



RESEARCH PAPER

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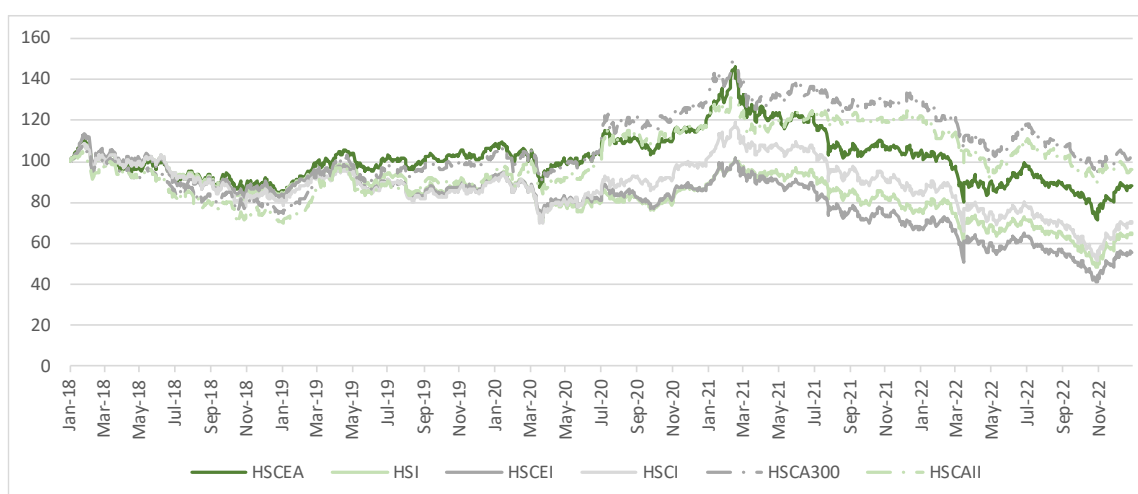
HSCEA Offers More Comprehensive China Coverage

HSCEA Encompasses More China Companies Listed in Mainland and Hong Kong

In 2001, there was about 1,100 companies listed in mainland China. By 2021, such figure has ballooned to 4,600 companies. With the explosive growth of listed companies in mainland China, the Hang Seng China Enterprises Index ('HSCEI') could not reflect the performance of those companies as the index itself is tracking mainland companies listed in Hong Kong. With the launch of Stock Connect Scheme investors in mainland and overseas are able to access securities listed in Hong Kong (Southbound Trading) and mainland (Northbound Trading). In late last August, the Hang Seng Stock Connect China Enterprises Index ('HSCEA') was launched. The 80 constituent companies consist of 46 companies from the HSCEI and 34 largest market cap A-share companies.

The correlation coefficients between the HSCEA and major indexes of US and Europe are relatively low. With little statistical relationship between the HSCEA and overseas indexes, the HSCEA presents an optimal solution for investors who are looking for risk diversification opportunities. The HSCEA is at the low range (20.8%) of the annualised volatility among the six indexes (from 20.2% to 25.2%) used for comparison. We believe the combination of the HSCEI constituents with large-cap A-share companies have helped the HSCEA to diversify the unsystematic risk at a large extent.

Exhibit 1: Comparison of index performance



Source: Hang Seng Indexes Company.
Date: 30 December 2022



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Executive Summary

HSCEA was launched to comprehensively cover China securities listed in HK and mainland

The massive size of China's three stock exchanges (SEHK, SSE, SZSE) provides liquidity and risk diversification as investors look for investment opportunities. In 1994, the Hang Seng China Enterprises Index ("HSCEI") was launched to serve as a benchmark to reflect the overall performance of mainland companies listed in Hong Kong. With the explosive growth of mainland companies listed in China, the Hang Seng Stock Connect China Enterprises Index ("HSCEA") is recently launched to comprehensively cover China securities listed in Hong Kong and China.

Using HSCEI as a starting point, HSCEA was built to encompass HSCEI & large-cap A-shares

HSCEA consists of 80 listed companies. The index was intended to include all the 50 companies currently within the HSCEI but 4 companies were excluded due to their ineligibility for Southbound trading under the Stock Connect Scheme. For the A-share companies, the companies with highest market value are selected. As a result, HSCEA is not skewed by any geographical limitation. The A-share constituent companies represent ~20% of the total market cap of listing companies on the mainland stock exchanges (SSE and SZSE).

Financials, Consumer (Staples + Discretionary), IT, Industrials account for >80% of the HSCEA

An 8% individual stock weight cap is implemented to prevent the HSCEA being highly skewed by mega-sized stocks. Historically, IT and Financials are mainly listed in Hong Kong. Meanwhile, Industrials and Consumer (Staples + Discretionary) are mainly listed in mainland stock exchanges. As a result of the HSCEA's stock selection criteria, those 5 sectors account for >80% of the HSCEA.

HSCEA offers better risk-adjusted return

The HSCEA is at the low range (20.8%) of the annualised volatility among the six indexes (from 20.2% to 25.2%) used for comparison. We believe the combination of HSCEI constituents with large-cap A-share companies have helped the HSCEA to diversify the unsystematic risk at a large extent.

HSCEA's low correlation with indexes of US and Europe offers ideal risk diversification

Among the correlation coefficients between HSCEA and major indexes of US and Europe, we note the highest value is only 0.324. The relatively low value of the correlation coefficients suggests there is little statistical relationship between HSCEA and overseas indexes. For investors who are looking for risk diversification opportunities, the HSCEA presents an optimal solution.

HSCEA could lead to index-linked product development

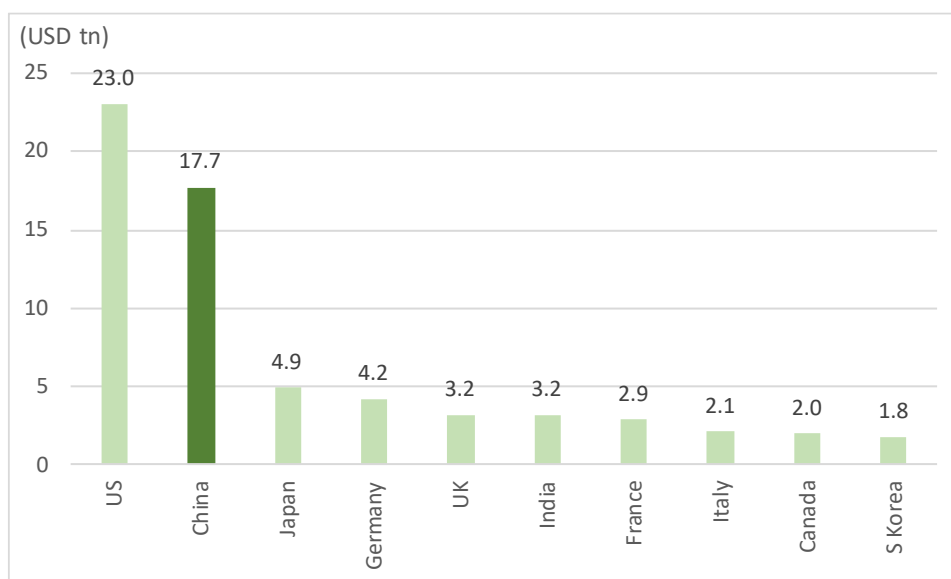
Based on its closing index point on 31 October 2022, the HSCEA had a freefloat market cap of HK\$10,405 billion, which is around 1.17x and 2.04x the freefloat market cap of HSI and HSCEI respectively. If increasing amounts of ETFs begin to track HSCEA (similar to the current situation in which many ETFs are tracking the HSI and HSCEI), and if we assume HSCEA could achieve similar ratios of total AUM to index freefloat market cap (HSI (1.75%) and HSCEI (0.83%)), the total AUM for the HSCEA-related ETFs could range from HK\$86 billion to HK\$182 billion.



