.6
Sales/avg assets	0.10	0.06	0.05	0.04	0.04
<b>Credit analysis</b>					
EBITDA/interest paid (x)	32.5	35.2	84.7	142.8	148.8
OCF/interest paid (x)	27.7	336.2	263.5	148.9	148.9
Debt/EBITDA (x)	0.56	0.48	0.30	0.31	0.29
Debt/equity	16.2%	15.6%	10.7%	10.7%	10.7%
Net debt to equity	(231.4%)	(669.6%)	(662.0%)	(651.6%)	(647.2%)

Source: Company, HTI estimates

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We believe that HKEx has often traded at a premium to its intrinsic valuation, even before the Stock Connect-led run-up in market expectations. We believe that reasons include its monopoly status, attractive combination of stable and growth incomes, revenue visibility, central role in Hong Kong's capital market, and rarity value. We assume that this portion of the premium should remain and is about 10%. However, we believe that overly optimistic expectations of China-related turnover are also embedded in the share price. Our SELL recommendation rests on such positive sentiment correcting to a more realistic level, resulting in a forward PER of 27–28x.

HKEx is the only exchange operator in Hong Kong and has an important role in connecting foreign capital to Mainland Chinese enterprises

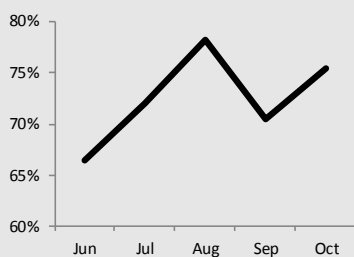
Trading and clearing revenues are turnover-dependent, whereas listing, market data, and infrastructure revenues tend to be stable

Derivatives trading revenue did not rise in FY14 despite increased ADT, because volume migrated to products with lower trading fees

While cash-equity listings tend to increase over time as the stock of listed companies builds, DWs and CBBCs have maturity dates, so derivatives listing income is generally stable

ATS is a catch-all term defined in the SFO to include all off-exchange trading, such as dark pools and order internalization

#### London Stock Exchange's UK Market Share in 2015



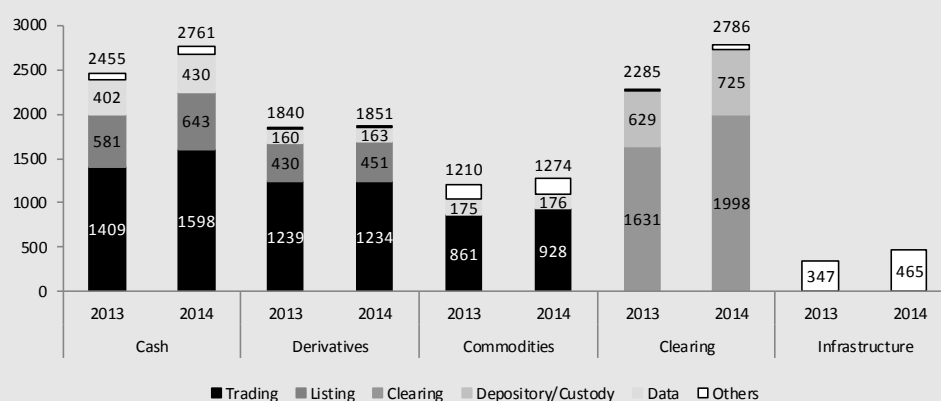
Source: London Stock Exchange

### Company Outline and Operational Review

HKEx was established as the holding company of the Stock Exchange of Hong Kong (SEHK), Hong Kong Futures Exchange (HKFE), and Hong Kong Securities Clearing Company (HKSCC). The exchange demutualization and merger were completed in March 2000 and HKEx went public in June 2000. HKEx is the only licensed exchange operator in Hong Kong, so its monopoly status is entrenched in the SFO.

HKEx provides trading services for cash equity, debt, ETFs, derivative warrants (DWs), callable bull/bear contracts (CBBCs), options, futures, and commodities. It provides clearing and settlement services for all listed assets as well as selected over-the-counter (OTC) products such as interest-rate swaps. HKEx acquired LME in 2012 and intends to integrate its metals platform with China. Since the launch of the Stock Connect in late 2014, investors have been able to trade SSE-listed A-shares via HKEx.

#### HKEx's Revenue Breakdown by Operating Segment and Product

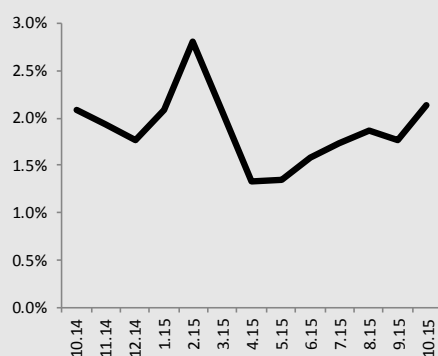


Source: Company data

#### Off-Exchange Trading in Hong Kong

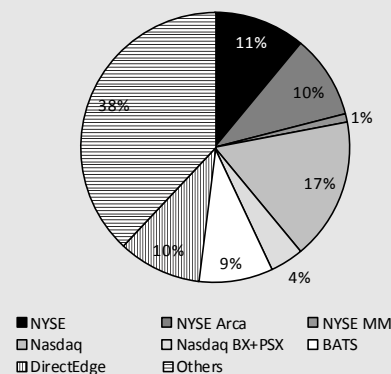
Off-exchange trading in Hong Kong has yet to pose a competitive threat to exchange volume, as has happened in other developed markets. Automated-trading services (ATS) turnover account for generally 1–3% of total turnover, compared with close to 20% in the UK and 50% in the US. We see low ATS penetration in Hong Kong as largely caused by stringent regulations and requirements for ATS operators. For example, additional rules on ATS start December 2015, which has led BNP Paribas (BNP FP, €57.27, NR) to close its dark pool in Hong Kong. Also, off-exchange trades must be reported to and cleared with HKEx, significantly reducing the cost incentives of operating an ATS.

#### Turnover Share of ATS in Hong Kong



Source: HKEx Statistics

#### US Turnover Share by Exchanges in 2014



Source: Financial Industry Regulatory Authority

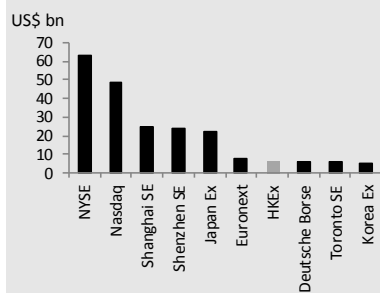


Further integration with SSE and SZSE should significantly increase HKEx's tradable market capitalization

Overseas companies listed with HKEx include L'Occitane International (973 HK, HK\$15.78, NR), Glencore Xstrata (805 HK, HK\$12.62, NR), and Dynam Japan Holdings (6889 HK, HK\$9.86, NR)

Costs of trading Hong Kong equities include exchange fees (0.5bps + HK\$0.5), clearing fees (0.2bps), stamp duty (10bps), SFC levy (0.27bps), and brokerage commission

#### Stock ADT in 2014

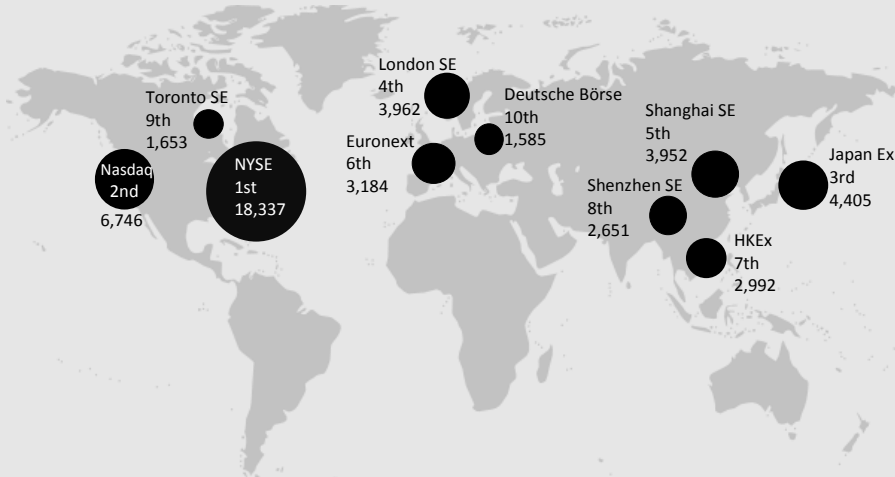


Source: WFE

#### International Comparison

Hong Kong is a financial center that has served as the capital gateway in and out of China and HKEx has become one of the top exchanges in the world. As of September 2015, market capitalization of its listed companies totaled US\$2,992bn, ranking seventh globally.

#### Domestic Market Capitalization Comparison at September 2015 (US\$bn)

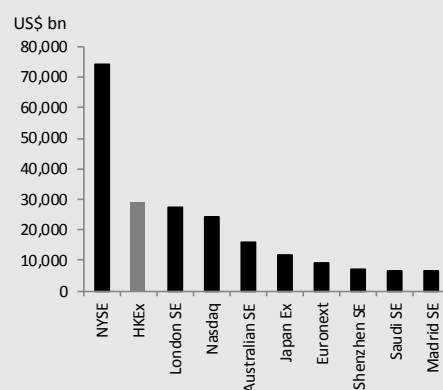


Source: World Federation of Exchanges (WFE)

With its large, sophisticated investor base and sound legal system, Hong Kong has been a popular destination for mainland Chinese companies seeking equity capital. Hong Kong hosted numerous mega-sized initial public offerings (IPOs) in recent years, including the Agricultural Bank of China (1288 HK, HK\$3.12, NR). HKEx ranked second in global IPOs in 2014 due to losing the Alibaba Group Holding (BABA US, US\$81.43, HTI BUY) listing to the New York Stock Exchange, but regained top spot in H1 2015 as Hong Kong's equity-capital market remained robust. HKEx has also attracted other overseas companies to list in Hong Kong as a platform for their China business expansion.

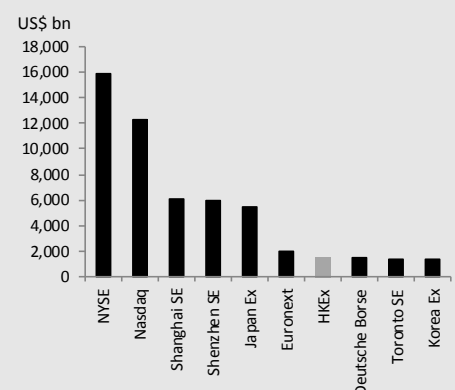
Although a leading IPO destination, HKEx's turnover levels have historically been lower than those of other major stock exchanges, resulting in HKEx having one of the lowest turnover-velocity levels in Asia. HKEx's recent velocity levels have stayed in the range of 0.4–0.7x, significantly below the US and mainland China's levels of above 2.0x. Korea and Japan tend to have turnovers slightly above 1.0x their market capitalizations. Hong Kong's low propensity to trade could be attributable to high trading costs, investor behavior, investor composition, market microstructure, large presence of controlling shareholders, and high turnover concentration in index constituents.

