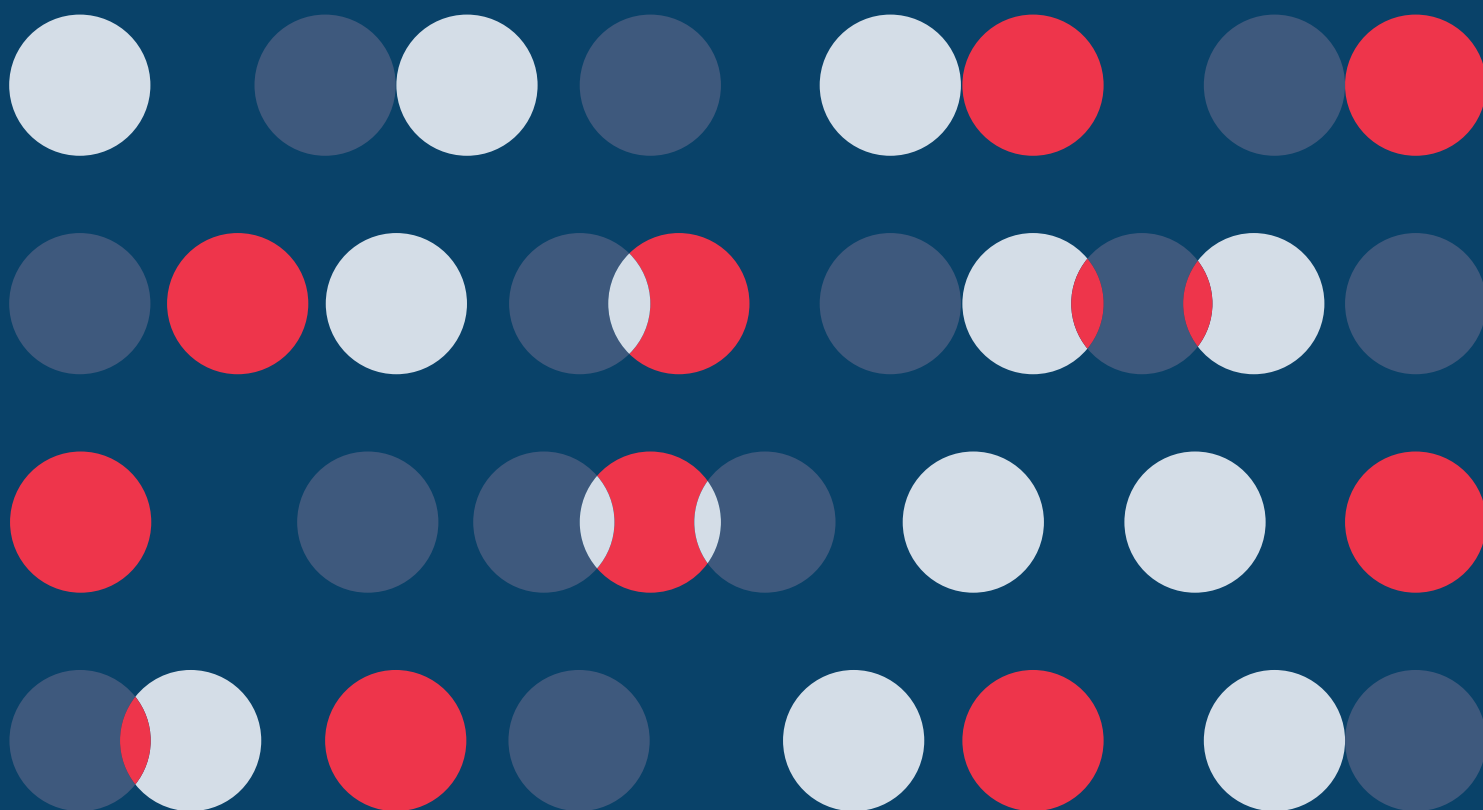


September 2019

RESEARCH REPORT

HONG KONG'S ETF MARKET AS A DOOR TO
GLOBAL INVESTMENT



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SUMMARY

Exchange traded funds (ETFs) have become increasingly popular in global markets. These products are more cost-effective, convenient and transparent than traditional mutual funds, leading to rapid growth in both the global number of ETFs and their assets under management (AUM). The growth is accompanied by innovation and diversification of products as well as increased use of fixed-income ETFs. While the growth in the US and European ETF markets continued, the ETF growth momentum in Asia Pacific is remarkable. Hong Kong has been one of the leading ETF markets in Asia Pacific while the Mainland ETF market is growing significantly in recent years to be the second largest in Asia Pacific upon Mainland investors' increasing acceptance to passive investments.

In respect of passive investments, Mainland investors can currently invest only in ETFs listed in the Mainland. Equity ETFs on a large variety of Mainland indices have dominated the market. Money market ETFs have become attractive owing to better yields than deposit rates. In addition to ETFs, listed open-ended funds (LOFs), which are traded like ETFs, provide convenient investment choices of active returns. However, ETFs and LOFs on global equity indices have been subject to time delay to receive cash in case of redemptions in the primary market. Besides, Mainland-listed funds are traded in the Renminbi (RMB) only. These hint at the potential demand of Mainland investors for access to the Hong Kong ETF market for global asset allocation and international currency exposure.

The Hong Kong ETF market is a door to global investment. It offers products on diversified asset classes from global markets and a well-established institutional investor base to support market liquidity. The Hong Kong ETF market offers a high degree of global equity market exposures, including Hong Kong stocks, Mainland A shares, Asia-Pacific and other overseas equities. It also covers asset classes of fixed income and currency as well as commodities in the global markets. In addition, a number of ETFs on global indices are traded in multiple currencies, including the Hong Kong dollar (HKD), the RMB and/or the US dollar (USD), which can fit the diverse needs of global investors. ETF investors in Hong Kong can also enjoy the high market depth, competitive tax savings as well as an ecosystem of associated risk management tools. The Hong Kong ETF market is also attractive to issuers who can enjoy a relatively market-friendly regulatory environment, a broad base of global institutional investors and an effective market making mechanism that ensures secondary market liquidity and facilitates arbitrage activities in the primary market. Besides, ETF issuers in Hong Kong can benefit from the geographical advantage of "Trade Asia in Asia" for hedging risks in the underlying markets for their Asian products.

Hong Kong is well-positioned to be Asia's ETF marketplace for the issuance and trading of ETFs. The Hong Kong ETF market can not only meet the needs of global investors, but also the demand by Mainland investors potentially. Given the relatively low institutional participation for supporting ETF primary market activities and the limited ETF coverage of global assets in the Mainland market, the Hong Kong ETF market with diverse products and investor base would be attractive to Mainland investors who have shown growing interests in ETF investments. Conversely, the large variety of ETFs on Mainland assets in the Mainland market would also be attractive to global investors in Hong Kong. The potential mutual access of the Mainland and Hong Kong ETF markets¹ would facilitate a more balanced mix of investors in the ETF primary and secondary markets on both sides, accompanied by a widened spectrum of ETF products. Further development in Mainland-Hong Kong market connectivity in respect of the ETF segment will therefore be conducive to the mutual growth of the two markets.