Importance of Mainland China Market Cannot Be Overlooked

According to the World Bank, as of the end of 2021, the nominal value of China's gross domestic product (GDP) was USD17.7 trillion. That put China right behind the United States which has the largest gross domestic product at USD23.0 trillion. The sheer size of China's economy opens lots of investment opportunities to investors around the world.

Exhibit 2: Comparison of GDP of Major Countries in the World

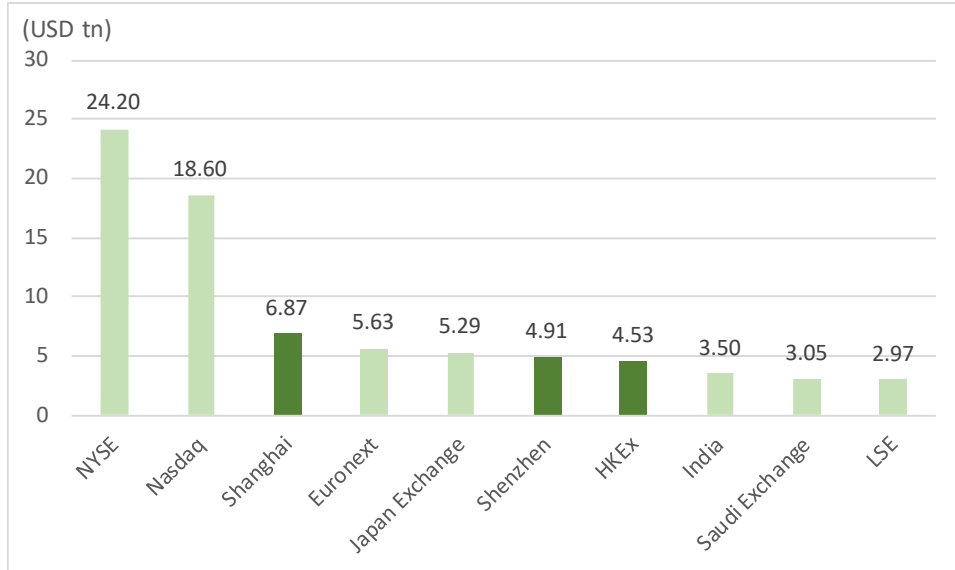


Source: World Bank.
Date: 30 December 2022

As we rank stock exchanges around the world, China has three stock exchanges which are ranked within the top ten stock exchanges (based on the total market value of listing companies on the stock exchange). They are Shanghai Stock Exchange (USD6.87 trillion), Shenzhen Stock Exchange (USD4.91 trillion) and Stock Exchange of Hong Kong (USD4.53 trillion). The massive size of those stock exchanges provides liquidity and risk diversification as investors look for investment opportunities.



Exhibit 3: Comparison of stock exchanges in terms of market value of listing companies in the world



Source: World Federation of Exchanges.
Date: 30 December 2022

As the size and number of mega-sized Chinese enterprises has increased over the past many years, they obtained listing status on stock exchanges around the world. We note a majority of those enterprises were listed on the three abovementioned stock exchanges. As of 31 August, 2022, Shanghai Stock Exchange had 2,162 listed mainland companies, Shenzhen Stock Exchange had 2,711 listed mainland companies and Stock Exchange of Hong Kong had 1,383 listed mainland companies.

Exhibit 4: China companies listed on stock exchanges around the world



Source: Hang Seng Indexes Company, WIND.
Date: 30 December 2022



Currently, when it comes to investments into China securities, there are a wide array of stocks available for investors' consideration. In the early days, Shanghai Stock Exchange and Shenzhen Stock Exchange are the natural venues for public listing of mainland companies. In 1993, we note a number of mainland companies (incorporated in China, known as H-shares) sought listing in Hong Kong. Around the same timeframe, a steady stream of mainland companies (incorporated in Hong Kong, known as red chips) sought listing in Hong Kong. In the 2010s, mainland companies began to seek primary listings in overseas stock exchanges (eg, New York Stock Exchange, Nasdaq, London Stock Exchange).

Exhibit 5: Types of China stocks available for investment opportunities

Types of stocks	Place of incorporation	Stock exchange of listing	Nature of companies	Company example
A-shares	China	Shanghai, Shenzhen	State-owned enterprises (SOEs) or private companies	Kweichow Moutai (600519.SS)
H-shares	China	Hong Kong	Mostly state-owned enterprises (SOEs)	China Telecom (0728.HK)
Red chips	Incorporated outside of China	Hong Kong	Mostly state-owned enterprises (SOEs)	China Mobile (0941.HK)
P chips	Incorporated outside of China	Hong Kong	Mostly private companies	Tencent (0700.HK), JD.com (9618.HK)
N-shares	Can be incorporated inside or outside of China	US	Mostly private companies	Alibaba (BABA.N)
Others	Can be incorporated inside or outside of China	Overseas	State-owned enterprises (SOEs) or private companies	China Yangtze Power (CYPCL)

Source: Hang Seng Indexes Company.
Date: 30 December 2022



HSCEA Facilitating Investors to Weave Through Investment Opportunities

In August 1994, the Hang Seng China Enterprises Index (“HSCEI”) was launched to serve as a benchmark to reflect the overall performance of mainland companies listed in Hong Kong.