#### IPO Fundraising Comparison, 2014



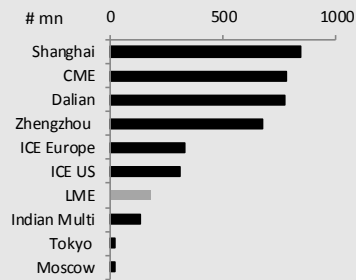
Source: Dealogic

#### Stock Turnover Comparison, 2014



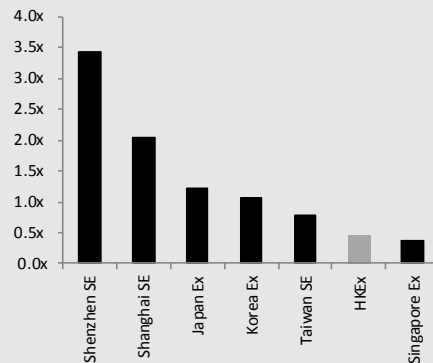
Source: WFE

## Commodity Derivatives Traded in 2014



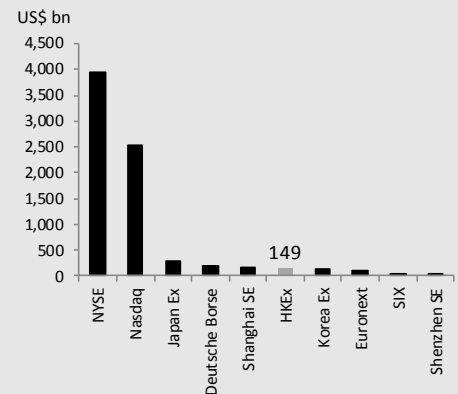
Source: WFE

## Turnover Velocity Comparison in 2014



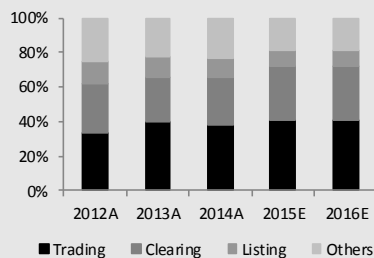
Source: WFE

## ETF Turnover Comparison in 2014



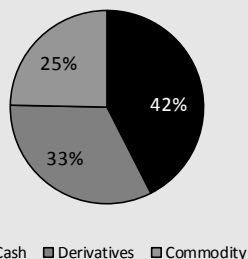
Source: WFE

## HKEx's Revenue Composition



Source: Company data

## 2014 Trading Revenue Breakdown



Source: Company data

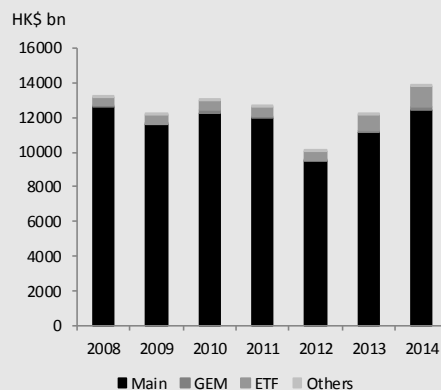
## HKEx's Trading Business

Trading is HKEx's principal business and accounts for about 40% of total revenue. Trading revenue is generated from the trading of securities and derivatives listed on HKEx's exchanges. As turnover is largely determined by market sentiment and investor behavior, it can be considered to be outside HKEx's control. HKEx charges an exchange fee of 0.5bps (plus HK\$0.5 per trade) for cash equities. For futures and options trading, exchange fees vary by product; for example, exchange fees for Hang Seng Index (HSI) futures are HK\$10.0 per contract but only HK\$3.5 for H-Share Index futures.

Cash equities accounted for 42% of trading revenue in FY14, but we expect this proportion to grow beyond 50% as we see cash-equity turnover growing the most due to the Stock Connect. HKEx has a diverse range of derivatives, including CBBCs, index futures, single-stock futures, stock options, index options, and LME-listed metal futures.

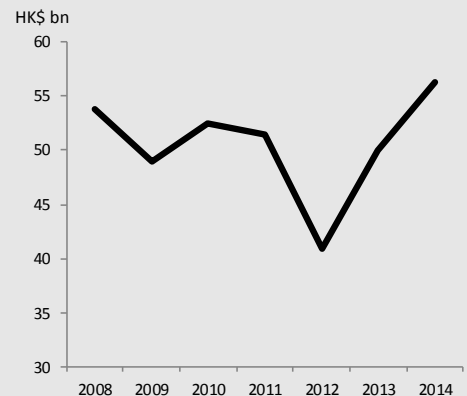
Between FY08–14, annual turnover of cash equities fluctuated at about HK\$12,000bn while ADT stayed around HK\$50bn, or HK\$65bn including DWs and CBBCs. Velocity has been below 0.7x since FY09. Since early FY15, turnover has risen sharply with ADT (equity-only) above HK\$100bn in April and May, largely due to exceptionally strong market sentiment and positive expectations about the Stock Connect, in our view. While DW and option turnovers rose along with cash-equities turnover in FY12–14, CBBC and futures turnovers lagged. We believe that average revenue from futures trading has declined as trading has migrated from higher-fee HSI futures to Hang Seng China Enterprises Index futures. Also, HKEx raised LME trading fees by about 35% in 2015 as it is commercializing LME compared with its previous mutual business model.

## HKEx's Equity Turnover



Source: HKEx

## HKEx's ADT (Excluding DWs and CBBCs)



Source: HKEx

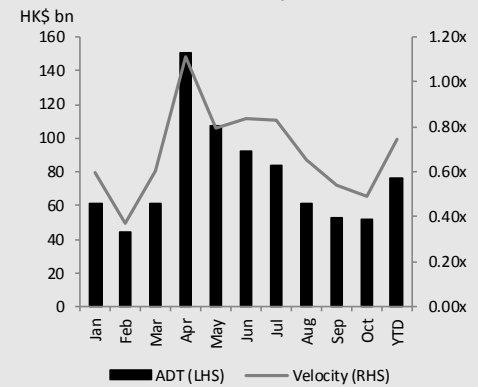
ADT reverted to the historical average of HK\$50bn after China's stock market correction

#### HKEx's Turnover Velocity



Source: HKEx

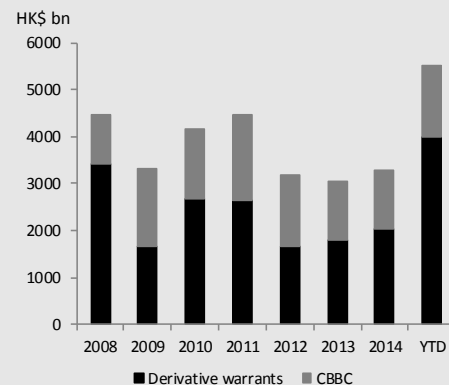
#### ADT and Annualized Velocity in FY15



Source: HKEx

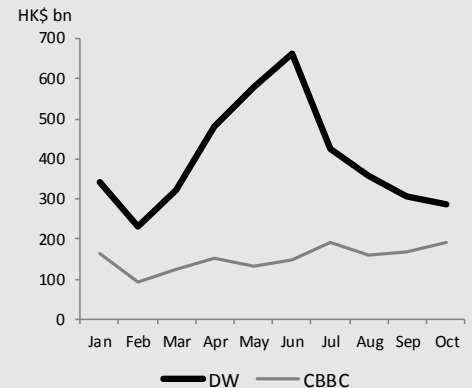
CBBC turnover declined in FY12-14

#### HKEx's DW and CBBC Turnover



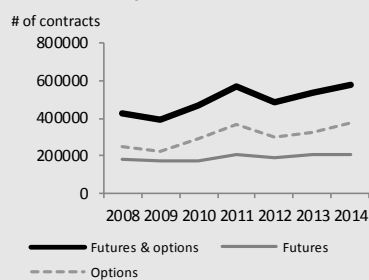
Source: HKEx

#### Monthly DW and CBBC Turnover in FY15



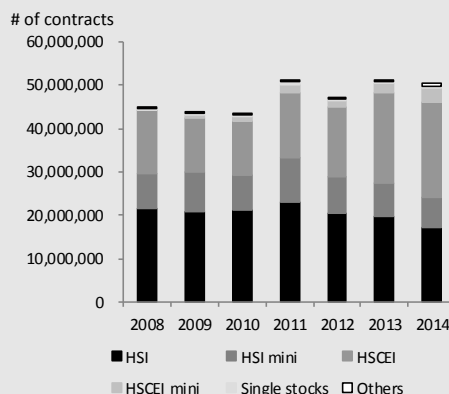
Source: HKEx

#### Futures and Options ADT



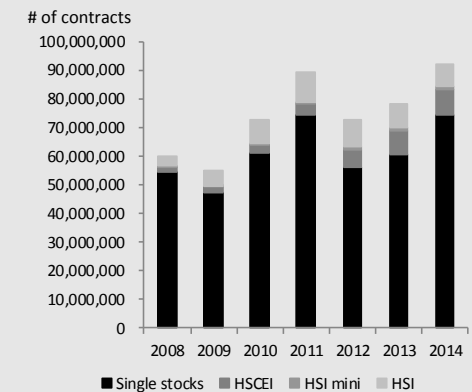
Source: HKEx

#### HKEx's Futures Turnover



Source: HKEx

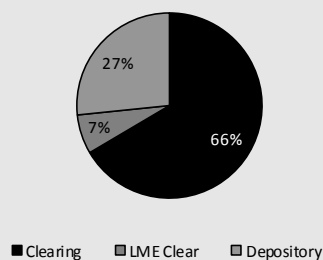
#### HKEx's Options Turnover



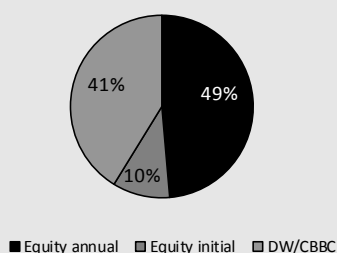
Source: HKEx

#### HKEx's Clearing Business

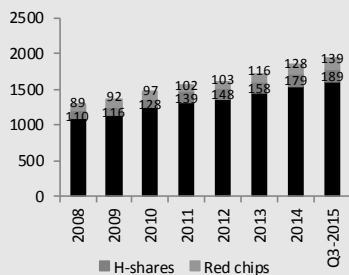
Clearing is HKEx's second largest business, accounting for 28% of total revenue. Clearing and trading are HKEx's turnover-dependent revenue and together accounted for 66% of total revenue in FY14. HKEx provides clearing services for its asset verticals. Clearing and settlement fees are derived mostly from cash-equities transactions. Similar to trading revenue, clearing revenue is mainly driven by turnover, but can deviate due to minimum and maximum fees per trade as well as settlement instructions. Also, HKEx established LME

**2014 Clearing Revenue Breakdown**

Source: Company data

**2014 Listing Revenue Breakdown**

Source: Company data

**Main Board Red Chips and H-Shares**

Source: HKEx

Stamp duty is now waived on ETFs, contributing to robust turnover growth, and we see strong potential for ETFs in Hong Kong

Clear in 2014 to act as LME's designated clearing house, which we view positively and expect to contribute HK\$668m to clearing revenue in FY15.