¹ Subject to regulatory approval.

1. ETFS HAVE BECOME ATTRACTIVE TO GLOBAL INVESTORS

An exchange traded fund (ETF) is an open-ended fund² traded like a stock that tracks the performance of the underlying assets. The world's first ETF was launched in Canada in 1990, tracking a benchmark equity index. It was followed by the US in 1993³, Japan in 1995, Hong Kong in 1999 and Europe in 2000. Subsequently, the global ETF market has experienced significant growth. An increasing number of ETFs are listed and traded in global markets and the coverage of underlying assets is extended from equities to other asset classes, including bonds, commodities and baskets of assets. In particular, the growth in Asia has accelerated in recent years.

Hong Kong has been one of the leading ETF markets in Asia. It was the first mover to issue and trade ETF in Asia Pacific (excluding Japan) back in 1999 when the Tracker Fund (tracking the Hang Seng Index (HSI)) was launched. Hong Kong was also the first in the world to offer ETFs on underlying assets in the Mainland or on Renminbi (RMB) assets. These include the first A-share ETF⁴ launched in 2004 (a synthetic ETF⁵ tracking the FTSE China A50 Index), the first physical A-share ETF (tracking an A-share index through RMB Qualified Foreign Institutional Investor (RQFII) scheme with dual counters traded in both Hong Kong dollars (HKD) and RMB) launched in 2012⁶, the first offshore RMB bond ETF in Asia launched in June 2013 and the first ETF tracking the onshore bond market in Mainland China launched in February 2014.

The Hong Kong ETF market has now developed into a platform of diversified asset classes from global markets traded in multiple currencies to meet the needs of global investors. The market can serve as a regional issuing and trading hub of ETFs to meet the growing market demand of global and Asia-Pacific investors, particularly from Mainland China.

ETFs have become increasingly popular as an asset class not only in Hong Kong, but also in global markets. Why are ETFs so popular in global and regional markets? How does product innovation contribute to this? These are discussed in the following subsections.

1.1 Why are ETFs more popular than mutual funds?

Prior to the launch of ETFs, mutual funds have been a popular choice of investment funds since their first launch in 1920s⁷. However, the growth in demand for ETFs has been higher than that in mutual funds in recent years, evidenced by the investment flows during market correction in late 2018. It was reported that the redemption of mutual funds reached US\$56.2

² An open-ended fund is an investment fund that can issue and redeem units of the fund. Investors can buy the fund units directly from the fund manager.

³ In the US, the first ETF (traded on the New York Stock Exchange (NYSE)) was launched in 1993, tracking the S&P 500 Index. Prior to this, the American Stock Exchange and the Philadelphia Stock Exchange offered "Index Participation Shares" (like futures that have long and short positions for every share) in May 1989 that allowed investors to buy or sell an interest in an equity market without having to purchase the individual stocks. Owing to lawsuits by US regulators, the federal court ruled that the shares were actually a futures contract (i.e., a derivative product) and therefore could not trade on a stock exchange. (Source: Foucher, I. and K. Gray. (2014) "Exchange-traded funds: Evolution of benefits, vulnerabilities and risks", *Bank of Canada's Financial System Review*, December 2014 issue, pp.37-46.)

⁴ See Dennison, T. (2018), "International investing and the importance of breaking the country box", *Invest Outside the Box: Understanding Different Asset Classes and Strategies*, Palgrave Macmillan, pp.228-278.

⁵ A synthetic ETF is an ETF replicating the performance of an underlying index using derivatives and swaps rather than using underlying physical securities as in the case of a physical ETF.

⁶ Source: "First RQFII A-share ETF to debut at HKEX", HKEX's News Releases, 16 July 2012.

⁷ Source: Divakaran, S., S. Buxton, St. Giles, M. Valentine and S. Atamuratova. (2015) "Mutual funds in developing markets: Addressing challenges to growth", World Bank's Working Paper, No. 100976.

billion during the week ended 19 December 2018 which was the highest since October 2008. On the contrary, ETFs received an inflow of US\$25.2 billion during the same week⁸.

Compared to traditional mutual funds, ETFs not only provide for creation and redemption activities, but also allow secondary trading activities on a stock exchange, contributing to higher liquidity. It is convenient to trade ETFs in the secondary market when the exchange market is open. Besides, market makers of ETFs are obliged to provide bid-ask quotes to ensure the secondary market liquidity. The number of ETF units available for trading in the secondary market is determined by the creation or redemption of ETF units in the primary market between participating dealers⁹ and ETF issuers. The arbitrage activities between primary and secondary markets, based on the demand and supply, help mitigate the premium over or discount to the net asset value (NAV)¹⁰ of an ETF.

In respect of costs to the issuer, the average expense ratio¹¹ of ETFs in the US was 0.23% in 2016, compared to 0.73% for index-tracking mutual funds and 1.45% for actively managed mutual funds¹². Investors can therefore enjoy lower fund management fees for investments in ETFs than investments in mutual funds. Certain global investors also enjoy lower taxes for investments in ETFs and these include the withholding tax advantage of 15% of Irish Undertakings Collective Investment in Transferable Securities (UCITS) ETFs over mutual funds when investing in the US¹³.

In respect of transparency, the information of an ETF is usually readily available on its own website that includes timely disclosure of the full portfolios (usually on a daily basis).

1.2 Overview of global and regional ETF markets

The number of ETFs in the global markets reached a record high of 6,310 ETFs as at the end of 2018 (5,707 ETFs at end-2017), with assets under management (AUM) of US\$4.66 trillion (US\$4.69 trillion at end-2017) (see Figure 1). The compound annual growth rate (CAGR) in AUM was about 21% during 2009 to 2018.

⁸ Source: Stein, C., "Fund investors pull \$56 billion in biggest exit since 2008", *Bloomberg News*, 27 December 2018.

⁹ Participating dealers (sometimes called authorised participants) are the institutional investors who place orders of creation or redemption of ETF units to the ETF issuer directly in the primary market. Some participating dealers are market makers.

