



1. Introduction

1.1 Stock trading has become a highly data-intensive and time-sensitive investment activity, upon increasing application of automated and algorithmic technology onto huge volume of real-time market data (e.g. stock price and volume).¹ In view of robust data demand for trading decision and execution, sales of market data to stockbrokers and investors have become a lucrative business to global stock exchanges. Taking Hong Kong Exchanges and Clearing Limited ("HKEX") as an example, there are at least 21 chargeable real-time data items, ranging from fixed cost (e.g. monthly licence fee of at least HK\$11,100) to variable cost (e.g. monthly subscriber fee of HK\$120-HK\$400 per user account). During 1999-2019, annual revenue from data sales of HKEX has quadrupled to HK\$919 million, buoyed by organic growth and new lines of business.

1.2 However, smaller stockbrokers in Hong Kong claim that market data cost is burdensome, as their monthly data expenditure could reach HK\$20,000.² Coupled with continued erosion of their market share in stock trading to larger stockbrokers and commercial banks with entrenched online trading infrastructure, these small-sized stockbrokers have been asking for reduction in market data fees.³ This echoes similar global calls seen in other advanced stock exchanges (e.g. New York and London), resulting in on-going debates in the United States ("US") and Europe on how to regulate the allegedly "overpriced" market data products in recent years.

¹ Global landscape of stock trading is reshaped by fast-changing technological developments, resulting in (a) growing prevalence of high-frequency or algorithmic trading on the back of quantitative analyses of massive market data; and (b) emergence of alternative trading platforms (e.g. black pools) which nevertheless still rely on market data provided by stock exchanges for transactions. Real-time market data has thus become "the lifeblood of finance" for stockbrokers and investment managers. See McKinsey & Company (2017) and The Economist (2020).

² RTHK (2020) and Securities and Futures Commission (2020).

³ Ever since the abolition of minimum brokerage commission rate in 2003, the market share of small-sized brokerages in stock trading tumbled from 19% to just 8% during 2003-2019.

1.3 At the request of Hon Christopher CHEUNG Wah-fung, the Research Office has undertaken a fact-finding study on the level of selected market data fees charged in seven leading stock exchanges in the world, as compared with that in Hong Kong. This involves seeking certain price information not available in the public domain from a few stock exchanges direct for comparison. Moreover, this study presents recent debates on the proposed regulation of market fees in the US and Europe, along with the arguments put forward by two sides. This information note begins with a summary on local situation of market data fees and major concerns of stockbrokers, followed by global comparison of such fee levels and concluded with policy debates in the US and Europe.

2. Recent developments of market data fees in Hong Kong

2.1 Propelled by robust activities in initial public offering mostly from Mainland enterprises and progressive launch of stock connects with Shanghai and Shenzhen, stock market turnover in Hong Kong has grown by leaps and bounds, with its average daily turnover surging by 89% within a decade to hit HK\$129.5 billion in 2020. Market capitalization of companies listed on HKEX also soared by 127% to reach US\$6.1 trillion (HK\$47.5 trillion) over the same period. ***HKEX is now the fifth largest stock exchange in the world, next only to New York Stock Exchange ("NYSE"), Nasdaq, Shanghai and Japan (Figure 1).*** This represents a steady improvement from the respective position of ninth at end-1997 and seventh at end-2010.

Figure 1 — Market capitalization of companies listed on selected stock exchanges

		December 1997		November 2020	
		Ranking	US\$ billions	Ranking	US\$ billions
1.	New York Stock Exchange	1	8,700	1	21,536
2.	Nasdaq	4	1,950	2	18,007
3.	Shanghai Stock Exchange	-	-	3	6,716
4.	Japan Exchange Group	2	3,827	4	6,595
5.	Hong Kong Exchanges and Clearing	9	413	5	5,900
6.	Euronext⁽¹⁾	-	-	6	5,196
7.	London Stock Exchange	3	2,068	8	3,721
8.	Frankfurt Stock Exchange⁽²⁾	5	825	11	2,147
9.	Singapore Exchange	20	104	22	638