Exhibit 6: List of constituent companies within the HSCEI as of 31 December 2022

Code	Company	Weighting (%)	Code	Company	Weighting (%)
1 0700.HK	TENCENT	8.68%	26 0688.HK	CHINA OVERSEAS	1.08%
2 3690.HK	MEITUAN - W	8.35%	27 9999.HK	NTES - S	1.06%
3 9988.HK	BABA - SW	8.13%	28 0857.HK	PETROCHINA	1.03%
4 0939.HK	CCB	7.25%	29 1093.HK	CSPC PHARMA	1.01%
5 9618.HK	JD - SW	5.34%	30 2313.HK	SHENZHOU INTL	0.99%
6 2318.HK	PING AN	4.48%	31 0981.HK	SMIC	0.96%
7 0941.HK	CHINA MOBILE	4.35%	32 0175.HK	GEELY AUTO	0.94%
8 1398.HK	ICBC	4.06%	33 2382.HK	SUNNY OPTICAL	0.91%
9 3988.HK	BANK OF CHINA	3.09%	34 9888.HK	BIDU - SW	0.90%
10 1810.HK	XIAOMI - W	2.63%	35 6690.HK	HAIER SMARTHOME	0.89%
11 1024.HK	KUAISHOU - W	2.51%	36 0267.HK	CITIC	0.82%
12 1211.HK	BYD COMPANY	2.46%	37 1177.HK	SINO BIOPHARM	0.71%
13 0883.HK	CNOOC	2.44%	38 1658.HK	PSBC	0.66%
14 3968.HK	CM BANK	2.33%	39 0992.HK	LENOVO GROUP	0.64%
15 2331.HK	LI NING	2.19%	40 0960.HK	LONGFOR GROUP	0.63%
16 2020.HK	ANTA SPORTS	1.90%	41 6862.HK	HAIDILAO	0.63%
17 1109.HK	CHINA RES LAND	1.57%	42 0968.HK	XINYI SOLAR	0.58%
18 2319.HK	MENGNIU DAIRY	1.54%	43 2618.HK	JD LOGISTICS	0.55%
19 2628.HK	CHINA LIFE	1.37%	44 6098.HK	CG SERVICES	0.54%
20 0386.HK	SINOPEC CORP	1.32%	45 3328.HK	BANKCOMM	0.54%
21 9633.HK	NONGFU SPRING	1.22%	46 2015.HK	LI AUTO - W	0.54%
22 0291.HK	CHINA RES BEER	1.21%	47 0020.HK	SENSETIME - W	0.46%
23 2688.HK	ENN ENERGY	1.19%	48 6186.HK	CHINA FEIHE	0.40%
24 1288.HK	ABC	1.13%	49 0881.HK	ZHONGSHENG HLDG	0.40%
25 6618.HK	JD HEALTH	1.09%	50 2007.HK	COUNTRY GARDEN	0.31%

Source: Hang Seng Indexes Company.

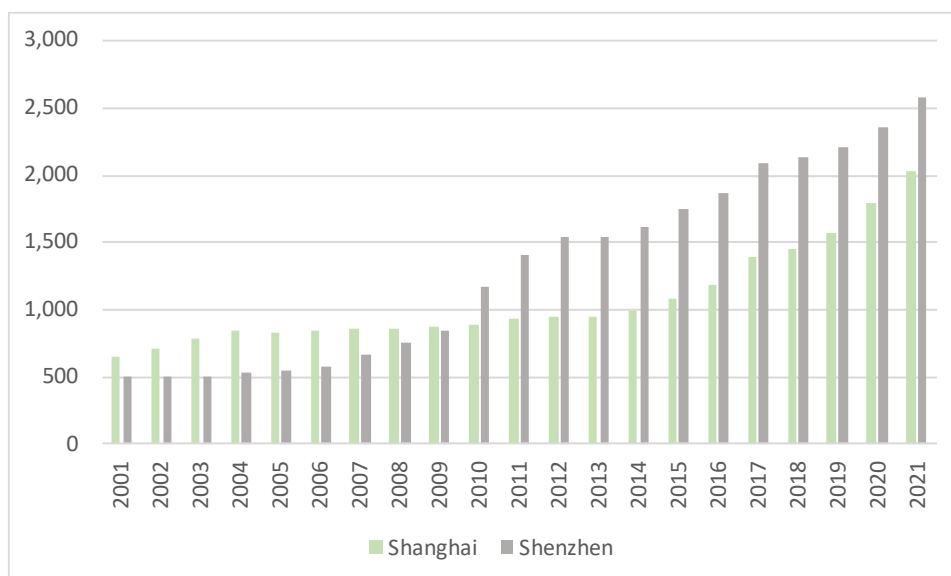
Date: 30 December 2022

Historically, the HSCEI provides investors with a basket of mainland companies which are listed on the Stock Exchange of Hong Kong. These 50 companies are the largest and most liquid mainland securities listed in Hong Kong. The mainland stock exchanges were just established a few years ahead the HSCEI. Shanghai Stock Exchange was established in November 1990 and Shenzhen Stock Exchange was established in December 1990. Given the relatively short history of the mainland stock exchanges at that time, the HSCEI managed to capture a bulk of the major mainland companies listed in Hong Kong.



After years of development, the number of listed companies on Shanghai Stock Exchange grew 2.2x from 645 in 2001 to 2,037 in 2021. Similarly, the number of listed companies on Shenzhen Stock Exchange grew 4.1x from 508 in 2001 to 2,578 in 2021. We witness an explosive growth in terms of number of companies listed in each respective stock exchange. Therefore, the HSCEI was not able to reflect accurately the performance of A-share companies which are listed in mainland China (Shanghai Stock Exchange and Shenzhen Stock Exchange).

Exhibit 7: Number of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange



Source: Shanghai Stock Exchange, Shenzhen Stock Exchange.

Date: 30 December 2022

With this in mind, Hang Seng Indexes Company Limited (“HSIL”) launched the Hang Seng Stock Connect China Enterprises Index (“HSCEA”) as the solution. The index was launched on 29 August 2022. The objective of the index is to serve as a benchmark to reflect the overall performance of Chinese companies listed in Hong Kong and/or mainland China that are eligible for Northbound or Southbound trading under the Stock Connect Scheme.

Within the 50 constituent stocks of the HSCEI, there are four companies not included in the HSCEA. They are Alibaba (9988 HK), Baidu (9888 HK), JD.com (9618 HK), Netease (9999 HK). These companies are not included because they are not eligible for Southbound trading under the Stock Connect Scheme.

For the A-share companies, the companies with highest market value are selected until the total number of constituents reaches 80. Given 46 constituent stocks of the HSCEI are included into the HSCEA, there are 34 A-share companies included into the HSCEA. The constituents will be reviewed on a quarterly basis and a decision will be made with regards to potential change of constituent companies.



Exhibit 8: Top 34 A-share companies selected into the HSCEA (sorted by alphabetical order)

Code	Company	Code	Company
1 300015.SZ	AIER EYE HOSPITAL	21 000333.SZ	MIDEA GROUP
2 300750.SZ	CATL	22 300760.SZ	MINDRAY
3 601816.SS	CH	23 002714.SZ	MUYUAN
4 601088.SS	CHINA SHENHUA	24 000001.SZ	PAB
5 601728.SS	CHINA TELECOM	25 600104.SS	SAIC MOTOR
6 600030.SS	CITIC SEC	26 002352.SZ	SF HOLDING
7 601888.SS	CTG DUTY-FREE	27 600809.SS	SHANXI FEN WINE
8 600900.SS	CYPC	28 600000.SS	SPD BANK
9 300059.SZ	EASTMONEY	29 600309.SS	WANHUA
10 601138.SS	FOXCONN INDUSTRIAL INTERNET	30 000858.SZ	WULIANGYE
11 601633.SS	GREATWALL MOTOR	31 603259.SS	WUXI APPTEC
12 000651.SZ	GREE	32 002304.SZ	YANGHE
13 603288.SS	HAI TIAN	33 300999.SZ	YIHAI KERRY ARAWANA HOLDINGS
14 002415.SZ	HIKVISION	34 600887.SS	YILI
15 600276.SS	HR		
16 601166.SS	INDUSTRIAL BANK		
17 600519.SS	KWEICHOW MOUTAI		
18 601012.SS	LONGI		
19 000568.SZ	LUZHOU LAO JIAO		
20 002475.SZ	LXJM		

Source: Hang Seng Indexes Company.