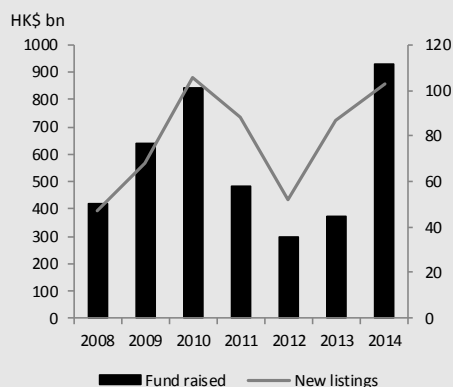
Depository, custody, and nominee fees mainly consist of scrip fees, electronic IPO handling fees, stock-custody fees, dividend-collection fees, and corporate-action fees. Most of these fees do not correlate with turnover as strongly as clearing fees.

In addition to HKEx's listed products, HKEx also clears OTC derivatives via OTC Clear. OTC Clear currently only clears interest-rate swaps and non-delivery currency forwards, so its revenue contribution is insignificant.

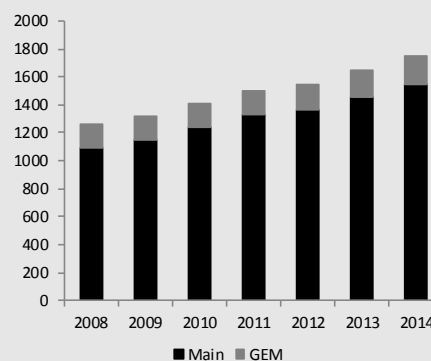
**HKEx's Listing Business**

Public companies as well as DW and CBBC issuers pay listing fees to HKEx to gain access to the facilities. Companies seeking to list with HKEx pay an initial-listing fee upon submitting their applications. Initial-listing fees are charged based on a scale with a maximum of HK\$0.65m. To remain listed, listed companies are required to pay an annual fee, which is currently capped at HK\$1.19m. Moreover, listing fees are also charged for DWs and CBBCs, which are periodically delisted, called and relisted.

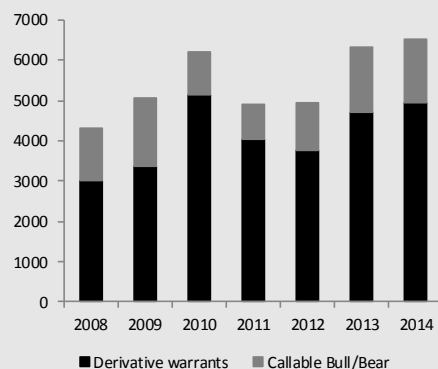
We see listing fees as an attractive revenue stream because they are highly visible, risk-free, and stock-based, so should grow gradually. As HKEx continues to be a main listing venue of Mainland Chinese companies, we believe that the number of HKEx-listed companies should grow, contributing to increasing listing revenues in the future.

**HKEx's IPO Fundraising**

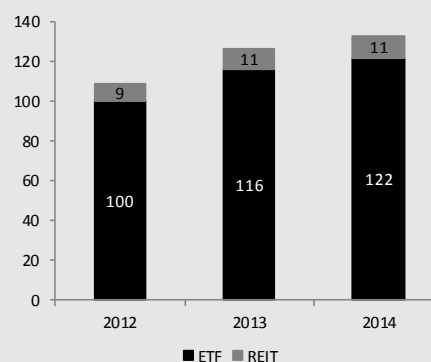
Source: HKEx

**HKEx's Number of Listed Companies**

Source: HKEx

**HKEx's Number of Listed DWs and CBBCs**

Source: HKEx

**HKEx's Number of Listed Funds**

Source: HKEx

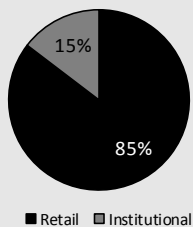
International investors previously invested in A-shares by gaining Qualified Foreign Institutional Investor and RMB Qualified Foreign Institutional Investor status

2014 Hong Kong Investor Composition



Source: HKEx

2014 China Investor Composition



Source: CSRC

We believe the Stock Connect system is flexible and portable, and can be transferred to Shenzhen-Hong Kong Stock Connect in the future

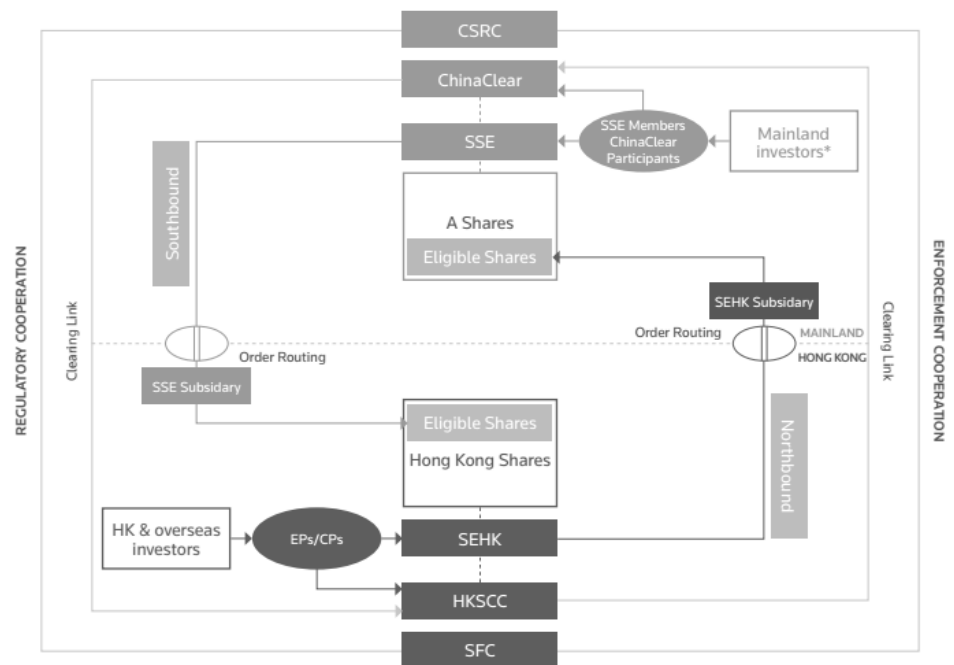
### Shanghai-Hong Kong Stock Connect

As a key initiative in China's capital-account opening, the Shanghai-Hong Kong Stock Connect commenced operation in November 2014. The Stock Connect was joint-established by HKEx, SSE, and ChinaClear, granting mutual market access between HKEx and SSE. The Stock Connect is a significant development as it opens China's previously closed stock market to international investors and promotes internationalization of the CNY.

We view the Stock Connect as a highly positive development for HKEx as it reinforces HKEx's relevance and long-term prospects in China's capital market as well as broadening its investor base, potentially leading to strong turnover.

While direct revenue contributions from the Stock Connect may not be significant due to revenue sharing, we believe that it is likely to lead to higher liquidity and more CNY-denominated product offerings as Hong Kong strengthens its lead as an offshore CNY center. We believe that northbound flows should rise strongly on growing investor interest in A-shares and expanding offshore CNY deposits. Southbound flows should be driven by mainland Chinese investors' diversification needs and more attractive valuations in Hong Kong, in our view. As mainland investors have a greater propensity to trade than Hong Kong investors, HKEx could record rising turnover as cross-border money flows become more intertwined.

### Overview of the Shanghai-Hong Kong Stock Connect



Source: HKEx

However, we are disappointed that northbound turnover has been weak, with cumulative capital inflows close to 60% of the aggregate quota. Southbound flows were only strong during Q2 2015 as a portion of China's sharp rise of turnover spilled into HKEx.

Experience of previous market-liberalization measures such as China's Qualified Foreign Institutional Investor scheme suggests that the Stock Connect is likely to be expanded in scale and scope, which we think should gradually integrate HKEx with A-share exchanges. Although mainland investors already have access to HKEx equities via the SSE, we think that the number of southbound eligible securities should be expanded to include a larger set of companies if a connection with the SZSE is to be implemented. However, we do not see a

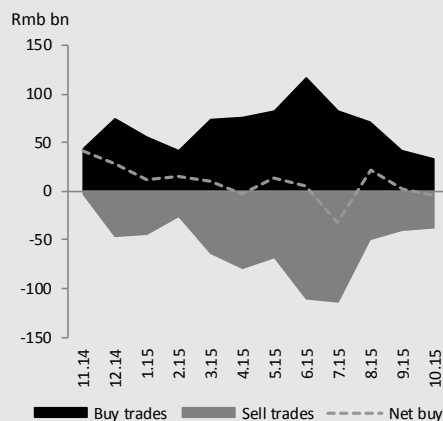
There were net outflows in northbound trading during the market correction in June–July 2015

We believe competition between Shanghai and Hong Kong to be China's leading financial center should intensify in the medium term

Shenzhen Stock Connect being realized until H2 2016, primarily due to our view that China's capital flight should stabilize and accelerating capital-account liberalization at this stage should create more downside risks than upside benefits. Société Générale's China economist Wei Yao noted in *Global Themes* on 13 October 2015 that China's battle against capital outflows is likely to be a long one.

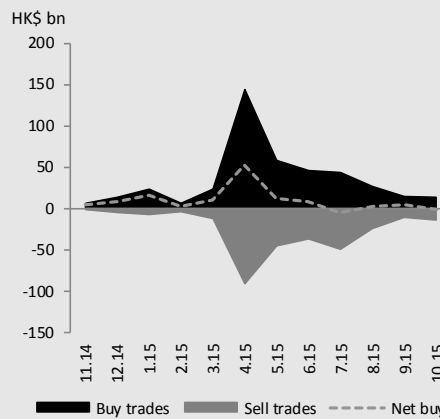
We believe that northbound flows would rise sharply and the aggregate quota increased should A-shares be added to international equity benchmarks, which would mark the next milestone in China's financial history.