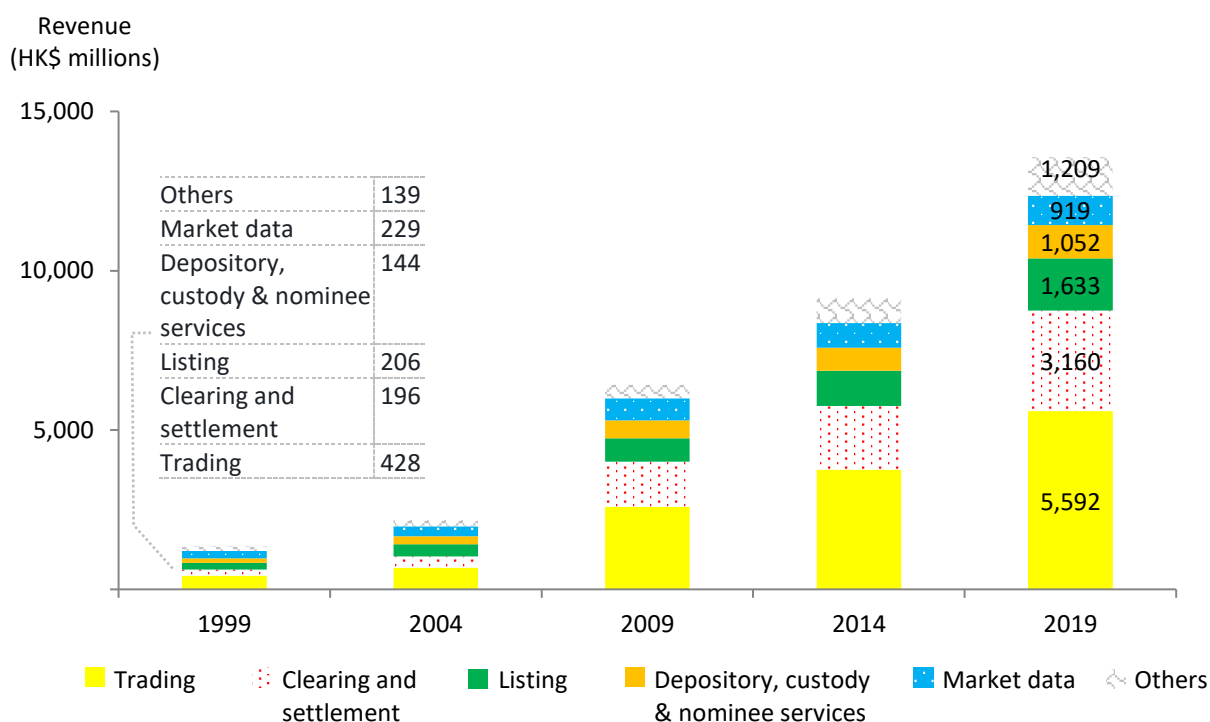
Notes: (1) Comprising six European stock exchanges (i.e. Paris, Brussels, Amsterdam, Lisbon, Dublin and Oslo) after merger.

(2) Also named as Deutsche Boerse.

Source: World Federation of Exchanges.

2.2 Right now, annual revenue of HKEX relies heavily on three main lines of businesses, namely (a) stock trading fees; (b) clearing and settlement fees; and (c) fees charged in listing of new companies. They took up 41%, 23% and 12% of the total revenue of HKEX respectively in 2019. This apart, ***sales of market data to market participants (e.g. stockbrokers and investment banks) and information vendors (e.g. Bloomberg) are also important income source of HKEX, with such revenue surging by 301% from HK\$229 million in 1999 to HK\$919 million in 2019 (Figure 2).***⁴ As at September 2020, over half (52%) of market participants directly purchased market data from HKEX, with the rest mostly subscribing such data via information vendors. However, data sales as a percentage share in the total revenue of HKEX has halved from 17.1% to 6.8% because other revenue sources grew even faster, as manifested in more than 13-fold spike in trading and clearing-related revenue over the same period.⁵

Figure 2 — Annual revenue of HKEX from sales of market data, 1999-2019



Note: Market data revenue was titled as "market data fees" in 2014-2019 and "Income from sale of information" during 1999-2009.

Source: Hong Kong Exchanges and Clearing Limited.

⁴ In 2019, some two-fifths of market data revenue (HK\$347 million) was generated from new business of HKEX (e.g. London Metal Exchange and subscriptions under Stock Connects). As such businesses did not exist during 1999-2014, it helps magnify the cumulative percentage growth of market data revenue.

⁵ HKEX (2020a and 2020b).

2.3 On chargeable data items, HKEX has not revised upward its stock market data fees over the past two decades, except addition of two more data categories (i.e. licence fee and non-display usage fee) in 2012-2013. ***Under the Securities and Futures Ordinance (Cap. 571), all fees imposed by HKEX (including market data fees) require approval from the Securities and Futures Commission ("SFC") beforehand.*** In scrutinizing the fee proposals, SFC usually takes account of factors like (a) relevant fee levels in major stock exchanges in the world; (b) impact on competition in Hong Kong; and (c) potential "unfairness to market participants" given the "monopolistic status" of HKEX in stock trading.⁶