Date: 30 December 2022



Exhibit 9: Classification (A-share, H-share, red chip) of companies within the HSCEA (sorted by weighting distribution, from largest to smallest)

A Shares	H Shares	Red Chips	Others	Name	A Shares	H Shares	Red Chips	Others	Name
			0700.HK	TENCENT	300015.SZ				AIER EYE HOSPITAL
600519.SS				KWEICHOW MOUTAI			1109.HK		CHINA RES LAND
		3690.HK		MEITUAN - W			2319.HK		MENGNIU DAIRY
300750.SZ				CATL	002304.SZ				YANGHE
	0939.HK			CCB	601088.SS				CHINA SHENHUA
000858.SZ				WULIANGYE		2628.HK			CHINA LIFE
	2318.HK			PING AN		0386.HK			SINOPEC CORP
		0941.HK		CHINA MOBILE		9633.HK			NONGFU SPRING
601166.SS				INDUSTRIAL BANK			0291.HK		CHINA RES BEER
601012.SS				LONGI			2688.HK		ENN ENERGY
	1398.HK			ICBC		1288.HK			ABC
000333.SZ				MIDEA GROUP			6618.HK		JD HEALTH
300059.SZ				EASTMONEY			0688.HK		CHINA OVERSEAS
601888.SS				CTG DUTY-FREE		0857.HK			PETROCHINA
	3988.HK			BANK OF CHINA			1093.HK		CSPC PHARMA
300760.SZ				MINDRAY	601728.SS				CHINA TELECOM
600900.SS				CYPC			2313.HK		SHENZHOU INTL
600030.SS				CITIC SEC			0981.HK		SMIC
600887.SS				YILI			0175.HK		GEEELY AUTO
		1810.HK		XIAOMI - W			2382.HK		SUNNY OPTICAL
000568.SZ				LUZHOU LAO JIAO		6690.HK			HAIER SMARTHOME
		1024.HK		KUAISHOU - W			0267.HK		CITIC
	1211.HK			BYD COMPANY	600104.SS				SAIC MOTOR
600309.SS				WANHUA			1177.HK		SINO BIOPHARM
		0883.HK		CNOOC		1658.HK			PSBC
603259.SS				WUXI APPTec			0992.HK		LENOVO GROUP
002714.SZ				MUYUAN			0960.HK		LONGFOR GROUP
	3968.HK			CM BANK			6862.HK		HAIDILAO
600276.SS				HR			0968.HK		XINYI SOLAR
002475.SZ				LXJM	601633.SS				GREATWALL MOTOR
000651.SZ				GREE	601138.SS				FOXCONN INDUSTRIAL INTERNET
		2331.HK		LI NING			2618.HK		JD LOGISTICS
002415.SZ				HIKVISION	300999.SZ				YIHAI KERRY ARAWANA HOLDINGS
603288.SS				HAI TIAN			6098.HK		CG SERVICES
002352.SZ				SF HOLDING		3328.HK			BANKCOMM
		2020.HK		ANTA SPORTS			2015.HK		LI AUTO - W
600809.SS				SHANXI FEN WINE			0020.HK		SENSETIME - W
601816.SS				CH			6186.HK		CHINA FEIHE
600000.SS				SPD BANK			0881.HK		ZHONGSHENG HLDG
000001.SZ				PAB			2007.HK		COUNTRY GARDEN

Source: Hang Seng Indexes Company.
Date: 30 December 2022

As of 31 December, 2022, the top 34 A-share companies represents 19.9% of total market capitalisation of the listing companies on the mainland stock exchanges (Shanghai Stock Exchange and Shenzhen Stock Exchange). Of the 34 A-share companies within the HSCEA, there are 19 companies listed on Shanghai Stock Exchange and 15 companies listed on Shenzhen Stock Exchange. The 19 companies represent 20.1% of total market capitalisation of the listing companies on Shanghai Stock Exchange. The 15 companies represent 19.7% of total market capitalisation of the listing companies on the Shenzhen Stock Exchange.



Of the 80 companies selected into the HSCEA, we note the entire 12 industries has representing companies. Consumer Discretionary and Financials each have 14 companies and Consumer Staples have 13 companies.

Exhibit 10: Industry and sectors for the HSCEA constituents

Industry	Sector
Energy	Oil & Gas Coal
Materials	Gold & Precious Metals Diversified Metals & Minerals Basic Materials
Industrials	Industrial Engineering Industrial Transportation Commercial & Professional Services
Consumer Discretionary	Automobiles Household Goods & Electronics Textiles & Clothing Travel & Leisure Media & Entertainment Support Services Specialty Retail
Consumer Staples	Food & Beverages Agricultural Products Consumer Staple Retailers
Healthcare	Pharmaceuticals & Biotechnology Healthcare Equipment & Services
Telecommunications	Telecommunications
Utilities	Utilities
Financials	Banks Insurance Other Financials
Properties & Construction	Properties Construction
Information Technology	IT Hardware Software & Services Semiconductors
Conglomerates	Conglomerates

Source: Hang Seng Indexes Company.
Date: 30 December 2022

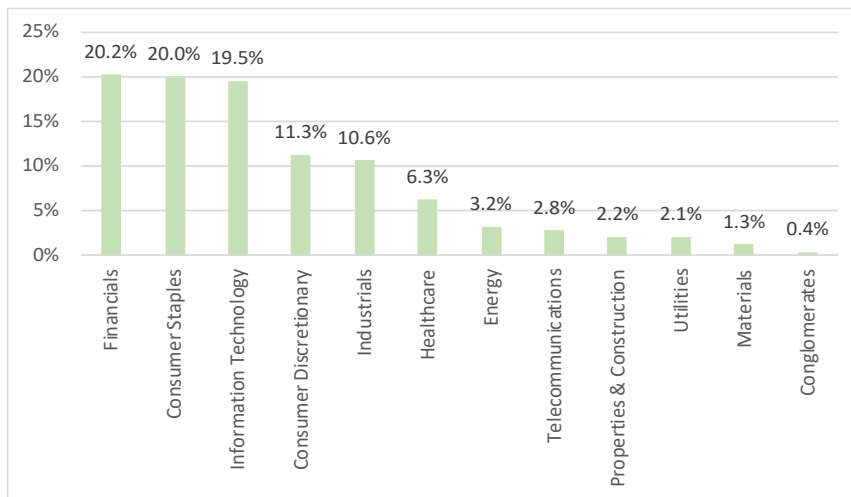


Deep Dive into Composition of the HSCEA Constituents

Constituent weighting distribution

To avoid the index being highly skewed by mega-sized stocks, the index is free-float market-value-weighted and there is an 8% individual stock weight cap. Within the index, Financials accounts for the highest weighting at 20.2%, followed by Consumer Staples at 20.0%, Information Technology at 19.5%. Conglomerates is the industry which accounts for the lowest weighting at 0.4%. Overall, we note Financials, Consumption (Consumer Staples, Consumer Discretionary), Information Technology, Industrials combine for 81.6% of the HSCEA's market cap weighting.