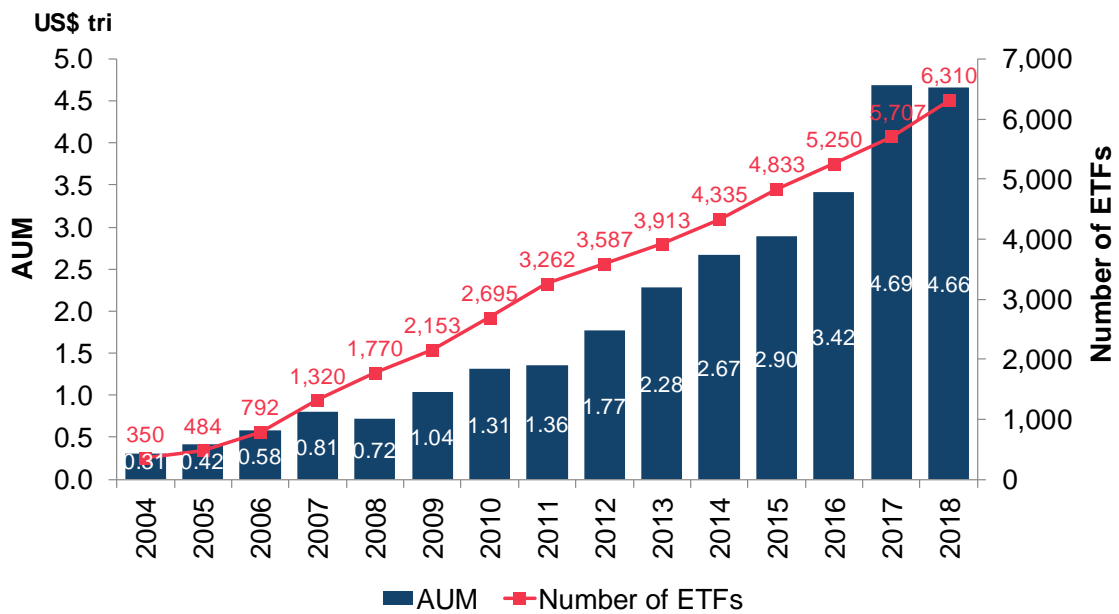
¹⁰ NAV of an ETF (per unit) represents the market value of all the underlying securities held by the ETF (such as shares or bonds and cash) minus any liabilities (such as management fees and administrative expenses) and divided by the number of fund units outstanding. See "ETF pricing and valuations", Blackrock's website, viewed on 7 August 2019.

¹¹ Expense ratio of a fund is calculated by dividing the total operating costs of the fund by the average value of fund assets under management during a specific period (usually a year).

¹² Source: "ETFs vs. mutual funds: Cost comparison", Fidelity's website, June 2017.

¹³ Source: "ETFs 2018: Opportunities and obstacles for active ETFs", Ernst and Young's website, December 2018. UCITS ETFs are ETFs domiciled in European markets and can be sold to global investors; these ETFs are subject to the UCITS regulation, which is a harmonised regulatory framework for European markets.

Figure 1. AUM and number of ETFs in global markets (2004 – 2018)



Source: “ETFGI reports ETFs and ETPs listed globally gather net inflows of US\$76.24 billion during December 2018, 2nd Highest on record”, ETFGI press release on *etfgi.com*, 9 January 2019.

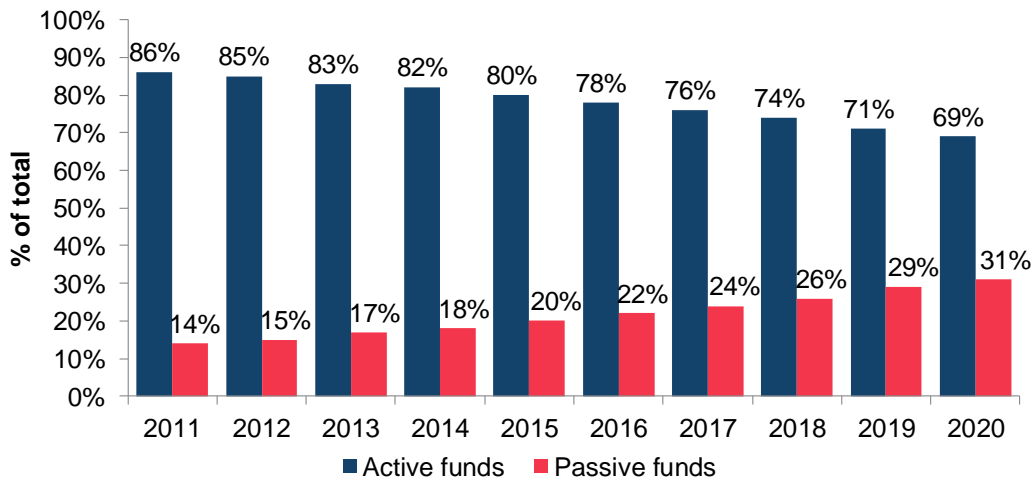
The popularity of ETFs is attributable to the growth of passive investment that tracks the performance of indices. The share of passive investment was estimated to be about a quarter of open-ended funds in 2018 and was expected to increase to about 31% by end-2020 (see Figure 2). Another source noted that the percentage shares of active and passive equity funds in the US total equity funds was the closest to each other in a decade as of end-November 2018 — about 52% and 48% respectively¹⁴. A key driving factor is the long-run outperformance of passive investment because of their lower costs¹⁵ — more than 80% of US equity actively-managed mutual funds underperform their respective benchmark indices in the 10-year horizon ending 2018¹⁶.

¹⁴ Source: Stein, C. “Shift from active to passive approaches tipping point in 2019”, *Bloomberg News*, 31 December 2018.

¹⁵ These costs include management fees, bid-ask spreads, administrative costs, commissions, market impacts and, where applicable, taxes.

¹⁶ Source: Rowley Jr. J. J., D.J. Walker and C. Zhu, “The case for low-cost index-fund investing”, *Vanguard Research*, April 2019.

Figure 2. Share of active and passive funds in global markets (% of all open-ended funds) (2011 – 2020)

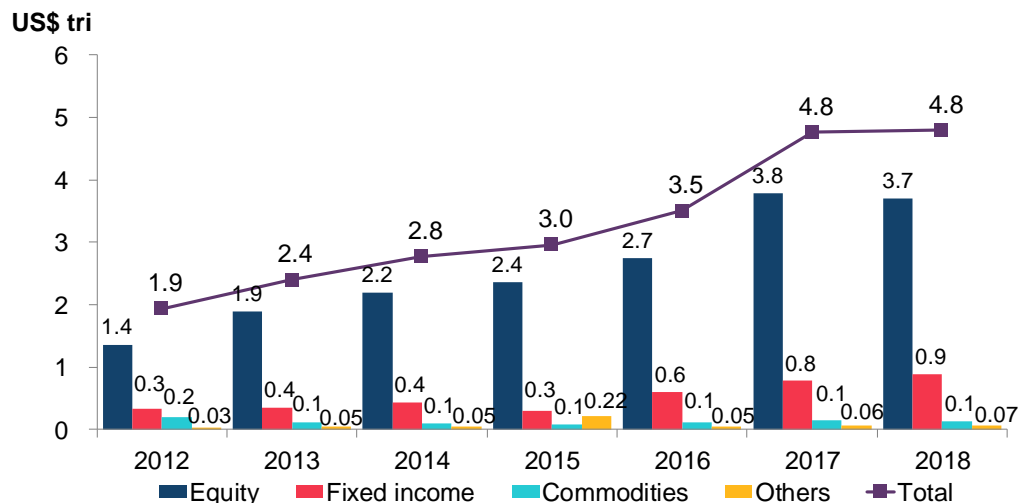


Note: The figures after 2016 are not actual statistics but estimates by Ernst and Young.

Source: “Global ETF Research 2017 — Reshaping around the investor”, published on Ernst and Young’s website, 2017.