2.4 For smaller stockbrokers, their businesses have been facing a number of headwinds. ***First***, commission income is the most important revenue source of these brokers, but it was hit by abolition of minimum commission rate of 0.25% in April 2003. Reportedly, the market commission rate falls to as low as 0.07% (or even zero in few firms) upon fierce competition in the brokerage industry. ***Secondly***, in the absence of sound online trading platform, smaller brokers are out-competed by bigger brokers and commercial banks, with the market share of the small-sized stockbrokers tumbling from a peak of 36% in 1997 to 19% in 2003, and further to 8% in 2019 (**Figure 3**). ***Thirdly***, smaller brokers are concerned about high level of stamp duty fees of 0.2% (i.e. 0.1% each for the buyer and the seller), despite a cumulative cut by two-thirds in the early 1990s. High transaction costs are alleged to have discouraged trading especially from retail investors who are important client sources of smaller brokers. ***Fourthly***, smaller stockbrokers claim that market data cost was up to \$20,000 each month, when their revenue is under pressure.⁷ ***Fifthly***, Mainland stockbrokers are charged at lower fees in the sale of real-time market data by HKEX under two stock connect schemes for alignment with low data cost in the Mainland. Yet local stockbrokers claim that this is an unfair and discriminatory practice.⁸ In face of this adversity, a total of 28 stockbrokers resigned from HKEX during 2019-2020, compared with 55 new entrants over the same period.⁹

⁶ HKEX is exempted from the Competition Ordinance (Cap. 169). See GovHK (2011).

⁷ RTHK (2020).

⁸ For example, Mainland brokers and information vendors enjoy a discounted monthly subscriber fee (HK\$5-HK\$13) and waiver for redistribution fee under the Marketing Programme for Mobile Application Service, as compared to the monthly rates of subscriber fee (HK\$120-HK\$400) and redistribution fee (HK\$17,000-HK\$33,100) charged to local brokers. However, HKEX indicates that Mainland clients of stockbrokers in Hong Kong are subject to the same favourable fees. See 香港證券及期貨從業員工會籌委會 (2011) and RTHK (2020).

⁹ Statistics provided by HKEX.

Figure 3 — Market share in stock trading by size of stockbrokers

Year	Larger brokers (Top 14 position)	Medium-sized brokers (Ranking 15 th – 65 th)	Smaller-sized brokers (Ranking > 65 th)
1997	31.8%	32.0%	36.2%
2002	49.3%	33.3%	17.4%
2007	50.4%	37.8%	11.8%
2012	57.7%	31.8%	10.5%
2017	54.6%	34.9%	10.5%
2019	58.0%	34.0%	8.0%

Note: Market participants are categorized as A-C by their monthly trading turnover in HKEX.

Source: Hong Kong Exchanges and Clearing Limited.

2.5 *In view of the challenges faced by local brokers, HKEX launched a couple of relief measures to lower their cost burden over the past decade or so.* These measures include: (a) waiving monthly licence fee and connection fee of most stockbrokers for internal use since 2014; (b) waiving subscriber fee for first 10 real-time data terminals of stockbrokers at a cost of HK\$10 million in 2014, with the number of such fee-waived terminals rising to 20 since 2015; (c) offering three-month free trial for new users since 2015; and (d) offering one-off deduction of HK\$10,000 on exchange fees paid by brokers at a cost of HK\$7 million in 2020. Notwithstanding these measures, local stockbrokers still expect HKEX to do more on market data fees for business sustainability in the longer term.¹⁰

3. Comparison of market data fees in selected stock exchanges

3.1 Based on the global practice of major stock exchanges, market data can be sub-divided into two levels of sophistication, including simpler dataset with only the best buying and selling price (i.e. **Level 1 data**) and more detailed and sophisticated datasets (i.e. **Level 2 data and full order book**).¹¹ In

¹⁰ 太陽報 (2013), HKEX (2018) and RTHK (2020).

¹¹ Real-time market data are categorized as Level 1 and Level 2 in terms of its contents and latency. Whereas Level 1 displays the best buying/selling price of a stock, Level 2 generally gives further details of up to 5-10 price levels of the best buying/selling price or even the full order book (all buying/selling prices) of a stock with lower latency at a much higher price. While Level 1 market data can generally satisfy the demand of less active investors, more sophisticated retail and professional investors need Level 2 data for advanced trading practices.

Hong Kong, there are three major categories of chargeable real-time market data (i.e. licence/redistribution fee, connection fee and subscriber fee), covering at least 21 data items. Bearing in mind certain variations in the pricing structure of market data in other places and the purpose of this study, eight chargeable data items commonly seen in other stock exchanges are selected for crude comparison, including:

- (a) **Licence fee:** Each stockbroker needs to pay a monthly licence fee of HK\$11,100 to HKEX for both Level 1 data and Level 2 data (i.e. up to 10 price levels). For those sophisticated stockbrokers in need of a full order book, the monthly licence fee increases to HK\$21,600;
- (b) **Direct connection fee:** This fee is for those directly sourcing market data from HKEX for internal use (not for sharing with clients, at a monthly fee of HK\$15,000 for both Level 1 data and Level 2 data. For full order book, the direct connection fee increases to HK\$29,200;
- (c) **Additional connection fee:** Subject to the design and resilience requirement of its trading systems, some brokers may need additional line for direct connection from HKEX. HKEX charges this at HK\$23,333 for both Level 1 data and Level 2 data each month. For full order book, such monthly fee increases to HK\$45,500;¹²
- (d) **Redistribution fee:** This monthly fee is charged when the stockbroker shares the market data with its clients, at HK\$17,000 for both Level 1 data and Level 2 data each month. For full order book, it increases to HK\$33,100;
- (e) **Subscriber fee for retail and professional investors:** This fee is related to the number of active clients or internal staff of a stockbroker for unlimited data access and is charged on the basis of per user or device subscribed. The monthly fee per user is HK\$120 for Level 1 data and HK\$200 for Level 2 data. For those sophisticated stockbrokers in need of a full order book, it charges

¹² Brokers accessing data from more than two sources of authorized information vendors are subject to additional indirect connection fees (HK\$10,000-HK\$19,500) per month.

HK\$400 per user. There is no distinction between retail and professional investors for this item;

- (f) **Subscriber fee per quote for inactive investors:** This fee is mostly for those inactive clients of a stockbroker who trade stock only once for a while. The fee is calculated on a per quote basis, at HK\$0.05 for Level 1 data and HK\$0.07 for Level 2 data. For full order book, it charges HK\$0.14 per quote; and
- (g) **Non-display usage fee:** This fee generally applies to those market participants using high-frequency trading, algorithmic trading and alternative trading platforms, exempting individuals. In short, market data is transmitted to automated systems of the trading firms and brokers for computing analyses and valuations, without displaying them on the monitors. Non-display usage fee is charged at HK\$20,000 per month.¹³

3.2 In this comparative exercise, seven leading national stock exchanges are selected for comparison with HKEX, including NYSE, Nasdaq, Shanghai Stock Exchange ("SSE"), Japan Exchange Group ("JPX"), London Stock Exchange ("LSE"), Frankfurt Stock Exchange ("FSE") and Singapore Exchange ("SGX"). Most of them are amongst the top eight exchanges in the world. ***Fees of the aforementioned eight data items are then converted into Hong Kong dollars on the basis of the average exchange rate in 2020 for like-with-like comparison***, without considering other factors outside the fee schedules (e.g. connectivity fees and discounts or rebates to individual firms). The comparative results are shown in a summary table (**Figure 4**).¹⁴

¹³ Brokers using non-display data for purposes other than the aforementioned usages are waived for a much cheaper nominal monthly fee at \$400 per firm.

¹⁴ These stock exchanges are adopting broadly similar pricing structure in selling market data to stockbrokers, though with variations in details (e.g. discounts offered to minimum subscription, usage volume or business partnerships) which are beyond the scope of this short note.

Figure 4 — Comparison of fees for major data items in selected stock exchanges in January 2021 (in terms of HK\$)

Per month (HK\$)	HKEX (Hong Kong)	NYSE (New York)	Nasdaq (New York)	SSE ⁽³⁾ (Shanghai)	JPX (Tokyo & Osaka)	LSE (London)	FSE (Frankfurt)	SGX ⁽⁴⁾ (Singapore)
Level 1 market data								
1) Licence fee	11,100 ⁽¹⁾	-(²)	11,636 ⁽²⁾	14,060	18,902	-	-	33,780
2) Direct connection	15,000 ⁽¹⁾	11,636	-	-	45,801	-	-	1,689
3) Additional direct connections	23,333 ⁽¹⁾	1,551	-	-	22,537	-	-	n.a.
4) Redistribution fee	17,000 ⁽¹⁾	-	15,514	-	43,620	24,940	26,048	n.a.
5) Subscriber fee for professionals	120	31	101	-(³)	167	396	575	56
6) Subscriber fee for retail investors		1.6	3.9		10	41	43	
7) Subscriber fee (per quote access)	0.05	-	0.01-0.019	-	-	0.156	0.089	n.a.
8) Non-display usage (per firm)	400-20,000	11,636	-	-	29,807	11,972-23,934	9,480-37,920	1,689-28,150
Level 2 market data and full order book								
1) Licence fee	11,100-21,600 ⁽¹⁾	-(²)	7,757-11,636 ⁽²⁾	36,708	18,902	-	-	33,780
2) Direct connection	15,000-29,200 ⁽¹⁾	38,785	15,514-23,271	-	53,071-56,706	-	-	1,689
3) Additional direct connections	23,333-45,500 ⁽¹⁾	1,551	-	-	22,537	-	-	n.a.
4) Redistribution fee	17,000-33,100 ⁽¹⁾	23,271	19,393-29,089	-	50,890-60,341	45,477	32,561-35,440	n.a.
5) Subscriber fee for professionals	200-400	465	543-590	2-34	182-240	1,497	752-886	338
6) Subscriber fee for retail investors		116	109-116		11-14	60	185-219	
7) Subscriber fee (per quote access)	0.07-0.14	-	-	-	-	-	0.18	n.a.
8) Non-display usage (per firm)	400-20,000	46,542	2,909-581,775	29,994	29,807-37,804	25,438-50,876	11,376-71,102	1,689-28,150