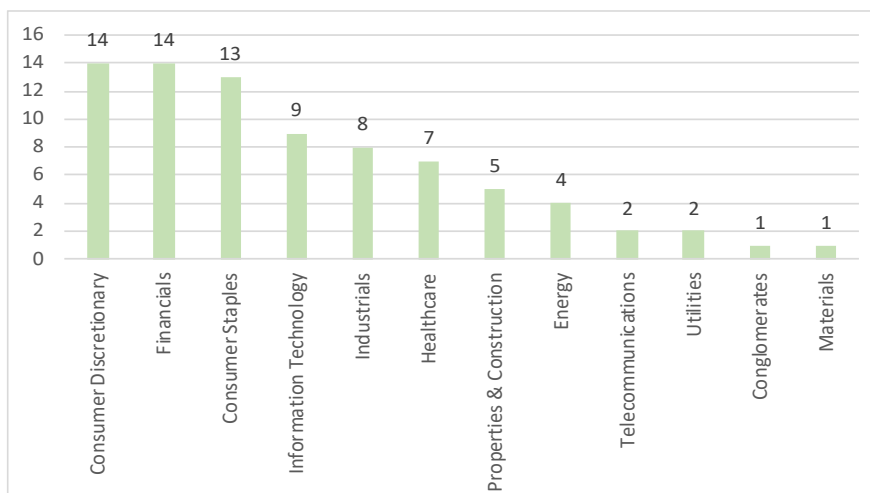
Exhibit 11: Weighting distribution within the HSCEA by industry



Source: Hang Seng Indexes Company. Date: 30 December 2022

In terms of distribution by industry, we note Consumer Discretionary and Financials each has the highest representation at 14 companies, followed by Consumer Staples at 13 companies, Information Technology at 9 companies. Same as the weighting distribution, Conglomerates is ranked the last in terms of company representation with 1 company only.

Exhibit 12: Number of companies within the HSCEA by industry

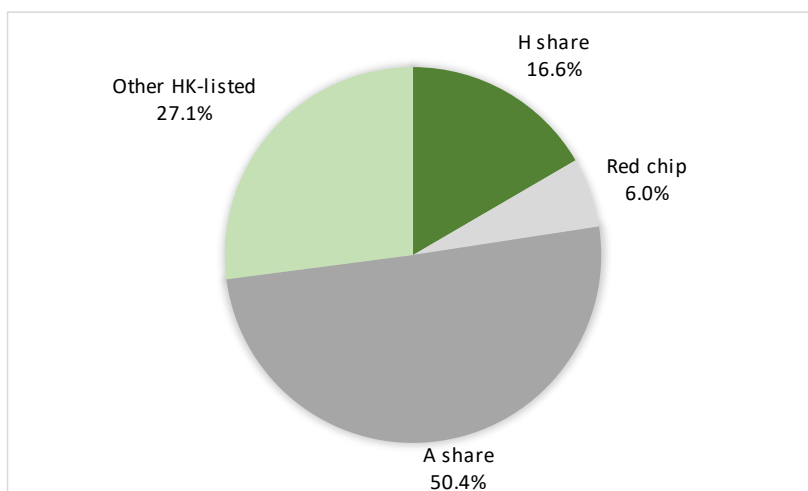


Source: Hang Seng Indexes Company. Date: 30 December 2022



In terms of weighting distribution by stock types, we note A-share companies (50.4%) account for the biggest contribution, followed by other mainland companies listed in Hong Kong (27.1%). The lowest contribution is from red chip companies (6.0%). This is understandable given: (1) many mega-sized companies are listed only in mainland stock exchanges; (2) major technology companies from mainland are already listed in Hong Kong; (3) red chip companies tend to be brick-and-mortar companies, therefore easily surpassed by fast growing technology companies.

Exhibit 13: Weighting distribution within the HSCEA by types of listed security

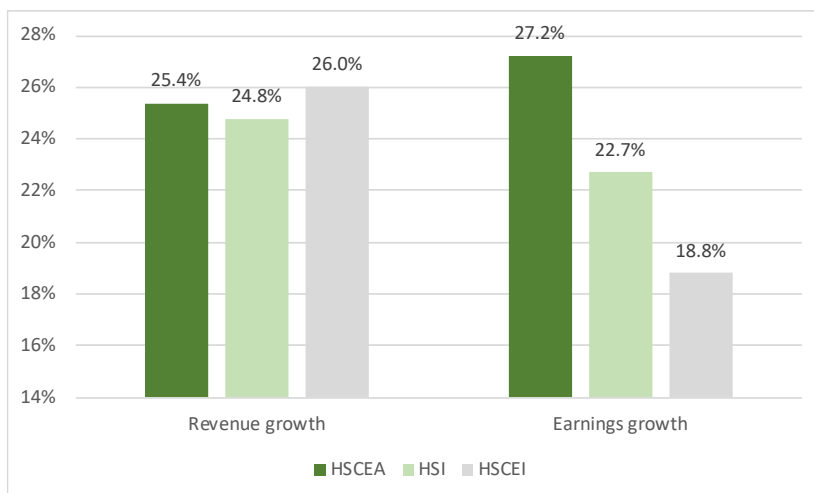


Source: Hang Seng Indexes Company. Date: 30 December 2022

Index characteristics

As we look at the earnings growth of the constituent companies within the HSCEA, we note the HSCEA's earnings growth for FY2021 was 27.2%. In FY2021, for the four HSCEI constituent companies (Alibaba, Baidu, JD.com, Netease) which are not included into HSCEA, their aggregate earnings posted year-on-year decline. That affected the earnings growth performance of the HSCEI.

Exhibit 14: Annual earnings growth in FY2021 (%), HSCEA vs. HSI vs. HSCEI



Source: Hang Seng Indexes Company. Date: 30 December 2022



Industry weightings comparison against other indexes

For the HSCEA, the top 3 industries with the highest industry weightings are Financials, Consumer Staples and Information Technology. Those 3 industries account for 59.8% of the HSCEA. For the HSI, HSCEI, HSCI, HSCA300 and the HSCAII, we note Financials is within the top 3 industries with the highest industry weightings. This is understandable given Financials is an important industry within China and Hong Kong economy. Information Technology is the other industry which shows up within the top 3 industries with the highest industry weightings (except for the HSCA300 and the HSCAII). For those two latter indexes, there are plenty of companies from Industrials. For the HSI, HSCEI and HSCI, we note Consumer Discretionary is within the top 3 industries with the highest industry weightings. The reason is due to that many companies from Consumer Discretionary are included in those indexes.