Equities have dominated the underlying asset classes of ETFs. Among exchange traded products (ETPs)¹⁷, which are mainly ETFs, equities accounted for about 77% of total AUM as of end-2018, amounting to US\$3.7 trillion (see Figure 3). Of these, the exposure to US equities was the largest, amounting to US\$2.1 trillion as of end-2018. For fixed-income ETPs, both the percentage share and the amount of AUM rose steadily in recent years, reaching about 18% of the total AUM of all ETPs and US\$0.9 trillion respectively as of end-2018. Commodities and others accounted for about 4% of the total AUM of all ETPs, amounting about US\$0.2 trillion.

Figure 3. AUM of ETPs by asset class (2012 – 2018)



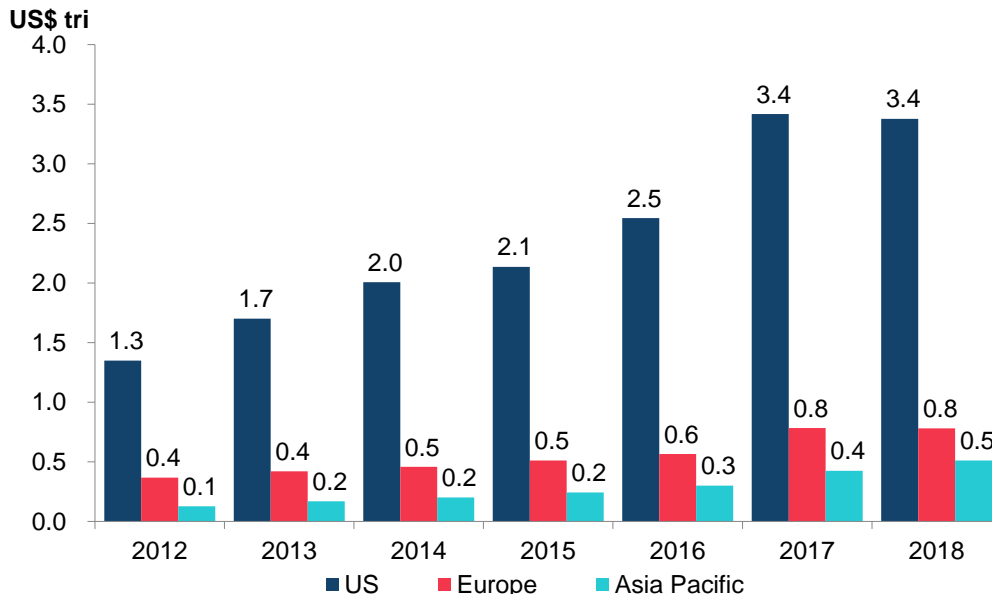
Note: “Others” include currency, money market and alternatives (e.g. volatility).

Source: “Blackrock Global ETP landscape: Industry highlights”, December issues of 2012 to 2018, published on Blackrock’s website.

¹⁷ ETPs comprise ETFs and other ETPs, including exchange traded vehicles (ETVs), exchange traded notes (ETNs) and certificates. Based on the data of ETFGI, ETFs accounted for 89%-98% of AUM of ETPs at year-ends between 2004 to 2018.

Although the US ETF market remained the largest among major ETF markets (see Figure 4), the 6-year CAGR during 2012 to 2018 of ETP AUM was the highest in Asia-Pacific markets at 26.1%, compared to 16.5% for the US market and 13.4% for European markets.

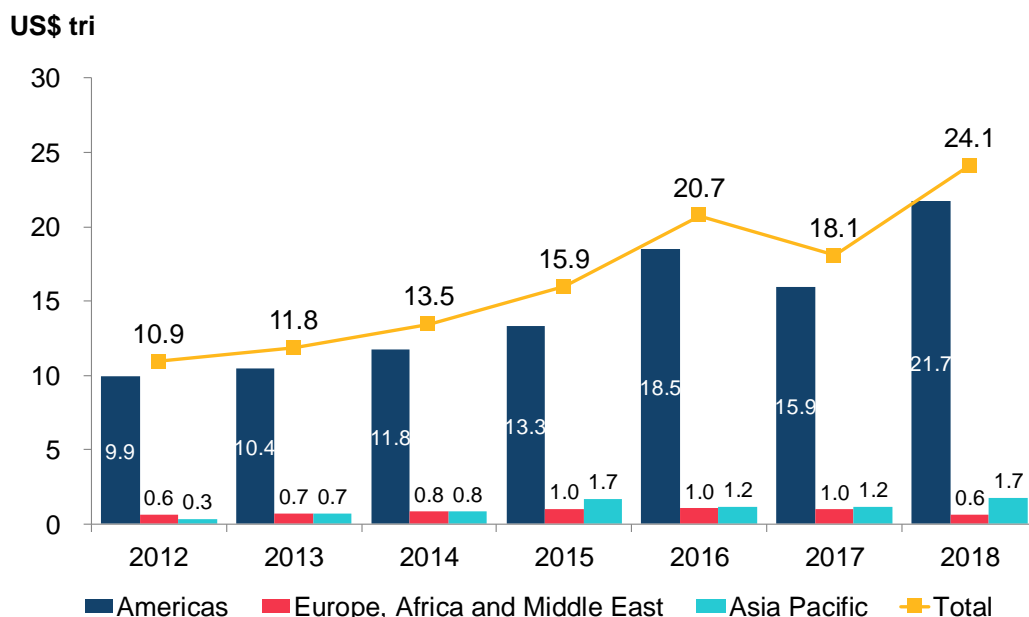
Figure 4. AUM of ETPs in selected major markets (2012 – 2018)



Source: “Blackrock Global ETP landscape: Industry highlights”, December issues of 2012 to 2018, published Blackrock’s website.

In terms of secondary market trading, the annual total turnover of ETFs on global exchanges has been increasing and reached a record high of US\$24.1 trillion in 2018 (see Figure 5). The American exchanges dominated the turnover with a 6-year CAGR at 13.9% during 2012 to 2018, led by the US exchanges. The total turnover of ETFs in the Asia-Pacific region surpassed the combined ETF turnover in the regions of Europe, Africa and the Middle East since 2015. It reached a record high of US\$1.7 trillion in 2018, with a 6-year CAGR of 31.2% during 2012 to 2018.