**Northbound Trades**



Source: HKEx

**Southbound Trades**



Source: HKEx

### Potential Evolution of HKEx

We believe that HKEx, and Hong Kong at large, is currently in a delicate position in relation to its future role in China's economic development. Being an international financial center, Hong Kong serves as a bridge between international investors and China's companies, helping China reform and integrate with international capital markets. Hong Kong played an important role in transforming China's current accounts as international investors channeled a large proportion of direct investments into China via Hong Kong after China's admission into the World Trade Organization. Under One Country, Two Systems, Hong Kong is in a privileged position to 'unlock' the doors to the second-largest economy in the world. However, as liberalization continues and international investors become familiar with and have direct access to China, Hong Kong's role may become less unique. Should China's capital account becomes fully convertible, China's companies could then access international capital by listing on the SSE and international investors would likely allocate more resources to mainland China to gather local intelligence. HKEx's role would then be marginalized. Between now and then, we think that HKEx has a finite window in which to innovate and differentiate to maintain its unique position instead of becoming 'just another exchange' in China.



Both our static-DDM and simulated-DDM use the same parameters after the five-year explicit projection period

We assume turnover jump follows the Poisson distribution, defined as:

$$f(k; \lambda) = \frac{\lambda^k e^{-\lambda}}{k!}$$

where  $\lambda$  is the probability of a jump per month and  $k$  is the number of jumps

We simulate options and futures ADT using:

Let  $\epsilon_1$  and  $\epsilon_2$  be distributed as  $\sim N(0,1)$   
 We use  $\epsilon_1$  in simulating monthly equity ADT.  
 Let  $Q$  represent options and futures ADT, we simulate  $Q$  using  
 $\ln(Q_t) = \ln(Q_0) + (\alpha_Q - 0.5\sigma_Q^2)t + \sigma_Q\sqrt{t}Z$   
 where  $Z = \rho\epsilon_1 + \epsilon_2\sqrt{1-\rho^2}$

In our simulation, we see equity ADT rising above HK\$200bn if a jump event occurs

## Valuation

Our target price of HK\$180 is derived using the simple average of our static DDM (base-case) and our simulation-based DDM. Both approaches arrive at the same fair-value estimate of HK\$183. Our target price suggests a PER of 26.2x and PBR of 7.4x against our estimated FY15 EPS and BPS.

We use a four-stage DDM in both approaches. We apply a five-year explicit projection period (FY15–19), a stage-1 period of eight years (FY20–27) with a 6.0% growth rate, a stage-2 period of four years (FY28–31) with a 4.0% growth rate, and a terminal period with a 3.0% growth rate. The two approaches differ only in the explicit projection period. Moreover, we believe that HKEx has historically traded at a premium to its intrinsic value due to its monopoly status, rarity, high dividend yield, unique position in China's economic development, and government ownership. Thus, we apply a 10% premium to our dividend-discounted value to obtain our estimated fair value.

## DDM Based on Turnover Simulation

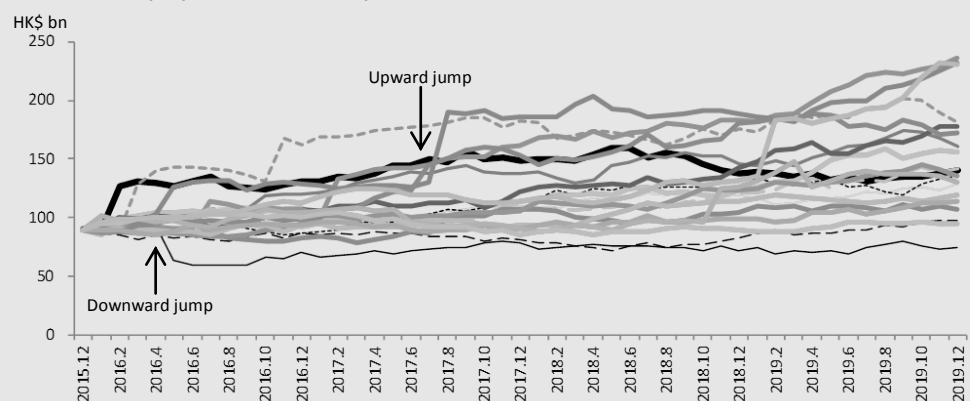
We assume turnover changes according to Brownian motion and estimate future turnover by applying a drift factor and volatility. We believe that HKEx's turnover can be conceptually separated into two parts: domestic and cross-border. Domestic turnover is the portion of turnover excluding Stock Connect flows (northbound and southbound). Cross-border turnover is related to Stock Connect flows (including the potential Shenzhen Connect). We think that domestic turnover growth is more visible and stable. However, we believe that any significant turnover increase (double-digit changes) should be due to cross-border turnover. Compared with domestic turnover, cross-border turnover is more uncertain in terms of occurrence and magnitude. Thus, we model monthly domestic ADT using Brownian motion and add potential large ADT increases as a low-probability jump-event using the Poisson variable. To incorporate downside potential, we factor in a market correction at 5% probability, which would drive down ADT by 15% with 10% volatility.

## Simulation Parameters

Variables	Equity	Northbound	DW & CBBC	Futures & Options	LME
Drift	8%	100%	20% / 5%	6%	2%
Sigma	10%	40%	10% / 10%	10%	4%
Up-jump prob.	15%	-	-	-	-
Up-jump drift	20%	-	-	-	-
Up-jump sigma	10%	-	-	-	-
Down-jump prob.	5%	-	-	-	-
Down-jump drift	-15%	-	-	-	-
Down-jump sigma	10%	-	-	-	-
Equity correlation	-	-	-	0.30	-

Source: HTI estimates

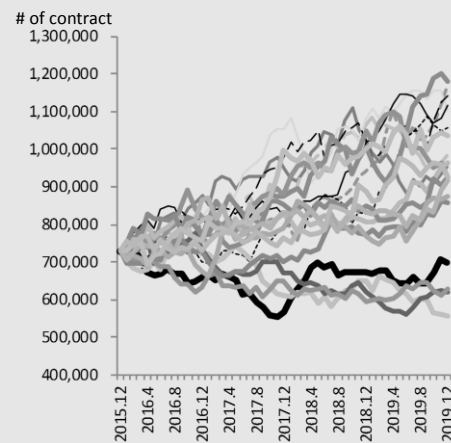
## 20 Simulated Equity ADTs from January 2016 to December 2019



Source: HTI estimates

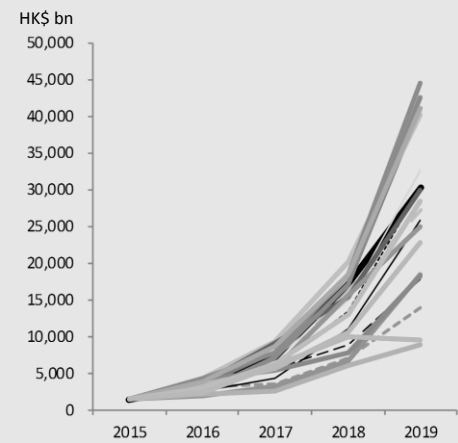
We expect northbound turnover to rise significantly in all simulations

**20 Simulated Futures and Options ADTs**



Source: HTI estimates

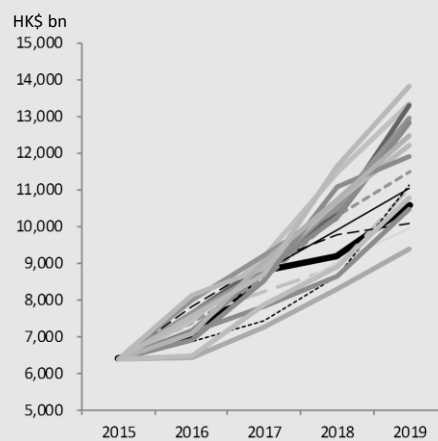
**20 Simulated Northbound Annual Turnovers**



Source: HTI estimates

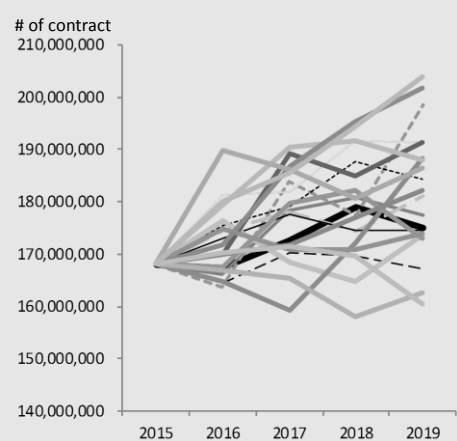
We do not see a high probability of a strong LME turnover increase

**20 Simulated DW and CBBC Annual Turnovers**



Source: HTI estimates

**20 Simulated LME Annual Turnovers**

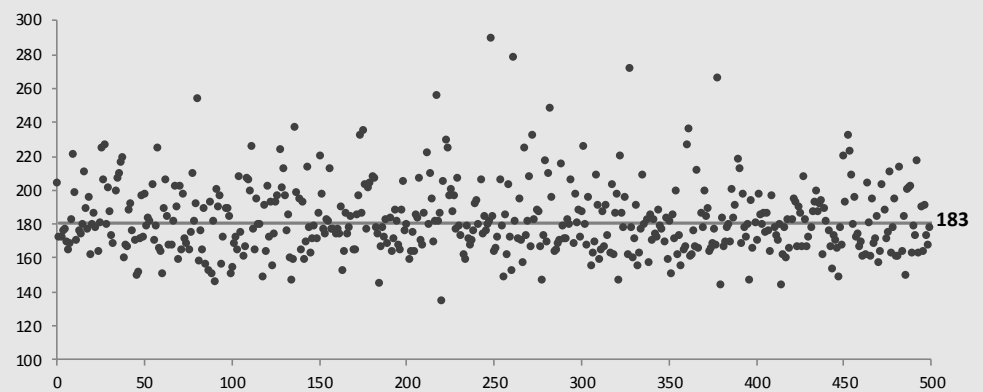


Source: HTI estimates

For each simulation run we obtain a set of turnover estimates that are input into the explicit projection period of our DDM. We run such simulations 500 times and use the average of these 500 fair values as our valuation conclusion.

In our simulations, HKEx's share value exhibits option-like characteristics as we model a sharp rise in share value in the case of a jump-event occurrence

**Our 500 Simulated-DDM Values**



Source: HTI estimates

We see FY16 revenue as largely flat YoY because we forecast only a small increase in ADT and a one-off gain from leasehold disposal in FY15

### DDM Based on Static Financial Projections

We apply three sets of scenarios in our explicit financial projections. The parameters include domestic turnover velocity, southbound turnover, northbound turnover, ETF turnover, DW and CBBC turnover, average options and futures fees, and number of IPOs. We believe that our assumptions are optimistic as we assume HKEx's key cash-equities ADT rises across all scenarios. Thus we forecast HKEx's revenue to surpass HK\$16,000mn in FY19 even in our downside scenario.