- Notes: (1) Under the basic subscription plan of HKEX, stockbrokers can access both Level 1 data and Level 2 data. Information vendors are charged redistribution fee only.
(2) A monthly enterprise licence fee of US\$25,000-US\$155,000 (HK\$193,925-HK\$1,202,335) is offered with discounted or waived subscriber fees for brokers with massive data usage.
(3) This fee schedule of SSE applies to Mainland brokers only. Level 1 and Level 2 data includes up to 5 and 10 price levels. Level 1 subscriber fee is charged on lump sum basis (at HK\$14,060) rather than per user basis.
(4) Market data fees of SGX are obtained from secondary source, as SGX did not provide such information on "commercially sensitive" ground.
(-) Items are either not charged or offered by the stock exchange.
(n.a.) Not available.

Sources: Market data fee schedules of selected stock exchanges and exegy (2020).

3.3 Here are the major findings on fee comparison for each selected data item in Hong Kong relative to other selected stock exchanges:

- (a) **Monthly licence fee:** The monthly licence fee of HK\$11,100 for sourcing Level 1 data in Hong Kong is the lowest amongst the selected stock exchanges with such fee, while the corresponding figure of HK\$11,100 for Level 2 data is the second lowest, and HK\$21,600 for full order book the third lowest;
- (b) **Monthly direct connection fee:** Only about half (4-5) of the selected exchanges list connection fees in fee schedules. The monthly fee of HK\$15,000 for Level 1 data charged in Hong Kong is the second highest. That of HK\$15,000 for Level 2 data is the second lowest, while that of HK\$29,200 for full order book is the third lowest;
- (c) **Monthly additional direct connection fee:** For the three exchanges with this chargeable item disclosed, the monthly fee at HK\$23,333 for both Level 1 data and Level 2 data, and that of HK\$45,500 for full order book in Hong Kong are the highest;
- (d) **Monthly redistribution fee:** The monthly fee at HK\$17,000 for Level 1 data charged in Hong Kong is the second lowest, just higher than Nasdaq. That of HK\$17,000 for Level 2 is the lowest, while that of HK\$33,100 for full order book is the third lowest;
- (e) **Monthly subscriber fee for professional investors:** The monthly fees at HK\$120 per user for Level 1 data and HK\$400 per user for full order book in Hong Kong are the fourth lowest amongst the selected exchanges. That of HK\$200 per user for Level 2 data is the third lowest;
- (f) **Monthly subscriber fee for retail investors:** The monthly fee at HK\$120 per user for Level 1 data charged in Hong Kong is the highest, far above HK\$2-HK\$56 in the other six exchanges. The respective fee of HK\$200 per user for Level 2 data and HK\$400 per user for full order book are likewise the highest;

- (g) **Subscriber fee per quote for inactive investors:** Only half of the selected stock exchanges have this chargeable item for Level 1 data. The fee at HK\$0.05 per quote in Hong Kong is the third highest, just lower than those of HK\$0.156 in LSE and HK\$0.089 in FSE. As regards HK\$0.07 per quote for Level 2 data and HK\$0.14 for full order book in Hong Kong, it is the lowest as only FSE has this chargeable item; and
- (h) **Non-display usage fee:** The non-display usage fee at HK\$400-HK\$20,000 per firm for both Levels of data in Hong Kong is the lowest amongst the eight selected stock exchanges.

3.4 This apart, some general observations can be made. **First**, while data fees in European stock exchanges are generally higher than those in Hong Kong and the US, connection fee and redistribution fee in Japan are the highest. **Secondly**, fees for Level 2 data and full order book charged in Hong Kong are generally within the lower half of the major stock exchanges included in comparison. However, monthly subscriber fees for retail investors (HK\$120 for Level 1 data, HK\$200 for Level 2 data and HK\$400 for full order book) are the highest amongst all eight selected stock exchanges. This may have implications for stockbrokers with a large clientele of retail investors. **Thirdly**, the structure of data charging schemes in few stock exchanges (e.g. SSE, LSE and FSE) seems to be simpler, with fewer selected chargeable items than Hong Kong. **Fourthly**, it appears that price variations in Level 2 data and full order book amongst selected exchanges are generally larger than those in Level 1 data.