Figure 5. Total turnover of ETFs by regional exchanges (2012 – 2018)

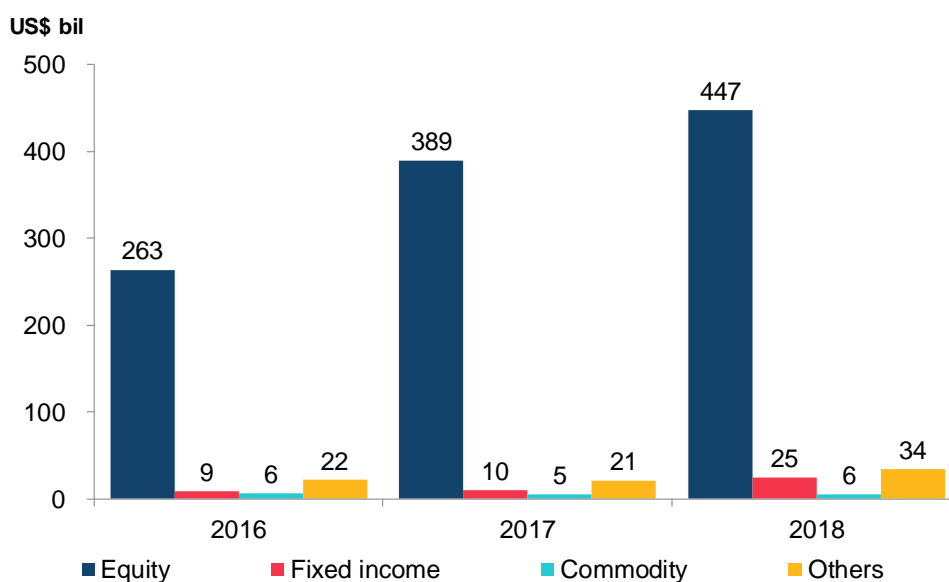


Source: World Federation of Exchanges (WFE) statistics on its website.

In the fastest growing Asia-Pacific region, the Japanese ETF market is the largest in terms of AUM, accounting for 62% of the total in the region as of end-2017 while each of the Mainland and Hong Kong markets accounted for 9% of the regional total respectively¹⁸. Another source noted that the AUM of ETFs in the Japanese market reached US\$309 billion as of end-June 2018 — the largest in Asia Pacific, followed by US\$37 billion in the Mainland market, US\$36 billion in the Korean market and US\$34 billion in the Hong Kong market¹⁹.

Despite the weak equity market performance in 2018, the AUM of Asian-Pacific equity ETPs continued to increase (see Figure 6). For fixed-income ETPs, the AUM increased by 1.5 times in 2018. For commodity ETPs, the AUM was relatively stable. The growth in AUM of other asset classes was attributed mostly to money-market ETFs. In addition to the trend of growing asset management, government policy incentives have also contributed to the growth of a number of Asia-Pacific ETF markets. Examples are the central bank's asset purchase programs in Japan²⁰, the surge of bond ETF purchases by insurers to circumvent the new regulation on foreign investment in Taiwan²¹ and the pursuit of cost-effective investments after the ban of "conflicted remuneration structures" in Australia²².

Figure 6. AUM of ETPs by asset class in the Asia-Pacific region (2016 – 2018)



Source: "Blackrock Global ETP landscape: Industry highlights", December issues of 2016 to 2018, published Blackrock's website.

1.3 Recent product developments to support the growth of ETF markets

Continued product innovation is a key to meet the evolving demand of institutional and retail investors. ETFs can fill the gaps of investment choices along the efficient frontier for asset allocation. For example, the Hong Kong market offers ETFs with different risk-return profiles

¹⁸ Source: "APAC ETF: Finding the tipping point", presentation slides of Broadridge Insights at Investment Management Association of Singapore (IMAS) Lunchtime Talk Series — APAC ETF Opportunities: The Next Growth Frontier, 13 February 2018.

¹⁹ Source: "Are China's ETFs taking off?", Fund Selector Asia's website, 12 July 2018.

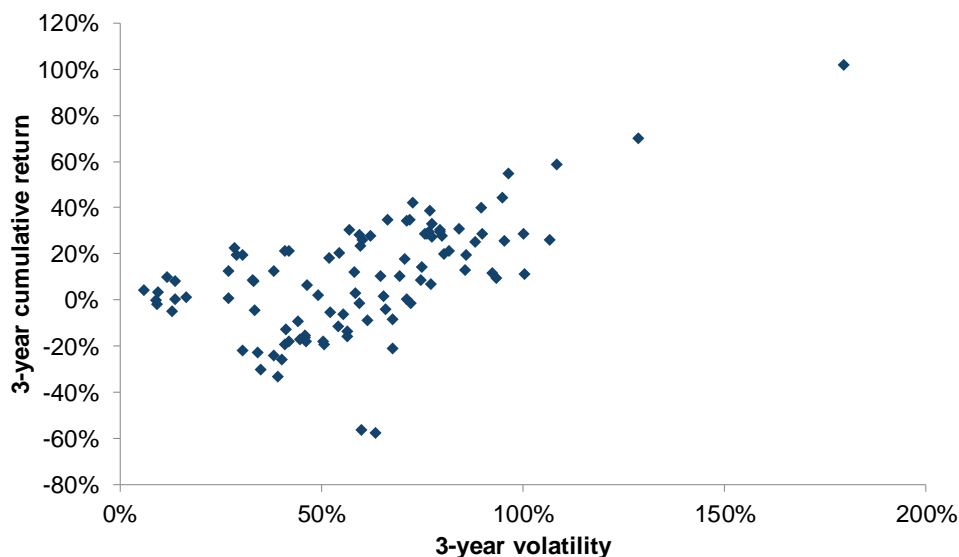
²⁰ ETFs serves a policy tool in the central bank's asset purchase programs. See: Petrov, A. (State Street Global Advisors), "ETFs in Monetary Policy — Case Study: Bank of Japan", November 2017.

²¹ Taiwan's insurance companies purchases ETFs to circumvent the new regulation of a cap on foreign currency investment. See: Herrero, A. C. and G. Ng, "Taiwan: Big data show positive sentiment for a new type of overseas assets — Bond ETFs", published on Natixis' website, 12 March 2019.

²² The Australian regulator has banned "conflicted remuneration structures", including commission, of financial advisers since July 2013, leading to higher incentives to promote cost-effective investments like ETFs. See: *Regulatory Guide 246 — Conflicted remuneration*, Australian Securities & Investments Commission (ASIC), March 2013.

(see Figure 7). These investment choices would attract new investors while providing alternative tools to existing investors for diversification.

Figure 7. Scatter plot of 3-year return versus 3-year volatility for ETFs in Hong Kong (2016 – 2018)



Note: The sample covers only the ETFs listed in Hong Kong during January 2016 to December 2018. The cumulative return is the price return during the period adjusted for dividend payout. The volatility is calculated as the difference between the highest price and the lowest price during the 3-year period divided by the closing price at the end of 2018.

Source: Wind.

A number of product innovations in the global ETF market are observed in recent years that have broadened global investment opportunities:

- **Smart beta ETF:** Tracks the performance of indices with adjustments in investment components based on certain macroeconomic or style factors. These factors include size, value, momentum and quality (a composite of fundamental indicators), etc. The number of newly issued smart beta ETFs kept increasing during 2013 to 2017, with their global AUM risen at a CAGR of 29% from US\$280 billion in 2012 to US\$999 billion in 2017²³. Another source noted that there were 1,298 smart beta ETPs with a total AUM of US\$618 billion as of end-2018²⁴.
- **Actively managed ETF (or active ETF):** Tracks an underlying benchmark index, but deviation from changes in sector allocations, timing of trades or from the underlying index itself is allowed, which can potentially generate higher returns. There were 773 active ETFs globally with an AUM reaching a record high of US\$109.4 billion as of end-November 2018 and the AUM is expected to grow to US\$217 billion by 2020²⁵.
- **The rise of artificial intelligence (AI):** The first ETF tracking a global index on robotics and AI stocks was launched in the US in 2013. The annualised cumulative 3-year return of the ETF was 16.7% as of 9 July 2019, which outperformed the 14.1% for the S&P 500 Total Return Index²⁶. A number of major ETF managers issued similar ETFs since 2016²⁷. The

²³ Source: "Five-year trends and outlook for smart beta", FTSE Russell's website, 5 July 2018.