#### Cash Equity ADT Assumptions (HK\$bn)

Scenario	2015E	2016E	2017E	2018E	2019E
Base	91	96	110	125	137
Upside	91	103	122	145	168
Downside	91	89	104	113	121

Source: HTI estimates

#### Base-Case Financial Projections

Profit & Loss (HKD mn)	Projection					
	2014A	2015E	2016E	2017E	2018E	2019E
Trading	3,760	5,548	5,720	6,296	6,987	7,673
Listing	1,094	1,192	1,273	1,345	1,421	1,500
Clearing	2,723	4,312	4,407	4,926	5,532	6,091
Market data	769	785	801	817	833	850
Other revenues	796	782	793	816	843	868
Net investment income	707	1,187	802	835	873	906
<b>Total revenues and other income</b>	<b>9,849</b>	<b>13,807</b>	<b>13,796</b>	<b>15,035</b>	<b>16,489</b>	<b>17,889</b>
Compensation	1,716	2,071	2,069	2,255	2,473	2,683
IT/Maintenance	510	759	759	827	907	984
Premises	294					
<b>Operating expenses</b>	<b>3,605</b>	<b>3,882</b>	<b>3,906</b>	<b>4,241</b>	<b>4,610</b>	<b>4,958</b>
<b>Operating profit</b>	<b>6,244</b>	<b>9,925</b>	<b>9,890</b>	<b>10,794</b>	<b>11,879</b>	<b>12,931</b>
<b>Pre-tax profit</b>	<b>6,038</b>	<b>9,800</b>	<b>9,816</b>	<b>10,716</b>	<b>11,798</b>	<b>12,846</b>
<b>Net profit</b>	<b>5,138</b>	<b>8,330</b>	<b>8,343</b>	<b>9,109</b>	<b>10,028</b>	<b>10,919</b>

Source: HTI estimates

#### Upside-Case Financial Projections

Profit & Loss (HKD mn)	Projection					
	2014A	2015E	2016E	2017E	2018E	2019E
Trading	3,760	5,508	6,143	7,078	8,276	9,825
Listing	1,094	1,199	1,297	1,384	1,477	1,576
Clearing	2,723	4,320	4,704	5,508	6,502	7,680
Market data	769	785	801	817	833	850
Other revenues	796	783	804	836	875	925
Net investment income	707	1,192	826	876	931	988
<b>Total revenues and other income</b>	<b>9,849</b>	<b>13,785</b>	<b>14,574</b>	<b>16,499</b>	<b>18,895</b>	<b>21,844</b>
Compensation	1,716	2,068	2,186	2,475	2,834	3,277
IT/Maintenance	510	758	802	907	1,039	1,201
Premises	294					
<b>Operating expenses</b>	<b>3,605</b>	<b>3,877</b>	<b>4,089</b>	<b>4,585</b>	<b>5,175</b>	<b>5,887</b>
<b>Operating profit</b>	<b>6,244</b>	<b>9,909</b>	<b>10,485</b>	<b>11,914</b>	<b>13,720</b>	<b>15,956</b>
<b>Pre-tax profit</b>	<b>6,038</b>	<b>9,784</b>	<b>10,411</b>	<b>11,835</b>	<b>13,636</b>	<b>15,867</b>
<b>Net profit</b>	<b>5,138</b>	<b>8,316</b>	<b>8,849</b>	<b>10,060</b>	<b>11,591</b>	<b>13,487</b>

Source: HTI estimates

#### Downside-Case Financial Projections

Profit & Loss (HKD mn)	Projection					
	2014A	2015E	2016E	2017E	2018E	2019E
Trading	3,760	5,368	5,340	5,837	6,167	6,487
Listing	1,094	1,192	1,249	1,302	1,349	1,409
Clearing	2,723	4,312	4,132	4,606	4,918	5,202
Market data	769	785	801	890	907	925
Other revenues	796	781	784	807	824	841
Net investment income	707	1,187	778	804	820	835
<b>Total revenues and other income</b>	<b>9,849</b>	<b>13,625</b>	<b>13,084</b>	<b>14,244</b>	<b>14,985</b>	<b>15,699</b>
Compensation	1,716	2,044	1,963	2,137	2,248	2,355
IT/Maintenance	510	749	720	783	824	863
Premises	294					
<b>Operating expenses</b>	<b>3,605</b>	<b>3,839</b>	<b>3,739</b>	<b>4,055</b>	<b>4,256</b>	<b>4,443</b>
<b>Operating profit</b>	<b>6,244</b>	<b>9,786</b>	<b>9,345</b>	<b>10,189</b>	<b>10,729</b>	<b>11,256</b>
<b>Pre-tax profit</b>	<b>6,038</b>	<b>9,661</b>	<b>9,272</b>	<b>10,113</b>	<b>10,649</b>	<b>11,173</b>
<b>Net profit</b>	<b>5,138</b>	<b>8,212</b>	<b>7,881</b>	<b>8,596</b>	<b>9,052</b>	<b>9,497</b>

Source: HTI estimates

Estimated equity value per share in our upside case is only slightly above the last closing share price of HK\$213.8

#### Base-Case DDM Valuation (HK\$ mn)

Explicit Projections	Projection Period				
	2015	2016	2017	2018	2019
Total revenue	13,807	13,796	15,035	16,489	17,889
Net income	8,330	8,343	9,109	10,028	10,919
Payout ratio	90%	90%	90%	90%	90%
Total dividends	7,497	7,509	8,198	9,026	9,827
Dividends per share	6.28	6.29	6.86	7.56	8.23
<b>Present value</b>	<b>6.19</b>	<b>5.72</b>	<b>5.75</b>	<b>5.84</b>	<b>5.86</b>

Terminal Value		Equity Value	
Stage-1 period (years)	8.0	PV of projection period	29.35
Stage-1 growth rate	6.0%	PV of stage-1 period	42.24
Stage-2 period (years)	4.0	PV of stage-2 period	17.50
Stage-2 growth rate	4.0%	PV of terminal period	76.82
Terminal growth rate	3.0%	Exchange premium	10%
<b>Discount rate</b>	<b>8.5%</b>	<b>Equity value</b>	<b>183</b>

Source: HTI estimates

#### Upside-Case DDM Valuation (HK\$ mn)

Explicit Projections	Projection Period				
	2015	2016	2017	2018	2019
Total revenue	13,785	14,574	16,499	18,895	21,844
Net income	8,316	8,849	10,060	11,591	13,487
Payout ratio	90%	90%	90%	90%	90%
Total dividends	7,485	7,964	9,054	10,432	12,138
Dividends per share	6.27	6.67	7.58	8.73	10.16
<b>Present value</b>	<b>6.18</b>	<b>6.06</b>	<b>6.35</b>	<b>6.74</b>	<b>7.23</b>

Terminal Value		Equity Value	
Stage-1 period (years)	8.0	PV of projection period	32.57
Stage-1 growth rate	6.0%	PV of stage-1 period	52.17
Stage-2 period (years)	4.0	PV of stage-2 period	21.62
Stage-2 growth rate	4.0%	PV of terminal period	94.89
Terminal growth rate	3.0%	Exchange premium	10%
<b>Discount rate</b>	<b>8.5%</b>	<b>Equity value</b>	<b>221</b>

Source: HTI estimates

#### Downside-Case DDM Valuation (HK\$ mn)

Explicit Projections	Projection Period				
	2015	2016	2017	2018	2019
Total revenue	13,625	13,084	14,244	14,985	15,699
Net income	8,212	7,881	8,596	9,052	9,497
Payout ratio	90%	90%	90%	90%	90%
Total dividends	7,391	7,093	7,736	8,147	8,547
Dividends per share	6.19	5.94	6.48	6.82	7.16
<b>Present value</b>	<b>6.10</b>	<b>5.40</b>	<b>5.43</b>	<b>5.27</b>	<b>5.09</b>

Terminal Value		Equity Value	
Stage-1 period (years)	8.0	PV of projection period	27.29
Stage-1 growth rate	6.0%	PV of stage-1 period	36.74
Stage-2 period (years)	4.0	PV of stage-2 period	15.23
Stage-2 growth rate	4.0%	PV of terminal period	66.82
Terminal growth rate	3.0%	Exchange premium	10%
<b>Discount rate</b>	<b>8.5%</b>	<b>Equity value</b>	<b>161</b>

Source: HTI estimates

HKEx is the most valuable exchange in the world on forward PER

HKEx is the only exchange that exhibits an upward-sloping volatility skew

### International Comparison

We do not apply a comparable valuation because we think HKEx has valuable growth exposure to which most other exchanges are not exposed.

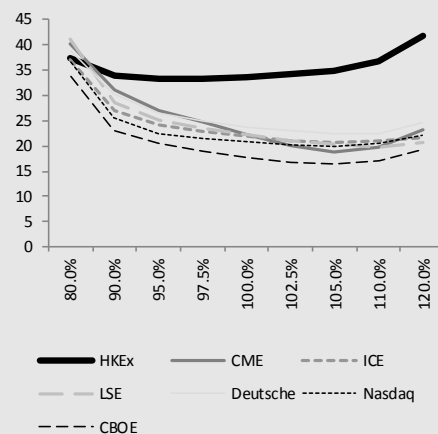
#### International Exchange Valuations (as of 12 November 2015)

Company	Valuation Multiples					Growth		Returns	
	Price / Earnings			Price / Book		2yr CAGR		ROE	
	LFY	CFY	CFY+1	LFY	CFY	OP	EPS	LFY	CFY
HKEx	48.2x	30.8x	29.2x	11.71x	9.73x	46%	28%	25%	34%
CME	29.1x	25.4x	22.8x	1.57x	1.53x	13%	13%	5%	6%
ICE	30.7x	22.3x	18.8x	2.41x	2.32x	30%	28%	8%	10%
Deutsche Boerse	19.9x	19.6x	17.5x	4.43x	4.07x	16%	7%	24%	21%
LSE	67.3x	21.6x	20.6x	3.50x	3.13x	64%	81%	6%	15%
Nasdaq	23.9x	17.3x	15.9x	1.70x	1.76x	16%	23%	7%	9%
Japan Exchange	30.9x	24.8x	24.7x	4.52x	4.12x	9%	12%	16%	17%
BM&F Bovespa	23.5x	14.4x	13.1x	1.19x	1.15x	10%	34%	5%	8%
CBOE	32.0x	29.4x	26.9x	23.76x	22.48x	5%	9%	70%	78%
Singapore Exchange	23.4x	22.2x	20.7x	8.35x	8.01x	8%	6%	37%	37%
ASX	19.7x	18.9x	18.0x	2.09x	2.06x	6%	5%	11%	11%
Euronext	25.8x	18.4x	16.6x	8.92x	7.16x	5%	25%	41%	43%
Moscow Exchange	12.6x	8.6x	10.4x	2.21x	1.91x	9%	10%	19%	24%
Dubai Financial Market	12.4x	28.8x	25.1x	1.12x	1.12x	-30%	-30%	9%	4%
TMX	25.9x	13.1x	12.2x	0.90x	0.87x	0%	46%	3%	7%
Bursa Malaysia	22.4x	22.3x	20.6x	5.95x	5.85x	8%	4%	25%	26%
Mean	28.5x	21.6x	20.0x	5.54x	5.04x	15%	18%	20%	23%
Median	24.8x	21.9x	19.7x	2.96x	2.72x	10%	12%	13%	16%