4. Regulatory debate on market data fees in the United States

4.1 The US is now the leading destination for global equity investments, with a total of 16 stock exchanges. Its two biggest stock exchanges (NYSE and Nasdaq) are important global trading venues, taking up two-fifths of market capitalization across the globe (US\$39.5 trillion (HK\$306 trillion)) as at November 2020. However, the number of stockbrokers in the US shrank by 31% to 3 500 during 2005-2019, as those smaller brokerage firms could not cope with new challenges arising from technology-driven ecosystem and zero

commission fee offered by larger brokers. Rising operating cost including higher market data fees is another area of concern.¹⁵

4.2 Under the Securities Exchange Act ("the Act") enacted in 1934 and amended in 1975, the Securities and Exchange Commission ("SEC-US") is the regulatory authority over market data fees charged by stock exchanges in the US. Yet SEC-US seldom challenges the pricing proposals of the stock exchanges, as SEC-US respects their self-regulatory role. Similar to HKEX, ***data sales has become important revenue to stock exchanges in the US, as investors require more detailed and sophisticated dataset in stock trading.*** Indicative of this, annual revenue from "exchange data and feeds" of NYSE has risen by 17% in just four years to US\$704 million (HK\$5.5 billion) in 2019, whereas revenue from "market data" of Nasdaq increased by 12% to US\$398 million (HK\$ 3.1 billion) over the same period.¹⁶ Based on a study commissioned by NYSE, sales of market data was estimated to have hovered around 11%-13% of total revenue of NYSE during 2008-2017, and 13%-15% of Nasdaq.¹⁷ To expand its data sales business, NYSE acquired Interactive Data (a leading global vendor of market data) at a huge cost of US\$5.2 billion (HK\$40 billion) in 2015.¹⁸

4.3 ***Yet stockbrokers and investors in the US are increasingly concerned about additional cost incurred in the purchase of market data,*** due to a number of reasons. ***First*** and as discussed above, given that market data is indispensable in stock trading, their data demand is highly inelastic and they have to pay whatever price the stock exchanges charged.¹⁹ ***Secondly,*** investors allege that the stock exchanges abuse their quasi-monopoly position in stock trading, as investors do not have alternative sources of promising market data. ***Thirdly,*** the production cost of market data is deemed to be rather low for stock exchanges, as market data is a by-product in trading execution. Coupled with the downtrend in costs of computing and data storage, they think it is not justified for stock exchanges to increase data fees.²⁰ ***Fourthly,*** in the amendment of the Act in 1975, US Congress has entrusted SEC-US a duty to ensure that "market data

¹⁵ World Federation of Exchanges (2020) and Financial Industry Regulatory Authority (2020).

¹⁶ Longer data series are not available as stock exchanges subsume market data into broader revenue item in disclosure. Also, both the name and definition of such broad revenue item change from time to time.

¹⁷ Jones (2018).

¹⁸ Reuters (2015).

¹⁹ Financial Industry Regulatory Authority (2015) and Managed Funds Association (2018).

²⁰ According to SEC-US, revenues from market data service in US stock exchanges had increased by at least 65% during 2013-2018, faster than the 13% increase in revenue from transaction services and despite a 4% decline on operating costs over the same period. See Securities and Exchange Commission (2020a).

fees are fair, reasonable, equitable and non-discriminatory".²¹ Investors nevertheless think that SEC-US is unable to keep pace with the changing environment for regulating market data fees.

4.4 ***NYSE and Nasdaq defend that the increase in market data fees is justifiable.*** ***First of all***, they deny the monopoly status of stock exchanges, as investors can now trade stocks on other platforms, such as dark pools and electronic communication networks. A study points out that as much as 33% of stock trading in the US took place in off-exchange venues in 2015.²² ***Secondly***, they claim that market competition for data products is keen, arguing that market data fees "rarely increased" and "remained largely flat" over the past decade.²³ Taking into account discounts and rebates offered to investors and stockbrokers, annual market data revenue is not that significant. ***Thirdly***, production cost of market data has been rising to cater for "client demand for capacity, speed and content".²⁴ ***Fourthly***, the suggestion of regulating data fees is against the principle of free market economy.

4.5 Given that market data is usually subsumed into broader revenue items of major exchanges in the US and the coverage of these revenue items keeps on changing over time, there is very limited disclosed information to resolve the divergent views. ***This inadvertently gave rise to a few of court disputes over market data cost.*** In May 2006, a coalition of investors and stockbrokers (i.e. Securities Industry and Financial Markets Association) along with information vendors sued SEC-US for not rejecting a proposal of NYSE to increase market data fees.²⁵ After prolonged proceeding and appeals, the US Court of Appeals for the District of Columbia finally ruled in favour of the investors in April 2013, requiring SEC-US to seek more cost and competition information from stock exchanges on market data before granting approval of fees proposal in the future.²⁶

4.6 In the light of the above court ruling and upon further lobbying from investors, ***SEC-US seems to have tightened oversight over market data fees in recent years, with a view to enhancing competition and transparency.***²⁷ These measures include:

²¹ Bloomberg (2014).