²⁴ Source: "ETFGI reports Smart Beta ETFs and ETPs listed globally gather net inflows of US\$12.42 Bn during December 2018", ETFGI press release on etfgi.com, 30 January 2019.

²⁵ Source: "Active ETFs — The next step in Asia's ETF innovation", *Risk.net*, 12 February 2019.

²⁶ The cumulative 3-year returns of the US-listed ETF on robotics and AI stocks (with ticker of ROBO) and S&P 500 total return index are available at Marketwatch.com. The figures were as of 9 July 2019.

²⁷ Source: Lim, J., "Robotics and A.I. ETFs: Which will win the battle?", POEMS website of Phillip Securities Pte Ltd, 20 July 2018.

first AI-powered ETF tracks the performance of 30-70 stocks or real estate investment trusts (REITs) in the US market with high probabilities of outperformance over the next 12 months, based on the interpretation of market information by the AI system. The ETF was launched in the US market on 18 October 2017. The first-year performance of 11.8% outperformed the 8.1% for the S&P 500 Index during the same period and was reportedly better than those for 87% of all actively managed funds²⁸. The same ETF issuer launched another ETF in the US in June 2018, which covers a portfolio of 80-250 stocks in global markets with the support of the same AI system.

- **Leverage and inverse (L&I) product:** Delivers a multiple or the opposite of the return of the underlying index with the use of futures or swaps. The number of L&I products in global markets rose from 608 as of end-2013 to 901 as of end-June 2018, and the AUM of these products rose from US\$53.2 billion to US\$79.9 billion during the same period²⁹.
- **Environmental, Social and Governance (ESG) investing:** Supports the sustainable development of an economy but the definition or framework of ESG assessment varies across asset managers. A survey in 2018 found that about 99% of institutional investors in the Greater China region considered that ESG factors are important³⁰. The number of ESG ETFs rose from 47 as of end-2013 to 208 as of end-2018 and their AUM rose from US\$5 billion to US\$23 billion during the same period³¹.
- **Fixed-income ETF:** The AUM of fixed-income ETPs rose from US\$780 billion as of end-2017 to US\$882 billion as of end-2018³². Of this, the AUM of ETPs with exposures to US treasuries rose from US\$55 billion to US\$130 billion. The AUM of ETPs with exposures to emerging markets' debts (excluding corporate bonds) rose from US\$51 billion to US\$58 billion during the same period. This may be driven by the inclusion of Chinese bonds into global bond indices, which is facilitated by the onshore access through Bond Connect. Such growth in fixed-income ETFs may signal investors' increasing interests in debt instruments. A survey on global institutional investors showed that 60% of respondents considered bond ETFs as an alternative vehicle for fixed-income exposure³³. One underlying reason for the increase in the interest in bond ETFs may be the higher capital efficiency than buying the underlying bonds³⁴.
- **Cross-listing of ETFs:** Cross-listing (or mutual recognition) of ETFs broadens the range of asset classes available to investors in a single market. In Europe, an ETF is often listed across multiple European exchanges to accommodate investors' preference to trade ETFs and settle the transactions on their home exchanges. There were 2,260 ETPs listed in Europe with 7,278 listings on 27 exchanges as of end-2017, compared with 2,116 ETPs listed in the US on 4 exchanges³⁵. In Hong Kong, 24% of ETFs were cross-listed from other jurisdictions as of end-June 2017³⁶.

One of the key reasons for product developments of ETFs is to meet the diversification needs of institutional investors. According to a survey in 2017, 51% of global institutions (vs 39% of Asian institutions) rated asset allocation (through core and tactical strategies) as the most

²⁸ Source: Ponczek, S., "Robot ETF leaves pros in dust, scoring wind on small-cap fliers", *Bloomberg News*, 19 October 2018.

²⁹ Source: "ETFGI reports that assets invested in leveraged and inverse ETFs and ETPs listed globally reached \$79.9 billion at the end of June 2018", ETFGI press release on etfgi.com, 31 July 2018.

³⁰ Source: "Ready to grow: ETF opportunities in Greater China", Brown Brothers Harriman's website, April 2018.

³¹ Source: Wilson, D., "China, Hong Kong must look offshore for ESG ETFs", published on Fund Selector Asia's website, 31 January 2019.

³² Source: "Blackrock Global ETP landscape: Industry highlights", issues in December 2017 and December 2018, Blackrock's website.

³³ Source: McCollum, A., "Institutions turn to ETFs for bond market liquidity", issued by Greenwich Associates, 18 September 2018.

³⁴ See "Growing an institutional footprint in Asia's ETF market", *Risk.net*, 19 November 2018.

³⁵ Source: Crigger, L., "New light shines on Europe ETF trading", *ETF.com*, 18 April 2018.

³⁶ Source: Securities and Futures Commission (SFC) research paper, "Hong Kong market and topical issues in the ETF space", published on the SFC's website, 16 January 2018. (Referred to as the "SFC ETF Paper 2018".)

important factor for ETF purchases³⁷. Other uses of ETFs found by the survey include risk management or hedging, rebalancing/transitional allocation, interim beta for transition, cash equitisation for reducing idle cash, “liquidity sleeves” for providing liquidity and risk management (e.g. through L&I products).

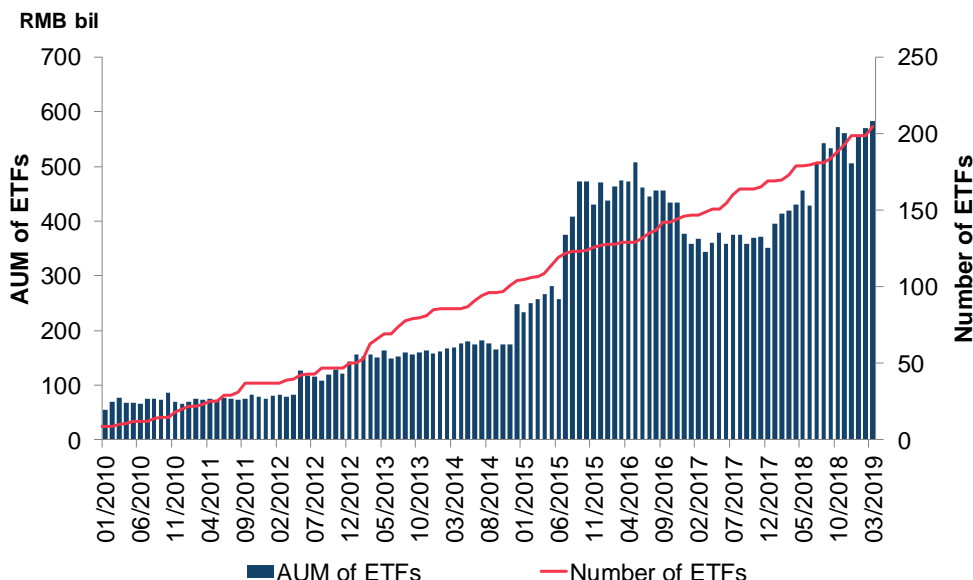
2. THE GROWTH OF THE MAINLAND AND HONG KONG ETF MARKETS CAN BE COMPLEMENTARY TO EACH OTHER