As we add up the top 3 industries with the highest industry weightings, they represent 59.8% (HSCEA), 73.9% (HSI), 75.5% (HSCEI), 67.2% (HSCI), 57.6% (HSCA300) and 50.3% (HSCAII). For the HSI, HSCEI and HSCI, there seems to be a higher concentration of industry weightings within top 3 industries. There are three notable trends worth highlighting. First, the companies from Financials are similar among the HSCEA, HSI and HSCEI. The HSCI includes more companies from Financials (the HSCI has a total of 522 companies from 12 industries). Second, the companies from Information Technology are similar among the HSCEA, HSI and HSCEI. The HSCI includes more companies from Information Technology. Third, while Consumer Staples account for 20.0% of the HSCEA, we note Consumer Discretionary only accounts for 9.7% of the HSI, 10.9% of the HSCEI and 12.0% of the HSCI. The HSCEA includes several large-cap companies from Consumer Staples. Meanwhile, the companies from Consumer Discretionary are relatively smaller sized.

Exhibit 15: Industry weightings of the HSCEA, HSI, HSCEI, HSCI, HSCA300 and HSCAII

	HSCEA		HSI		HSCEI		HSCI		HSCA300		HSCAII	
Industry	Weighting	Ranking	Weighting	Ranking	Weighting	Ranking	Weighting	Ranking	Weighting	Ranking	Weighting	Ranking
Financials	20.2%	1	34.5%	1	24.9%	2	27.2%	2	22.4%	1	16.7%	2
Consumer Staples	20.0%	2	3.5%	5	4.4%	5	3.6%	7	14.7%	3	11.8%	3
Information Technology	19.5%	3	29.7%	2	39.7%	1	28.1%	1	8.8%	4	10.1%	5
Consumer Discretionary	11.3%	4	9.7%	3	10.9%	3	12.0%	3	7.9%	6	9.4%	7
Industrials	10.6%	5	1.3%	11	2.0%	9	3.4%	8	20.5%	2	21.9%	1
Healthcare	6.3%	6	3.2%	7	2.8%	8	6.1%	5	8.4%	5	9.4%	6
Energy	3.2%	7	3.5%	6	4.8%	4	2.9%	9	2.1%	10	2.3%	10
Telecommunications	2.8%	8	2.8%	9	4.4%	6	2.7%	10	1.0%	11	0.7%	11
Properties & Construction	2.2%	9	7.1%	4	4.1%	7	7.7%	4	4.0%	8	4.1%	8
Utilities	2.1%	10	3.0%	8	1.2%	10	3.8%	6	2.4%	9	2.7%	9
Materials	1.3%	11	0.1%	12	0.0%	12	1.3%	12	7.7%	7	10.9%	4
Conglomerates	0.4%	12	1.5%	10	0.8%	11	1.4%	11	0.0%	12	0.1%	12

Source: Hang Seng Indexes Company.

Note: Grey highlights represent the top 3 weighting industries

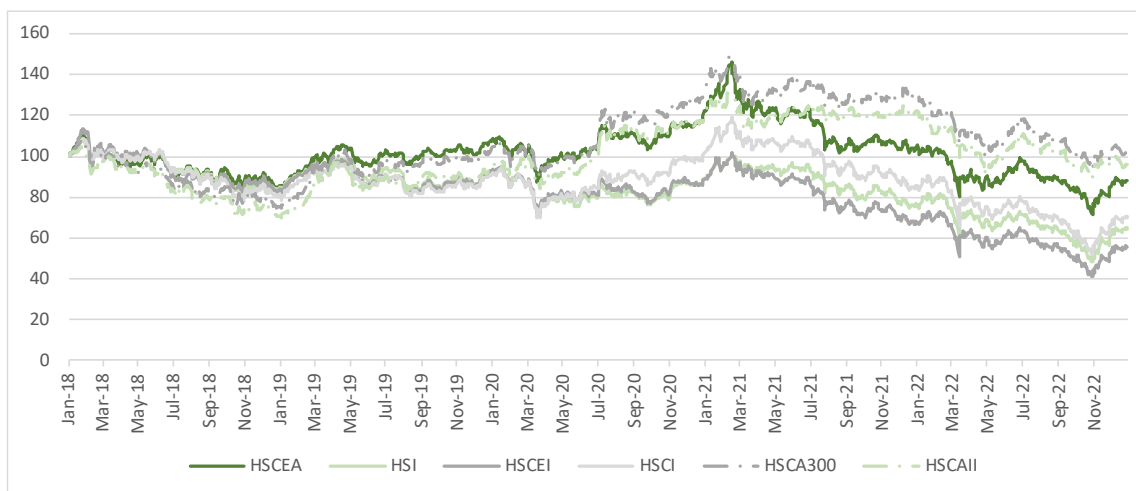
Date: 30 December 2022



Comparison of index performance and return volatility

During 1 Jan 2022 to 31 Dec 2022, the HSCEA delivers a total return of -15.1%. Over the same period, we note the HSI is -15.5%, HSCEI is -18.6%, HSCI is -18.0%, HSCA300 is -21.2% and HSCAll is -21.6%. Effectively, the HSCEA has outperformed the HSI, HSCEI, HSCI and HSCA300 by 0.4%, 3.5%, 2.9%, and 6.1% respectively.

Exhibit 16: Comparison of index performance



Source: Hang Seng Indexes Company.
Date: 30 December 2022

Since the end of 2017 till now, among the six indexes named above, the HSCEA has generated the third best return. The HSCEA outperformed HSI, HSCEI and HSCI by 23.3%, 32.5% and 17.7% respectively. The outperformance is attributable to the inclusion of A-share companies in HSCEA while HSI, HSCEI and HSCI do not include A-share companies. Meanwhile, the key reason for outperformance of HSCA300 and HSCAll over HSCEA is the 100% A-shares nature of HSCA300 and HSCAll. The combination of HSCEI constituents and large-cap A-share companies in the creation of HSCEA should offer downside protection in event that A-share market and Hong Kong market run in opposite direction.



Exhibit 17 shows the index return and the annualised volatility. The HSCEA is at the low range (20.8%) of the annualised volatility among the six indexes (from 20.2% to 25.2%) used for comparison. We believe the combination of HSCEI constituents with large-cap A-share companies have helped the HSCEA to diversify the unsystematic risk at a large extent.