²² Organisation for Economic Co-operation and Development (2016).

²³ NYSE (2018).

²⁴ Jones (2018) and The TRADE (2019a).

²⁵ Securities and Exchange Commission (2018a).

²⁶ Securities and Exchange Commission (2018a) and Bloomberg (2014).

²⁷ Securities and Exchange Commission (2018b).

- (a) **Guidance to stock exchanges on revision of market data fees:** SEC-US issued a guidance in May 2019, requiring stock exchanges to submit more details (e.g. speed of a faster data product and costs of producing data) for justifying their proposed increase in market data fees in the future;²⁸
- (b) **Proposed enhancement of an existing consolidated market data platform:** In view of divergent stock price quotes by fragmented regional stock exchanges before the mid-1970s, US Congress mandated creation of a nationwide consolidated market data platform in 1975. This platform was owned by all participating stock exchanges under the supervision of SEC-US.²⁹ This platform used to be popular amongst investors in the early years, but its appeal waned after the 1990s as this platform contains only Level 1 data with lower dissemination speed.

In an attempt to enhance competition in market data against NYSE and Nasdaq, SEC-US had consulted the public since October 2019 on proposed enhancements of this platform. Proposed measures mainly include: (i) putting in more Level 2 data onto the platform; (ii) granting more voting rights to retail investors and stockbrokers relative to stock exchanges on fee management; and (iii) imposing a public comment period and rescinding the effective-on-filing approval procedure for raising fee.³⁰ Most recently on 9 December 2020, SEC-US decided to put these measures into implementation by phases as from 2021,³¹ and

- (c) **Allowing new entrant to increase competition amongst stock exchanges:** In May 2020, SEC-US granted speedy approval to an application filed by nine leading market participants (including retail stockbrokers, global banks and financial firms) to set up a new stock exchange named as Members Exchange ("MEMX"). As MEMX aims to lower trading cost (including market data fees),

²⁸ Financial Times (2019) and The Program on International Financial Systems (2019).

²⁹ Securities and Exchange Commission (1999) and European Commission (2020).

³⁰ Securities and Exchange Commission (2020c and 2020d).

³¹ The TRADE (2020) and Securities and Exchange Commission (2020b).

this could enhance competition and transparency. MEMX opened for business in September 2020.³²

4.7 On top of the above, ***SEC-US rejected a proposal to increase market data fee filed by NYSE and Nasdaq in October 2018, after receiving public petitions.*** SEC-US noted that the two exchanges did not provide "sufficient factual and legal support" to demonstrate the fees proposals are "fair and reasonable" as stipulated in the Act, although the fees were not "too high".³³ As this is the first occasion that SEC-US has ever rejected the fee proposals on market data of two stock exchanges, the latter challenged SEC-US's decision in court subsequently.³⁴ After litigation lasting for almost two years, the Appeals Court passed a final ruling against SEC-US in June 2020, claiming that SEC-US was using a wrong section of the Act to challenge fees already in effect and it could apply another section of the Act instead. SEC-US responded that this setback was purely "procedural" and the court case did not affect SEC-US's authority to supervise market data fees.³⁵

5. Regulatory debate on market data fees in Europe

5.1 In Europe, there has been a long wave of mergers and acquisitions amongst major stock exchanges to enhance their competitiveness over the past two decades. While the Euronext stems from merging six exchanges (e.g. Paris, Brussels, Amsterdam, Lisbon, Dublin and Oslo), LSE acquired the exchange in Italy in 2007. For the top three European stock exchange groups (i.e. Euronext, LSE and FSE) taken together, they accounted for over one-tenth of global equity capitalization in November 2020.

5.2 Based on limited information in the public domain, sales of market data amounted to £97 million (HK\$966 million) in LSE in 2019, whereas the corresponding figure for Euronext was €117 million (HK\$1 billion) and €159 million (HK\$1.4 billion) for FSE. Based on another study commissioned by stock exchanges, market data was estimated to account for 20% of total revenue

³² Reuters (2020).

³³ The Wall Street Journal (2018) and Securities and Exchange Commission (2018b).

³⁴ Ugeux (2018).

³⁵ S&P Global (2020) and Securities and Exchange Commission (2020a).

of Euronext and 35% of FSE in 2012.³⁶ As selling data becomes a profitable business, LSE announced in August 2019 to acquire Refinitiv (one of the top three global information vendors) at a cost of US\$27 billion (HK\$209 billion) to expand its data sales business, pending the antitrust approval of the European Commission ("EC").