The growth of Asia’s ETF market is expected to continue. The parallel growth in the Mainland and Hong Kong ETF markets will be complementary to each other and is expected to accelerate on further increase in market connectivity. A study predicted that the percentage share in the total AUM of Asia-Pacific ETFs will rise from 9% in 2017 to 19% by 2025 for Mainland ETFs and from 9% to 18% for Hong Kong, but fell from 62% to 40% for Japanese ETFs in the same period³⁸. The same study expected that about 75% of new net ETF inflows into Asia-Pacific markets will come from Japan, Mainland China and Hong Kong during 2018 to 2025.

2.1 Strong diversification demand from Mainland investors

The Mainland ETF market has been growing rapidly since the first ETF was listed on the Shanghai Stock Exchange (SSE) in February 2005, which tracked the performance of the SSE 50 Index (an index for large-cap stocks listed on the SSE). Both the AUM and the number of ETFs in the Mainland reached record highs as of the end of the first quarter of 2019 (2019Q1) — 205 ETFs with a total AUM of RMB 583.1 billion (see Figure 8). These comprised 146 ETFs on the SSE and 59 ETFs on the Shenzhen Stock Exchange (SZSE).

Figure 8. AUM and number of ETFs in the Mainland (Jan 2010 – Mar 2019)



Note: The AUM refers to the outstanding amount of ETFs at the China Securities Depository and Clearing Corporation (CSDC). Source: Wind.

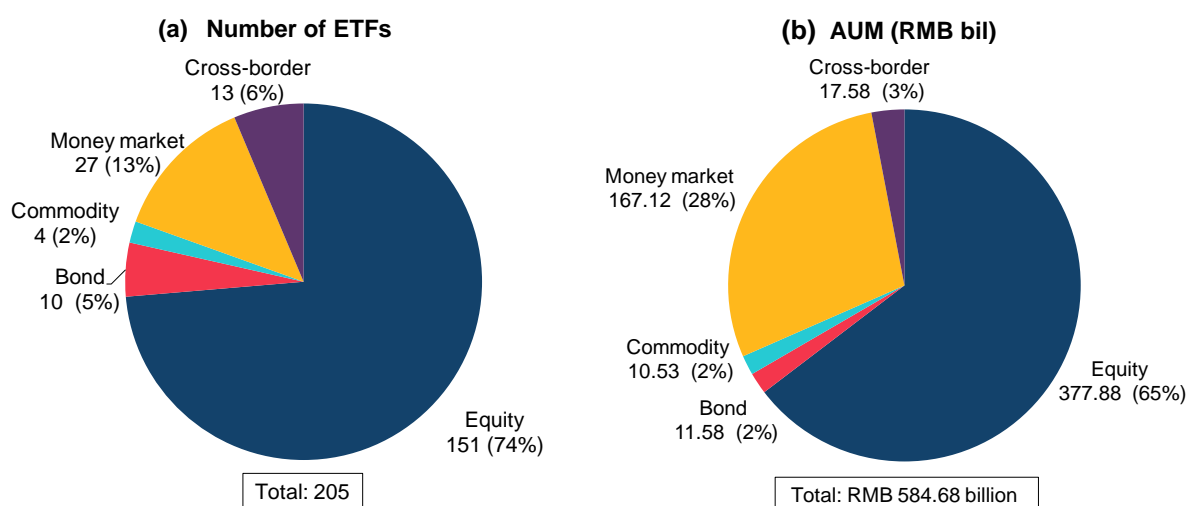
In terms of number of ETFs as of end-2019Q1, equity ETFs on Mainland indices dominated — 151 in number or 74% of the total, while the number of cross-border ETFs on foreign equity

³⁷ Source: “Global trends in institutional ETF trading”, survey report commissioned by Jane Street, *Risk.net*, 5 October 2017. The survey covers responses from 210 institutions, which comprise 86 from the US, 79 from Europe and 45 from Asia.

³⁸ Source: “APAC ETF: Finding the Tipping Point”, presentation slides of Broadridge Insights at Investment Management Association of Singapore (IMAS) Lunchtime Talk Series – APAC ETF Opportunities: The Next Growth Frontier, 13 February 2018.

indices was only 13 (6% of the total) (see Figure 9a). For the ETFs on onshore stocks, the underlying indices cover different combinations of smart beta (e.g. size, value, growth or dividend), industry sector, ownership and markets (e.g. Shanghai, Shenzhen or cross-markets) for Mainland equity exposure. As for the 13 cross-border ETFs, nine of them track Hong Kong equity indices (including 4 ETFs on H shares), three of them track US equity indices and one tracks German stocks. There were 37 ETFs investing in the Mainland fixed-income market — 27 money market ETFs³⁹ (13% of the total) and 10 bond ETFs (5% of the total). Of the four commodity ETFs, all were gold ETFs (2% of the total), tracking gold contracts traded on the Shanghai Gold Exchange.

Figure 9. Distribution of the number and AUM of ETFs in the Mainland by underlying asset type (End of 2019Q1)



Source: Wind.

In terms of AUM as of end-2019Q1, money-market ETFs accounted for 28% of the total, second only to the 65% for equity ETFs (see Figure 9b). Money market ETFs are attractive to investors because they are very liquid and usually have higher yield from money-market funds than from 1-year fixed deposits at banks⁴⁰. For money market ETFs in the Mainland, the proceeds from the sales in the secondary market can be used for purchasing securities on the same trading day (T+0) or can be withdrawn on the next trading day (T+1), while creation and redemption of money market ETF units in the primary market follow a T+0 settlement cycle on the SZSE or a T+2 settlement cycle on the SSE⁴¹. Money market ETFs therefore have become an alternative means of asset allocation for enhancing yields and diversification. Separately, there are on-exchange money market funds (non-ETFs) on the SSE available only for primary market transactions, which follow a T+1 settlement cycle for creation/redemption⁴² (compared to T+0 or T+2 for money market ETFs). However, all of the listed funds in the Mainland are traded in the RMB at the moment. In other words, Mainland investors cannot diversify currency exposure by investing in ETFs in the Mainland.

ETFs in the Mainland mainly cover domestic asset classes (94% of the total). In the light of this, the Mainland exchanges are exploring ways to broaden the exposure to global asset

³⁹ Money market ETFs invest in short-term fixed-income investments that include short-term government bonds, commercial papers, repurchase instruments (repos), bank acceptances and negotiable certificates of deposit.