Source: Bloomberg

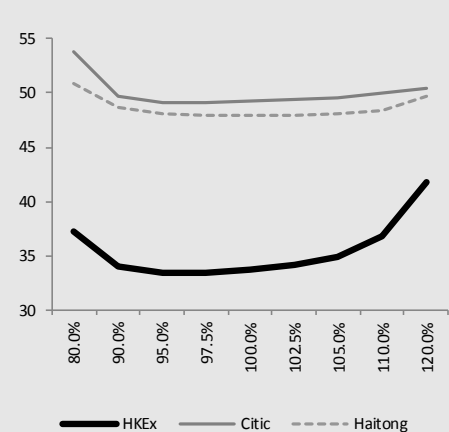
Moreover, as we believe that a significant portion of HKEx's value is derived from its uncertain China-related growth potential, we believe HKEx's shares resemble the pay-off of a convertible bond. Such unique optionality is reflected in HKEx's volatility skew, which looks distinctly different to those of other exchanges.

#### Exchanges' Volatility Skews



Source: Bloomberg

#### Brokerages' Volatility Skews



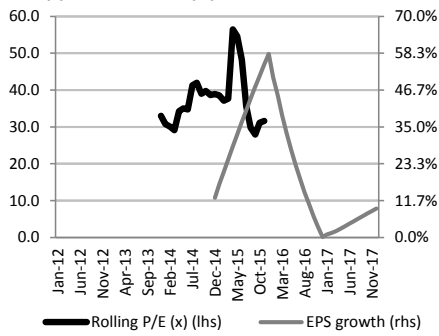
Source: Bloomberg

**Risks to the Attainment of Our Target Price**

We believe that the recent strong recovery of the A-share market has again whetted investor appetite for China-related financials and expectations of financial reforms. Therefore, investors are pricing in a higher probability of the Shenzhen Hong Kong Stock Connect, in our view. We see a sustained A-share market recovery as likely to heighten such expectations, driving HKEx's share price higher. Also, an acceleration of China's capital-account opening would fundamentally prove our assumptions wrong and lead us to re-rate the stock. On the earnings side, a stronger-than-expected volume pick-up could result in our earnings estimates being too low and create an upward earnings-revision cycle, likely leading to a higher share price.

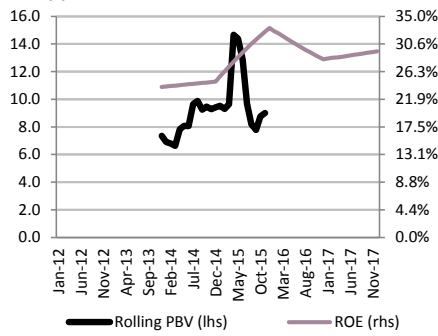


P/E (x) vs EPS Growth (%)



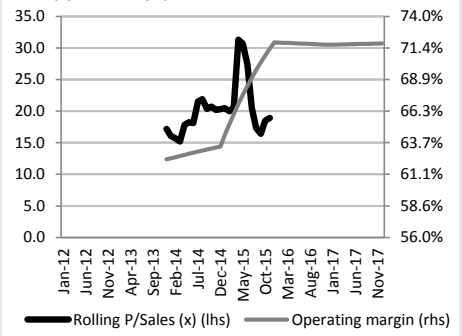
Source: Company data, Bloomberg, HTI estimates

P/B (x) vs ROE



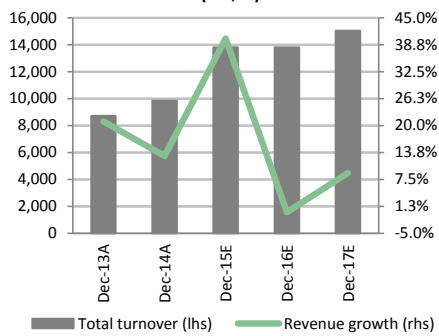
Source: Company data, Bloomberg, HTI estimates

PSR (x) vs OPM (%)



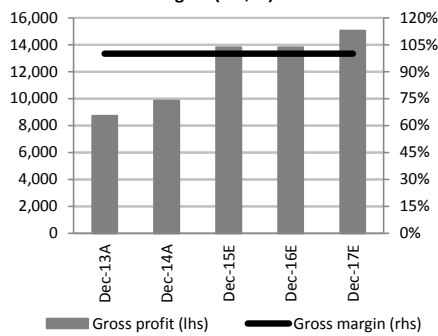
Source: Company data, Bloomberg, HTI estimates

Turnover and Growth - (HK\$m)



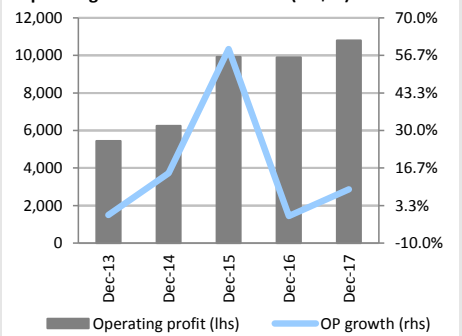
Source: Company data, Bloomberg, HTI estimates

Gross Profit and Margin - (HK\$m)



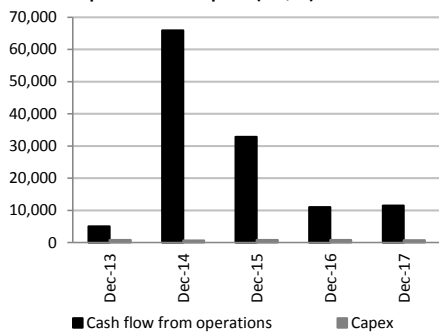
Source: Company data, Bloomberg, HTI estimates

Operating Profit and OP Growth - (HK\$m)



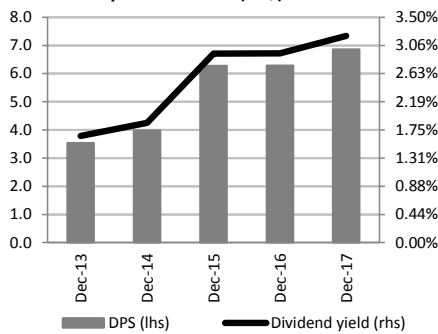
Source: Company data, Bloomberg, HTI estimates

CF from operations vs Capex - (HK\$m)



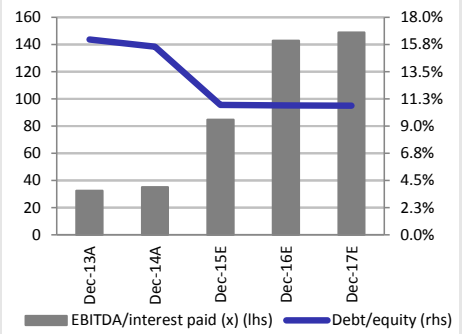
Source: Company data, Bloomberg, HTI estimates

Dividend Payout and Yield - (HK\$)



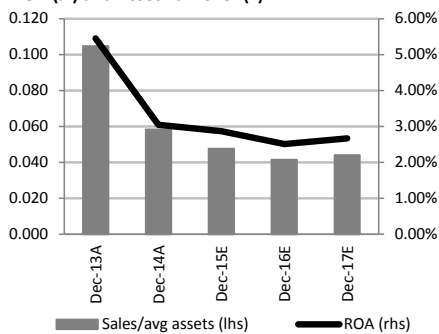
Source: Company data, Bloomberg, HTI estimates

Net Debt to Equity (%) and Interest Cover (x)



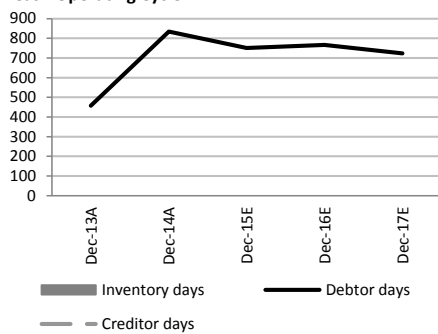
Source: Company data, Bloomberg, HTI estimates

ROA (%) and Asset Turnover (x)



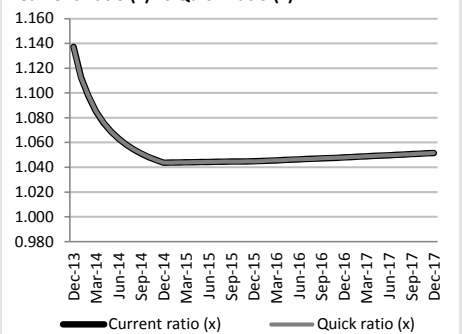
Source: Company data, Bloomberg, HTI estimates

Cash Operating Cycle



Source: Company data, Bloomberg, HTI estimates

Current Ratio (x) vs Quick Ratio (x)



Source: Company data, Bloomberg, HTI estimates

### Revenue Growth

We expect total revenue to increase 40% YoY in FY15 to HK\$13,807mn owing to strong turnover-led revenues. For FY15 trading revenue, we estimate HK\$5,548mn, comprising HK\$2,504mn from cash equities, HK\$1,708mn from derivatives, and HK\$1,336mn from base metals. For FY15 clearing revenue, we estimate HK\$4,312mn, comprising HK\$2,538mn from clearing and settlement, HK\$768mn from LME Clear, and HK\$1,006mn from custodian services.

### Profit Margins

Given HKEx's high operating leverage, we expect OPM and NPM to increase to 72% and 60% in FY15, from 63% and 52% in FY14, respectively. We forecast OPM to remain high at 71–72% over FY16–19, owing to a robust trading environment.

### Shareholder Returns

Although we expect book equity to increase due to convertible-bond conversion, we forecast ROE to rise to 33% in FY15 from 25% in FY14. As HKEx maintains a 90% payout ratio, we see book equity rising only modestly thereafter, primarily from stock options and share dividends. Thus, we see revenue growth flowing directly to ROE.