5.3 On regulation, the European Securities and Markets Authority ("ESMA") is tasked with laying down the regulatory framework over market data fees charged by stock exchanges in the European Union ("EU"), but actual implementation is carried out by the regulators of 27 member states. In November 2007, the Markets in Financial Instruments Directive ("MiFID") came into effect, stipulating that pricing of market data should be "on a reasonable commercial basis". ***In January 2018, Regulation on Markets in Financial Instruments ("MiFIR") was enacted, imposing new regulatory requirements on market data fees.*** In short, market data fees must be: (a) based on costs of producing and disseminating such data, with a reasonable margin; (b) offered on a non-discriminatory basis to all clients; (c) charged according to usage of individual end-user; and (d) unbundled from other services. While it laid down the legal framework for establishing a single consolidated data platform for all investors in EU (similar to the one created in the US in 1975 but on a voluntary basis), such data platform is not created yet.³⁷ Most recently in September 2020, the final report of a consultancy study commissioned by EC recommended mandatory participation of stock exchanges into such a consolidated platform.³⁸ It is not clear how far EC will put it into practice.

5.4 ***Yet market participants criticised that MiFID and MiFIR could not address the cost concerns and they complained that the cost of market data has risen by as much as four times since 2018.***³⁹ ***First***, they claim that fees of Level 2 data in Europe are twice of that in the US, whereas fees of Level 1 data are five times higher.⁴⁰ ***Secondly***, stock exchanges have not disclosed their

³⁶ Oxera (2014).

³⁷ In floating the idea of a consolidated platform on market data in MiFID, ESMA primarily aims to (a) create a single and efficient investment market for improved competitiveness and protection for investors with harmonised regulations; (b) introduce rules on algorithmic and high frequency trading and alternative trading platforms; and (c) improve transparency and oversight of financial markets, with monitoring market data fees as part of this aspect. See European Securities and Markets Authority (2020) and The Program on International Financial Systems (2019).

³⁸ European Commission (2020) and European Securities and Markets Authority (2019a and 2019b).

³⁹ Bloomberg (2019).

⁴⁰ Copenhagen Economics (2018).

costs of providing market data for public assessment.⁴¹ **Thirdly**, the existing regulatory framework cannot look into market data policies (e.g. pricing structure, data definitions and auditing process) of stock exchanges. **Fourthly**, stock exchanges continue to disaggregate data for new products and introduce more fee categories.

5.5 **European stock exchanges rebutted that there is no evidence of market failure in market data.**⁴² On top of the arguments put forward by the US stock exchanges as discussed above, they claimed that annual revenue from market data sales of major European stock exchanges had risen by just 1% in real terms annually during 2012-2018. Furthermore, they argued market data is a "joint product" along with trading and compliance activities, and the expenses of the latter should also be counted as production cost of market data.⁴³

5.6 ESMA holds the views that MiFID has not achieved its objective "to lower the prices of market data". In December 2019, ESMA released a review report to enhance regulatory oversight of market data cost.⁴⁴ In November 2020, EMSA released a draft of supervisory guidelines on market data policies for consultation ending in mid-January 2021, with special focuses mainly on harmonised methodology of calculating market data costs and definitions of fee categories. Separately in London, the regulatory authority (i.e. Financial Conduct Authority) also issued a consultation paper on regulations of market data fee in March 2020. This consultation has closed by early January 2021.⁴⁵

6. Observations

6.1 As stock trading has become highly data-intensive and time-sensitive, market data sales has become lucrative business of global stock exchanges. In **Hong Kong**, while annual revenue from data sales of HKEX has quadrupled to HK\$919 million in 20 years, many small-sized stockbrokers opine that cost of market data is burdensome and ask for fee reduction.

⁴¹ For instance, LSE discloses data revenues only, without numerical figures on production costs (i.e. direct, indirect and joint costs).

⁴² World Federation of Exchanges (2019).

⁴³ Oxera (2019) and Bloomberg (2019).

⁴⁴ The TRADE (2019b) and European Securities and Markets Authority (2019b).

⁴⁵ Financial Conduct Authority (2020).

6.2 On **global comparison of selected items of market data fees**, data fees in European stock exchanges are generally higher than those in Hong Kong and the US. More specifically in Hong Kong, fees for Level 2 data and full order book are generally within the lower half of the eight major stock exchanges included in comparison. Yet its monthly subscriber fees for retail investors are the highest, and this may have implications for those stockbrokers with a large clientele of retail investors.

6.3 In response to calls from investors and stockbrokers to regulate the allegedly "overpriced" market data products, the regulator in the **US** rejected a proposal to increase market data fees put forward by two major stock exchanges in October 2018, though it lost the judicial challenge on "procedural" ground in June 2020. Recent attempts of SEC-US to facilitate lower data fees include (a) issuing a guidance to require stock exchanges to provide more details of justification when applying for fee adjustments; (b) including more Level 2 data in an existing consolidated market data platform for enhancing competition; and (c) allowing a new entrant for better competition amongst stock exchanges. In November 2020, the regulator in **Europe** has just released draft supervisory guidelines on market data policies for consultation, focussing on certain definitions of market data fee and how to calculate market data costs.

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