Exhibit 17: Comparison of index return and annualised volatility

							Overall Annualised	
	Index	2018	2019	2020	2021	2022	2018-22	2018-22
Return (%)	HSCEA	-12.7	25.7	13.4	-15.0	-15.1	-10.2	-2.1
	HSI	-13.6	9.1	-3.4	-14.1	-15.5	-33.9	-7.9
	HSCEI	-13.5	10.3	-3.8	-23.3	-18.6	-42.7	-10.5
	HSCI	-16.7	11.0	12.2	-15.6	-18.0	-28.2	-6.4
	HSCA300	-23.5	37.8	27.9	-2.2	-21.2	3.8	0.7
	HSCAII	-28.3	33.9	27.4	1.6	-21.6	-2.7	-0.5
Annualised Volatility (%)	HSCEA	19.2	15.1	20.6	21.6	26.3		20.8
	HSI	19.5	15.7	23.2	19.9	32.4		22.7
	HSCEI	21.4	15.7	23.9	22.6	37.7		25.2
	HSCI	20.0	15.5	24.2	21.6	32.5		23.4
	HSCA300	21.1	19.4	22.2	18.5	19.8		20.2
	HSCAII	21.0	20.0	22.8	16.9	20.0		20.2
Risk-adjusted Return (x)	HSCEA	-0.66	1.70	0.65	-0.70	-0.57		
	HSI	-0.70	0.58	-0.15	-0.71	-0.48		
	HSCEI	-0.63	0.66	-0.16	-1.03	-0.49		
	HSCI	-0.83	0.71	0.50	-0.72	-0.55		
	HSCA300	-1.11	1.95	1.26	-0.12	-1.07		
	HSCAII	-1.35	1.70	1.20	0.09	-1.08		

Source: Hang Seng Indexes Company.
Date: 30 December 2022



HSCEA's Low Correlation with Indexes of US and Europe Offers Risk Diversification

We compute the correlation between the HSCEA and major indexes of US (Dow Jones Industrial Average, S&P 500, Nasdaq Composite) and Europe (DAX of Germany, FTSE 100 of UK, CAC 40 of France) during past five years. Based on the following table, for the correlation coefficients between HSCEA and major indexes of US and Europe, we note the highest value is 0.324. The relatively low value of the correlation coefficients suggests there is little statistical relationship between the HSCEA and overseas indexes. For investors who are looking for risk diversification opportunities, the HSCEA presents an optimal solution.

Exhibit 18: Correlation matrix between the HSCEA and major indexes in the US and Europe

	HSCEA	DJIA	S&P 500	Nasdaq	DAX	FTSE 100	CAC 40
HSCEA	1.000	0.185	0.193	0.203	0.303	0.321	0.324
DJIA	0.185	1.000	0.965	0.857	0.610	0.590	0.627
S&P 500	0.193	0.965	1.000	0.949	0.591	0.549	0.600
Nasdaq	0.203	0.857	0.949	1.000	0.520	0.442	0.514
DAX	0.303	0.610	0.591	0.520	1.000	0.833	0.936
FTSE 100	0.321	0.590	0.549	0.442	0.833	1.000	0.876
CAC 40	0.324	0.627	0.600	0.514	0.936	0.876	1.000

Source: Hang Seng Indexes Company.
Date: 30 December 2022

The design of the HSCEA is to measure the overall performance of Chinese companies listed in Hong Kong and/or mainland China that are eligible for Northbound or Southbound trading under the Stock Connect Scheme. From 2018 till now, we note HSCEA has a lower correlation coefficient with HSCA300 (0.822) and HSCAII (0.770) compared with HSCEA's correlation coefficient with HSI (0.877), HSCEI (0.902) and HSCI (0.907). The lower correlation is attributable to the fact that the HSCA300 and HSCAII's constituents are 100% A-share companies while only 50.4% of HSCEA constituents are A-share companies.

Exhibit 19: Return correlation among major HSIL indexes

	HSCEA	HSI	HSCEI	HSCI	HSCA300	HSCAII
HSCEA	1.000	0.877	0.902	0.907	0.822	0.770
HSI	0.877	1.000	0.971	0.984	0.635	0.598
HSCEI	0.902	0.971	1.000	0.974	0.652	0.612
HSCI	0.907	0.984	0.974	1.000	0.679	0.646
HSCA300	0.822	0.635	0.652	0.679	1.000	0.981
HSCAII	0.770	0.598	0.612	0.646	0.981	1.000

Source: Hang Seng Indexes Company.
Date: 30 December 2022

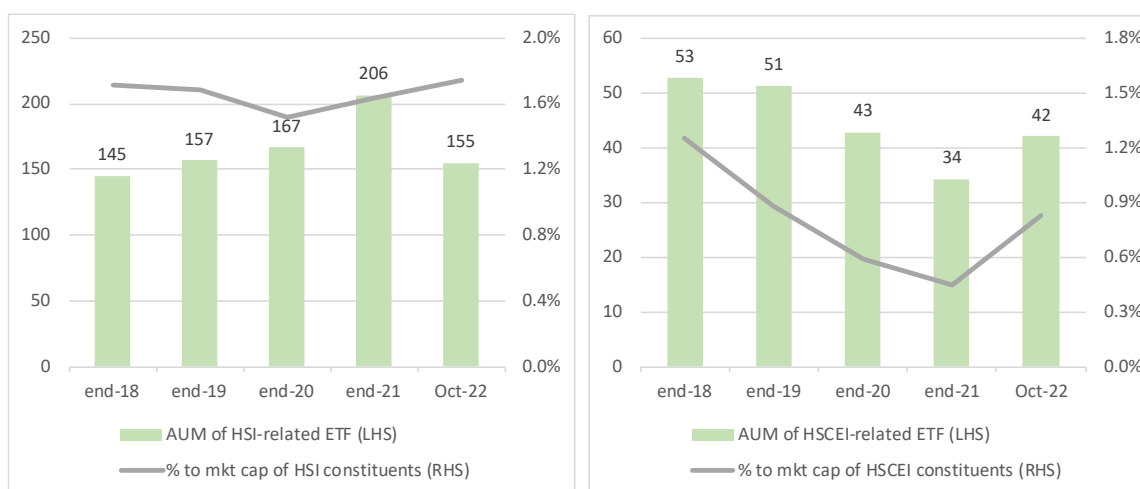


Opportunity for Index-linked Product Development

In the 14 years since the 2008 financial crash, index exchange-traded funds (ETFs), which offer low-cost access to diversified, passive indexed strategies, have become increasingly popular among investors. Since the end of 2018 to the end of October 2022, the ratio of total assets under management (AUM) of HSI-related ETFs to HSI's freefloat market cap had ranged between 1.52% and 1.75% (total AUM HK\$155bn). The total AUM for HSCEI-related ETFs as at the end of October 2022 was HK\$42bn.

Based on its closing index point on 31 October 2022, HSCEA had a freefloat market cap of HK\$10,405 billion, which is around 1.17x and 2.04x the freefloat market cap of the HSI and HSCEI respectively. If increasing amounts of ETFs begin to track HSCEA (similar to the current situation in which many ETFs are tracking HSI and HSCEI), and if we assume HSCEA could achieve similar ratios of total AUM to index freefloat market cap (HSI (1.75%) and HSCEI (0.83%)), the total AUM for the HSCEA-related ETFs could range from HK\$86 billion to HK\$182 billion.

Exhibit 20: AUM (HK\$ billion) of Index-related ETFs versus % of ETF's AUM to Index Freefloat Market Cap



Source: Hang Seng Indexes Company.
Date: October 2022



Future development of futures and options

HSI and HSCEI are commonly used as the base indexes for a variety of derivative products, including index futures and options, which act as useful instruments for investors to manage their portfolio risk as well as to capture index arbitrage opportunities. As shown in Exhibit 21, annual contract volumes of futures and options (taking into account that mini-contracts are one-fifth of standard contracts) for HSI and HSCEI were in the range of 49-76 million and 44-63 million respectively between 2018 and 2022.