### Balance Sheet Risks

We think that HKEx's balance sheet is uncomplicated. Although it expanded significantly in FY14 compared with FY13, we believe that this was largely due to the accounting treatment of LME Clear collaterals. Since HKEx is an experienced operator, we view the clearing risks as well managed. Also, all its margin and clearing funds are invested in high-quality fixed-income securities.

#### Key Takeaway

We think that investors are overpaying for a potential turnover increase by either assigning too high a probability or expecting too large a magnitude; we expect multiple contraction to drive the share price lower in the next six months

### Investment Thesis – Target Price – Share Price Catalysts

We initiate coverage of HKEx with a SELL rating. Since the announcement of the Stock Connect, investors have begun to realize that the opening of China's capital account should first have a material impact on HKEx and serve as a catalyst for HKEx's low turnover. HKEx's valuation has become volatile as investors continuously update their probability assessments and ramifications of the Stock Connect. We believe that the Stock Connect should reinforce HKEx's unique role, but do not think that HKEx can monetize the potential trading flows enough to justify current valuations. We view HKEx as a utility-like stock with high dividend yield and valuable optionality, but sentiment has run too high and this optionality has become overpriced, in our view. We think that currently strong sentiment should fade and that investors are better off refocusing on actual cash-flow generation should turnover fail to rally, the launch of Shenzhen Connect be delayed, and the A-share market resume its downside correction. Our target price of HK\$180 implies 16% downside potential from the latest close.

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BUY> 15% absolute upside performance expected within the next 12 months

SELL> 15% absolute downside performance expected within the next 12 months

NEUTRAL: A stock under coverage with insufficient upside or downside to justify a BUY or SELL rating. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

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- Sell: Target price below the current price

The Rating Distribution pie chart for the most recent full quarter is based on the new HTIRL rating system and the prior full quarter on the legacy HTIRL rating system.

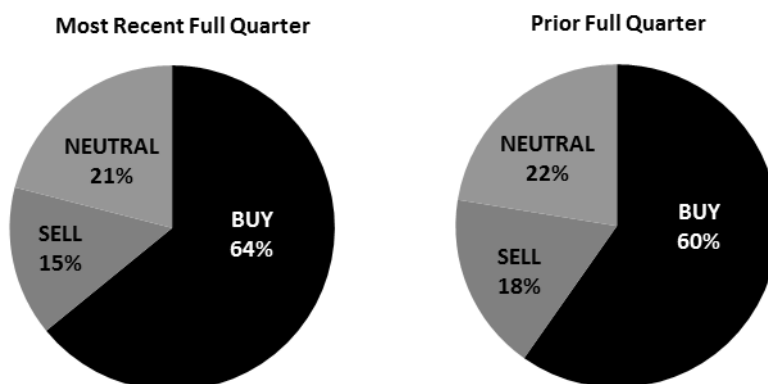
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	BUY	Neutral (hold)	SELL
HTIRL Equity Research Coverage	64%	21%	15%
IB clients*	3%	2%	0%

\*Percentage of investment banking clients in each rating category.

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Banca MPS	SG makes a market in Banca Monte Dei Paschi Di Siena warrants
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BNP Paribas	SG acted as joint bookrunner in BNPP's bond issue (EUR, 10yr).
Glencore	SG acted as bookrunner in Glencore Xstrata's bond issue (USD).
Initial Cap	SG acted as passive joint bookrunner in Bank of China Ltd's bond issue.
Euronext	SG acted as joint bookrunner in Ice's disposal of Euronext's shares.

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SGAS received compensation for products and services other than investment banking services in the past 12 months from BNP Paribas, Deutsche Boerse AG, Glencore.

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**Asian Pacific Region**

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Recommendation Chart



Date	Recommendation	Target (HKD)	Price (HKD)
2015-11-12			

Source: Company data Bloomberg, HTI estimates

Definitions for Key Investment Metrics

Business Growth

This is the metric which matches the top line in our report.

Business profit

This is the metric which best represents operating profit in our report

Shareholder Returns

Return on Equity

Balance Sheet Risk

Net Debt to Equity



## Haitong International Coverage as of 2 Nov 2015

<i>Pan Asia Resources</i>	
Core Coverage Universe	Non-Coverage Universe
<b>Sam Thawley (Team Leader)</b>	China Oil & Gas Group (603 HK)
Angang Steel (347 HK)	Dowa Holdings (5714 JP)
China Shenhua Energy (1088 HK)	Iino Kaiun Kaisha (9119 JP)
CNOOC (883 HK)	Maruichi Steel Tube (5463 JP)
Daido Steel (5471 JP)	Nippon Coke & Engineering (3315 JP)
Hanwa (8078 JP)	NS United Kaiun Kaisha (9110 JP)
Kawasaki Kisen (9107 JP)	Osaka Steel (5449 JP)
Kyoei Steel (5440 JP)	Shandong Molong Petroleum Machinery (568 HK)
Maanshan Iron & Steel (323 HK)	Shougang Concord International Enterprises (697 HK)
Mitsui O.S.K. Lines (9104 JP)	Yamato Kogyo (5444 JP)
Nippon Steel & Sumikin Bussan (9810 JP)	
PetroChina (857 HK)	
Sanyo Special Steel (5481 JP)	
Tokyo Steel Mfg. (5423 JP)	
<b>Fook Tat Cho</b>	
Anton Oilfield Services (3337 HK)	
China Datang (1798 HK)	
China Longyuan Power (916 HK)	
China Singyes (750 HK)	
China Suntien (956 HK)	
CIMC Enric (3899 HK)	
GCL-Poly (3800 HK)	
Hilong (1623 HK)	
Honghua Group (196 HK)	
Huadian Fuxin Energy (816 HK)	
Huaneng Renewables (958 HK)	
SPT Energy (1251 HK)	
Xinjiang Goldwind (2208 HK)	

<i>Pan Asia Machinery &amp; Industrial</i>	
Core Coverage Universe	Non-Coverage Universe
<b>Gary Cheung</b>	Avic International Holdings (232 HK)
Airtac International Group (1590 TT)	Chun Wo Development Holdings (711 HK)
China Communications Construction (1800 HK)	CW Group Holdings (1322 HK)
China Railway Construction (1186 HK)	Shanghai Prime Machinery (2345 HK)
China Railway Group (390 HK)	TK Group Holdings (2283 HK)
First Tractor (38 HK)	Wah Lee Industrial (3010 TT)
Giant Manufacturing (9921 TT)	Kato Works (6390 JP)
Hiwin Technologies (2049 TT)	Mitsui Engineering & Shipbuilding (7003 JP)
Merida (9914 TT)	Nishio Rent All (9699 JP)
Shenzhen International (152 HK)	Takeuchi Mfg. (6432 JP)
Technronic Industries (669 HK)	Eagle Industry (6486 JP)
Teco Electric and Machinery (1504 TT)	Komori (6349 JP)
Weichai Power (2338 HK)	Modex (6269 JP)
Zhuzhou CSR Times Electric (3898 HK)	Nachi-Fujikoshi (6474 JP)
Zoomlion Heavy Industry (1157 HK)	Toyo Engineering (6330 JP)
<b>Sho Fukuhara</b>	
Daikin Industries (6367 JP)	
Fuji Seal International (7864 JP)	
Fujitsu General (6755 JP)	
Glory (6457 JP)	
Hitachi Construction Machinery (6305 JP)	
IHI (7013 JP)	
Kawasaki Heavy Industries (7012 JP)	
Komatsu (6301 JP)	
Kubota (6326 JP)	
KYB (7242 JP)	
Makita (6586 JP)	
Mitsubishi Heavy Industries (7011 JP)	
Riso Kagaku (6413 JP)	
SMC (6273 JP)	
THK (6481 JP)	
<b>Tony Moyer</b>	
Amada (6113 JP)	
Azbil (6845 JP)	
Chiyoda (6366 JP)	
Daifuku (6383 JP)	
Fanuc (6954 JP)	
JGC (1963 JP)	
Nabtesco (6268 JP)	
Tsugami (6101 JP)	
Yaskawa Electric (6506 JP)	
Yokogawa Electric (6841 JP)	

<i>Pan Asia TMT</i>	
Core Coverage Universe	Non-Coverage Universe
<b>Neil Juggins (Team Leader)</b>	Alibaba Health Information Technology (241 HK)
Alibaba Group Holdings (BABA US)	Alibaba Pictures (1060 HK)
China Mobile (941 HK)	Anxin-China Holdings (1149 HK)
China Telecom (728 HK)	AV Concept Holdings (595 HK)
China Unicom Hong Kong (762 HK)	Bit-Isle (3811 JP)
Chunghwa Telecom (2412 TT)	Boyaa Interactive International (434 HK)
Ctrip.com International (CTRP US)	China All Access Holdings (633 HK)
Far Eastone Telecommunications (4904 TT)	ChipMOS Technologies (8150 TT)
KDDI (9433 JP)	Cogobuy (400 HK)
NetEase (NTES US)	Comba Telecom Systems Holdings (2342 HK)
Nippon Telegraph & Telephone (9432 JP)	Digital China (861 HK)
NTT DoCoMo (9437 JP)	DTS (9682 JP)
Softbank (9984 JP)	Feiyu Technology International (1022 HK)
Taiwan Mobile (3045 TT)	Ferrotec (6890 JP)
Tencent Holdings (700 HK)	FocalTech (5280 TT)
<b>Steve Myers</b>	Forgame Holdings (484 HK)
Canon (7751 JP)	Fujimi (5384 JP)
Fujitsu (6702 JP)	GMO Internet (9449 JP)
Hon Hai Precision Industry (2317 TT)	Hua Hong Semiconductor (1347 HK)
Keyence (6861 JP)	IGG (8002 HK)
Konica Minolta Holdings (4902 JP)	Internet Initiative Japan (3774 JP)
LG Electronics (066570 KS)	Megachips (6875 JP)
Nikon (7731 JP)	Micro-Star International (2377 TT)
Samsung Electronics (005930 KS)	NetDragon Websoft (777 HK)
Taiwan Semiconductor Mfg. Co. (2330 TT)	Ourgame International Holdings (6899 HK)
Toshiba (6502 JP)	Ryosan (8140 JP)
<b>Jones Ku</b>	Shindengen Electric Mfg. (6844 JP)
AAC Technologies (2018 HK)	SIM Technology Group (2000 HK)
BYD Electronic (285 HK)	TCL Multimedia Technology Holdings (1070 HK)
China Communications (552 HK)	T-Gaia (3738 JP)
Coolpad Group (2369 HK)	Tian Ge Interactive Holdings (1980 HK)
Sunny Optical (2382 HK)	Truly International Holdings (732 HK)
TCL Communication (2618 HK)	Unity Opto Technology (2499 TT)
Tongda Group (698 HK)	Varitronix International (710 HK)
ZTE (763 HK)	Yangtze Optical Fibre & Cable (6869 HK)
<b>Jean-Louis Lafayeedney</b>	
Advanced Semiconductor Engineering (2311 TT)	
ASM Pacific Technology (522 HK)	
Asustek Computer (2357 TT)	
AU Optronics (2409 TT)	
Casetek Holdings (5264 TT)	
HTC (2498 TT)	
Largan Precision (3008 TT)	
Lenovo (992 HK)	
Nidec (6594 JP)	
Siliconware Precision Industries (2325 TT)	
Skyworth Digital Holdings (751 HK)	
<b>Justin Weiss</b>	
Colopl (3668 JP)	
Cookpad (2193 JP)	
CyberAgent (4751 JP)	
DeNA (2432 JP)	
F@N Communications (2461 JP)	
GMO Payment Gateway (3769 JP)	
Gree (3632 JP)	
Gurunavi (2440 JP)	
Infomart (2492 JP)	
Kakaku.com (2371 JP)	
Naver (035420 KS)	
Nexon (3659 JP)	
Rakuten (4755 JP)	
Start Today (3092 JP)	
Yahoo Japan (4689 JP)	

<i>Pan Asia Autos</i>	
Core Coverage Universe	Non-Coverage Universe
<b>Steve Usher (Team Leader)</b>	Mabuchi Motor (6592 JP)
Fuji Heavy Industries (7270 HK)	Maruwa (5344 JP)
Honda Motor (7267 JP)	Press Kogyo (7246 JP)
Hyundai Mobis (012330 KS)	TPR (6463 JP)
Hyundai Motor (005380 KS)	TS Tech (7313 JP)
Kia Motors (000270 KS)	Meidong Auto (1268 HK)
Nissan Motor (7201 JP)	China Yongda Auto (3669 HK)
Suzuki Motor (7269 JP)	Chaowei Power (951 HK)
Toyota Motor (7203 JP)	CAR Inc (699 HK)
Yamaha Motor (7272 JP)	
<b>Rebecca Tang</b>	
Baoxin Auto (1293 HK)	
Brilliance China (1114 HK)	
BYD (1211 HK)	
Dongfeng Motor (489 HK)	
Geely Automobile (175 HK)	
Great Wall Motor (2333 HK)	
Guangzhou Automobile (2238 HK)	
Mintin (425 HK)	
Nexteer (1316 HK)	
<b>Kosuke Matsuda</b>	
Isuzu Motors (7202 JP)	
Mazda (7261 JP)	
Mitsubishi Motors (7211 JP)	

## Haitong International Coverage as of 2 Nov 2015

**China Real Estate**

Core Coverage Universe	Non-Coverage Universe
<b>Andy So (Team Leader)</b> Agile Property (3383 HK) China Overseas Land & Investment (688 HK) China Resources Land (1109 HK) Country Garden Holdings (2007 HK) Dalian Wanda Commercial Properties (3699 HK) Greentown China Holdings (3900 HK) Guangzhou R&F Properties (2777 HK) KWG Property Holding (1813 HK) Shimao Property Holdings (813 HK)	Joy City (207 HK) China Merchant Prop (978 HK) Greenland HK (337 HK) Central China Real Estate (832 HK) Gemdale (535 HK) Yuzhou Properties (1628 HK) Emperor International Holdings (163 HK)

**Japan Real Estate**

Core Coverage Universe	Non-Coverage Universe
<b>Mark Brown (Team Leader)</b> Daito Trust Construction (1878 JP) Daiwa House Industry (1925 JP) Lixil Group (5938 JP) Mitsubishi Estate (8802 JP) Mitsui Fudosan (8801 JP) Noritz (5943 JP) Obayashi (1802 JP) Sekisui House (1928 JP) Sumitomo Realty & Development (8830 JP) Taisei (1801 JP) Tokyo Tatemono (8804 JP)	Daiburu (8806 JP) Daikyo (8840 JP) Haseko (1808 JP) Hulic (3003 JP) Kenedix (4321 JP) Sanwa Holdings (5929 JP) Sumitomo Real Estate Sales (8870 JP)

**China Consumer**

Core Coverage Universe	Non-Coverage Universe
<b>Nicolas Wang (Team Leader)</b> China Medical System (867 HK) China Mengniu Dairy (2319 HK) China Resources Enterprise (291 HK) China Traditional Chinese Medicine (570 HK) CSPC Pharmaceutical Group (1093 HK) Hengan International (1044 HK) Shanghai Pharmaceuticals (2607 HK) Sinopharm Group (1099 HK) Tingyi Cayman Islands Holding (322 HK) Tsingtao Brewery (168 HK) Uni-President China (220 HK) Want Want China Holdings (151 HK) <b>Donald Cheng</b> Galaxy Entertainment (27 HK) Macau Legend Development (1680 HK) MGM China (2282 HK) Paradise Entertainment (1180 HK) Sands China (1928 HK) SIM Holdings (880 HK) Wynn Macau (1128 HK)	Tenwow International (1219 HK) Tibet 5100 Water (1115 HK) China Child Care (1259 HK) Tsui Wah (1314 HK) Hosa (2200 HK) Goodbaby (1086 HK) Le Saunda (738 HK) Future Bright (703 HK) C.Banner (1028 HK) Dorsett Hospitality (2266 HK) China Travel International (308 HK) Shanghai Jinjiang International (2006 HK)

**Japan Consumer**

Core Coverage Universe	Non-Coverage Universe
<b>James Moon (Team Leader)</b> Aoyama Trading (8219 JP) Asics (7936 JP) FamilyMart (8028 JP) Fast Retailing (9983 JP) Japan Tobacco (2914 JP) Laox (8202 JP) Seven & I Holdings (3382 JP) Unicharm (8113 JP)	Aeon Mall (8905 JP) Avex Group Holdings (7860 JP) DCM Holdings (3050 JP) H2O Retailing (8242 JP) Honeys (2792 JP) Parco (8251 JP)

**Latest Additions to Coverage**

Asics (7936 JP) — James Moon  
China Resources Land (1109 HK) — Andy So  
GF Securities (1776 HK) — Tony Tanaka  
Inbody 041830 KS) — Jaesong Woo  
Kameda Seika (2220 JP) — Hiroyuki Terada  
Kepco Plant Service & Engineering (051600 KS) — Justin Kim  
Optex (6914 JP) — Yusuke Suzuki  
Riso Kagaku (6413 JP) — Sho Fukuhara  
SITC International Holdings (1308 HK) — Yuanyuan Ji

**Latest Drops from Coverage**

CRCC (1766 HK)

**Latest Transfers of Coverage**

China Communications Construction (1800 HK) to Gary Cheung  
China Railway Construction (1186 HK) to Gary Cheung  
China Railway Group (390 HK) to Gary Cheung  
Shenzhen International (152 HK) to Gary Cheung  
Zhuzhou CSR Times Electric (3898 HK) to Gary Cheung

**Asia ex Small Cap**

Core Coverage Universe	Non-Coverage Universe
<b>Yuanyuan Ji (Team Leader)</b> Best Pacific International (2111 HK) Century Sage Scientific (1450 HK) China Aircraft Leasing Group (1848 HK) CPMC Holdings (906 HK) Daphne International Holdings (210 HK) DynaGreen Environmental Protection (1330 HK) Pacific Textiles Holdings (1382 HK) Pax Global Technology (327 HK) Sa Sa International Holdings (178 HK) Shanghai Fudan Microelectronics (1385 HK) Shenzhou International Group (2313 HK) Sinomedia Holding (623 HK) SITC International Holdings (1308 HK) Wasion Group Holdings (3393 HK) <b>Kevin Leung</b> APT Satellite (1045 HK) Boer Power (1685 HK) China Pioneer Pharma (1345 HK) Cosmo Lady China (2298 HK) Fu Shou Yuan International (1448 HK) Man Wah Holdings (1999 HK) PW Medtech (1358 HK) Universal Health International (2211 HK) Wisdom Holdings (1661 HK) Yestar International (2393 HK) <b>Justin Kim</b> Aerospace Technology of Korea (067390 KS) Cuckoo Electronics (192400 KS) Kepco Plant Service (051600 KS) <b>Jaesong Woo</b> Hansae (105630 KS) Hy-Lok (013030 KS) Inbody 041830 KS) Korea Kolmar (161890 KS) Osstem Implant (048260 KS) Sung Kwang Bend (014620 KS) TK Corp. (023160 KS) Youngone (111770 KS)	Bolina Holding (1190 HK) Bonjour Holdings (653 HK) Chigo Holding (449 HK) China Glass Holdings (3300 HK) Goldpac Group (3315 HK) Hisense Kelon Electrical Holdings (921 HK) Hua-Han Bio-Pharmaceutical Holdings (587 HK) Ozone Water International Holding (2014 HK) Sinosoft Technology Group (1297 HK) Texhong Textile Group (2678 HK) Weiqiao Textile (2698 HK) Welling Holding (382 HK) Yue Yuen Industrial Holdings (551 HK) Cosmax (192820 KS) DHP Korea (131030 KS) Easy Bio (035810 KS) Hansol HomeDeco (025750 KS) Hanssem (009240 KS) Mando (204320 KS) Medy-Tox (086900 KS) Naturalendo Tech (168330 KS) Sam Chun Dang Pharm (000250 KS)

**Japan Small Cap**

Core Coverage Universe	Non-Coverage Universe
<b>Hiroyuki Terada (Team Leader)</b> Accordia Golf (2131 JP) Accretive (8423 JP) Dentsu (4324 JP) Gulliver International (7599 JP) Kameda Seika (2220 JP) Pigeon (7956 JP) Pola Orbis (4927 JP) Recruit Holdings (6098 JP) Sanrio (8136 JP) Shiseido (4911 JP) Sohgo Security Services (2331 JP) Technopro Holdings (6028 JP) Yamato Holdings (9064 JP) Yumeshin Holdings (2362 JP) <b>Yusuke Suzuki</b> Ain Pharmaciez (9627 JP) Doutor Nichires Holdings (3087 JP) FF (7947 JP) Nihon Nohyaku (4997 JP) Nihon Parkerizing (4095 JP) Optex (6914 JP) Sky Perfect JSAT Holdings (9412 JP) Sun Frontier Fudousan (8934 JP) Takara Leben (8897 JP) Tosei (8923 JP) Wowow (4839 JP) <b>Tony Tanaka</b> China Galaxy Securities (6881 HK) GCA Savvian (2174 JP) GF Securities (1776 HK) Nihon M&A Center (2127 JP) Zenkoku Hosho (7164 JP)	Autobacs Seven (9832 JP) Fujibo Holdings (3104 JP) Meittec (9744 JP) Monotaro (3064 JP) Nichii Gakkan (9792 JP) Tohokushinsha Film (2329 JP)