Exhibit 21: Annual futures and options contract volumes for HSI and HSCEI (million)



Source: Hang Seng Indexes Company.
Date: 30 December 2022

In Exhibit 22, we calculated HSI's annual notional value of futures and options by multiplying its annual contract volume by the year-end index closing index point and HK\$50/index point. Dividing HSI's annual notional value of futures and options by its year-end market cap translates into multiples of between 4.3x and 11.5x for the years 2018 to 2022.

Exhibit 22: Annual notional value of HSI's futures and options / market cap at year-end (x)

	2018	2019	2020	2021	2022
Total annual contract volume (mn; in standard HSI) (a)	75.8	69.1	58.9	48.5	53.2
Index closing at year-end (b)	25,846	28,190	27,231	23,398	19,781
Nominal Value (HK\$ bn) (c = a * b * HK\$50 / 1000)	97,968	97,444	80,179	56,770	52,575
Freefloat adj. market cap at year-end (HK\$ bn) (d)	8,486	9,320	10,961	12,620	12,260
Annual Notional Value of Futures & Options / Market Cap at year-end (x) (e = c / d)	11.5	10.5	7.3	4.5	4.3

Source: Hang Seng Indexes Company.
Date: 30 December 2022



Applying the same calculation to HSCEI in Exhibit 23, its annual notional value of futures and options / year-end market cap was in the range of 2.4x to 7.6x.

Exhibit 23: Annual notional value of HSCEI's futures and options / market cap at year-end (x)

	2018	2019	2020	2021	2022
Total annual contract volume (mn; in standard HSCEI) (a)	62.9	56.7	58.4	44.4	62.4
Index closing at year-end (b)	10,125	11,168	10,738	8,236	6,705
Nominal Value (HK\$ bn) (c = a * b * HK\$50 / 1000)	31,861	31,640	31,363	18,300	20,936
Freefloat adj. market cap at year-end (HK\$ bn) (d)	4,204	5,807	7,328	7,661	7,297
Annual Notional Value of Futures & Options / Market Cap at year-end (x) (e = c / d)	7.6	5.4	4.3	2.4	2.9

Source: Hang Seng Indexes Company.
Date: 30 December 2022

For illustration purpose, if there are futures and options (based on HSCEA) which could generate a level of trading activity that is similar to those for the HSI and the HSCEI, (i.e. annual notional value of futures and options / year-end market cap of between 2.4x and 11.5x). If HSCEA maintains its closing index point (3,339pts on 3 January 2023) and free-float market cap (HK\$13,339bn on 3 January 2023) until the end of the year, it will generate an annual contract volume of 192 million to 919 million for its futures and options (2.4x to 11.5x multiplied by freefloat adjusted market cap then divided by index closing price and HK\$50/index point).



Appendix – HSCEA Constituent Details (Top 40 Stocks)

Exhibit 24: HSCEA – Top 40 stocks within constituents (based on 31 December 2022)

	Code	Company	Industry	Market Cap (HK\$bn)	3-mth ADT (HK\$bn)	Weighting (%)	Acc. Weighting (%)
1	0700.HK	TENCENT	Information Technology	3,205.0	9.77	8.65	8.65
2	600519.SS	KWEICHOW MOUTAI	Consumer Staples	2,169.5	7.06	7.82	16.47
3	3690.HK	MEITUAN - W	Information Technology	1,081.2	6.18	5.79	22.26
4	300750.SZ	CATL	Industrials	960.1	5.17	4.23	26.49
5	0939.HK	CCB	Financials	1,175.6	1.15	3.78	30.27
6	000858.SZ	WULIANGYE	Consumer Staples	701.4	3.71	2.81	33.08
7	2318.HK	PING AN	Financials	384.7	1.83	2.34	35.41
8	0941.HK	CHINA MOBILE	Telecommunications	1,058.8	1.10	2.27	37.68
9	601166.SS	INDUSTRIAL BANK	Financials	365.4	1.12	2.20	39.88
10	601012.SS	LONGI	Industrials	320.4	3.59	2.18	42.06
11	1398.HK	ICBC	Financials	348.9	0.76	2.12	44.18
12	000333.SZ	MIDEA GROUP	Consumer Discretionary	362.6	1.49	2.03	46.21
13	300059.SZ	EASTMONEY	Financials	256.4	3.89	1.75	47.96
14	601888.SS	CTG DUTY-FREE	Consumer Discretionary	421.8	2.40	1.69	49.65
15	3988.HK	BANK OF CHINA	Financials	237.5	0.60	1.61	51.26
16	300760.SZ	MINDRAY	Healthcare	383.1	1.71	1.53	52.79
17	600900.SS	CYPC	Utilities	477.6	1.09	1.53	54.32
18	600030.SS	CITIC SEC	Financials	242.9	1.28	1.46	55.78
19	600887.SS	YILI	Consumer Staples	198.4	1.42	1.43	57.21
20	1810.HK	XIAOMI - W	Information Technology	273.7	1.03	1.37	58.58
21	000568.SZ	LUZHOU LAO JIAO	Consumer Staples	330.1	2.23	1.32	59.90
22	1024.HK	KUAISHOU - W	Information Technology	305.3	1.89	1.31	61.21
23	1211.HK	BYD COMPANY	Consumer Discretionary	211.5	1.85	1.28	62.49
24	600309.SS	WANHUA	Materials	290.9	0.98	1.28	63.78
25	0883.HK	CNOOC	Energy	445.1	0.75	1.27	65.05
26	603259.SS	WUXI APPTec	Healthcare	207.8	2.03	1.25	66.30
27	002714.SZ	MUYUAN	Consumer Staples	259.5	1.51	1.25	67.54
28	3968.HK	CM BANK	Financials	200.4	1.00	1.22	68.76
29	600276.SS	HR	Healthcare	245.8	1.81	1.18	69.94
30	002475.SZ	LXJM	Industrials	225.4	1.76	1.17	71.11
31	000651.SZ	GREE	Consumer Discretionary	182.0	1.10	1.17	72.28
32	2331.HK	LI NING	Consumer Discretionary	177.4	1.31	1.14	73.42
33	002415.SZ	HIKVISION	Information Technology	327.1	1.34	1.05	74.47
34	603288.SS	HAI TIAN	Consumer Staples	368.9	0.54	1.03	75.50
35	002352.SZ	SF HOLDING	Industrials	282.7	0.98	1.02	76.52
36	2020.HK	ANTA SPORTS	Consumer Discretionary	277.6	0.71	0.99	77.51
37	600809.SS	SHANXI FEN WINE	Consumer Staples	347.7	1.58	0.97	78.49
38	601816.SS	CH	Industrials	241.6	0.40	0.97	79.46
39	600000.SS	SPD BANK	Financials	213.7	0.18	0.94	80.40
40	000001.SZ	PAB	Financials	255.4	1.50	0.92	81.32

Source: Hang Seng Indexes Company.
Date: 30 December 2022



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