⁴⁰ See "What are the advantages of money-market ETFs?" (〈貨幣ETF基金的優勢有哪些?〉), *Touzi.com*, 26 April 2016; "An article to understand money market ETFs" (〈一文看懂場內貨幣基金〉), *Sina finance* website, 5 September 2018.

⁴¹ For the money market ETFs on the SZSE, the newly created ETF units can be redeemed in the primary market or sold in the secondary market on the same trading day (T+0). For money market ETFs on the SSE, newly created ETF units can be redeemed in the primary market or sold in the secondary market on the third trading day (T+2).

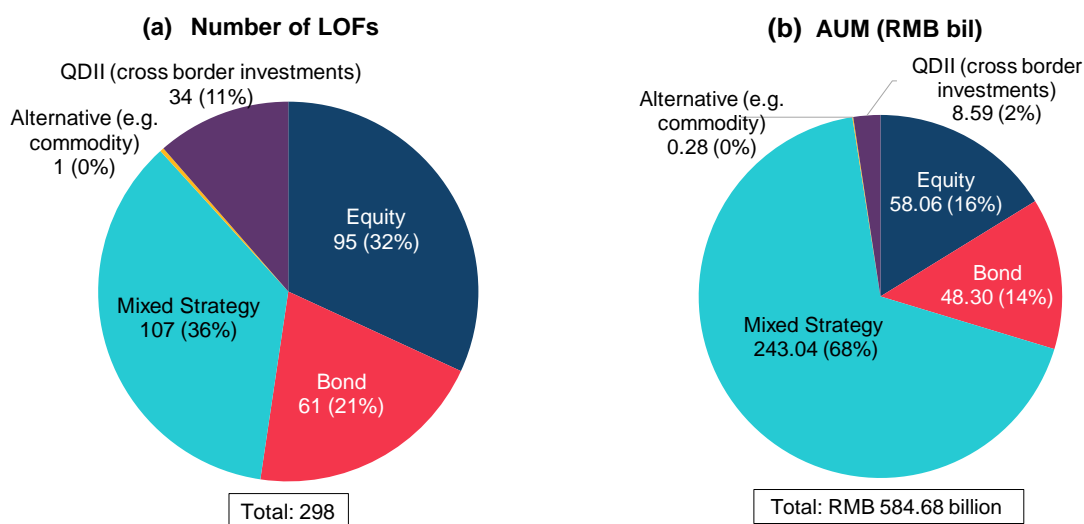
⁴² According to the statistics available in Wind, there were 12 money market funds for primary market transactions only on the SSE, with a total AUM of RMB 21.9 billion, as of end-2018.

classes, including cooperation with global exchanges. The SSE and the Tokyo Stock Exchange under the Japan Exchange Group (JPX) cross-listed the first batch of ETFs with underlying assets on each other's market on 25 June 2019 under the China-Japan ETF Connectivity Scheme. Under the scheme, a Japanese or Chinese ETF issuer develops a different class of fund units called "feeder ETF" that invests in at least 90% of a target ETF listed on the other exchange, subject to quotas under the Qualified Foreign Institutional Investor (QFII) and Qualified Domestic Institutional Investor (QDII) schemes. The target ETF should have been listed for more than one year and should have enough liquidity in the home market. For the first batch of 4 ETFs cross-listed on the SSE, three of them track Nikkei 225 index and one tracks the Tokyo Stock Price Index (TOPIX). They amounted to a total AUM of RMB 509 million as of 21 June 2019⁴³. The average daily turnover of these ETFs was RMB 161.8 million during the first week and fell to RMB 65.1 million during the second week⁴⁴.

In the Mainland listed fund market, listed open-ended funds (LOFs) are listed and traded on exchanges like ETFs. Similar to ETFs, LOFs are liquid and convenient tools for investing in different underlying asset classes, including stocks, bonds, mixed strategy (with both stocks and bonds), commodities and cross-border investments (through QDIIs). LOFs usually adopt active strategies with the aim to outperform benchmarks and hence have higher management expenses than ETFs.

As of end-2019Q1, there were 298 LOFs (74 on the SSE and 224 on the SZSE) listed in the Mainland with a total AUM of about RMB 358.3 billion⁴⁵. LOFs with mixed strategy on onshore stocks and bonds accounted for the highest proportion by number (36% of the total) and by AUM (68% of the total) (see Figure 10), partly because these funds offer different risk-return profiles from ETFs in the Mainland. Like ETFs in the Mainland, onshore asset classes dominated — 89% by number and 98% by AUM of LOFs.

Figure 10. Distribution of the number and AUM of LOFs in the Mainland by underlying asset type (End of 2019Q1)



Source: Wind.

⁴³ See "First batch of China-Japan cross-listed ETFs start trading today" (〈首批4隻中日互通ETF今日上市〉), *Xinhuanet.com*, 22 April, 2019.

⁴⁴ Source: Wind.

⁴⁵ Source: Wind.

In addition to ETFs and LOFs, Mainland-listed funds also include structured funds⁴⁶.

The mother fund units are divided into sub-units (structured funds) with different expected risks and incomes, among which part or all of the fund unit types may be traded. The creation and redemption can be conducted only for mother units but not for sub-units. The mother fund units of structured funds on the SSE are LOFs⁴⁷ and those on the SZSE are not listed and traded on the exchange. To protect retail investors, entry barriers are imposed since May 2017 for an investor to trade structured funds. These include a minimum asset value of RMB 300,000 during the past 20 trading days and the requirement to sign a risk disclosure statement with the broker. In contrast, there are no minimum requirements on assets for investors to trade ETFs and LOFs. As of end-2018, there were 122 structured funds (each with A class and B class of sub-units), with a total AUM of RMB 111.0 billion. Similar to ETFs and LOFs, the investment scope of structured funds is mainly confined to onshore stocks and bonds.

In terms of trading value, ETFs have dominated the Mainland listed fund market. The average daily turnover value (ADT) of ETFs on the Mainland exchanges rose to a record high of RMB 18.4 billion in 2018 — RMB 6.8 billion on the SSE and RMB 11.5 billion on the SZSE. This was much higher than the corresponding figures of RMB158.5 million for LOFs (RMB 15.7 million on the SSE and RMB 142.8 million on the SZSE) and RMB 1.1 billion for structured funds (RMB 21.1 million on the SSE and RMB 1.1 billion on the SZSE)⁴⁸ (see Figure 11). The ADT of ETFs was about 5% of the ADT of onshore stocks during 2018⁴⁹ (see Figure 12). Margin trading and short selling have been allowed for eligible ETFs since 2011⁵⁰.

The SZSE is in the process of revising its securities clearing and settlement arrangements since April 2019⁵¹, the settlement cycle will be standardised for A shares, ETFs and LOFs listed on the SZSE, which will become the same as that for the same security types listed on the SSE — securities settlement will be on the same trading day (T+0) and money settlement will be on the next trading day (T+1). Before the revision, the settlement of ETFs on the SZSE followed delivery versus payment (DVP) on T+1 — both securities and money settlement were on T+1. Besides, cross-market ETFs tracking A shares on the SSE and the SZSE, before the corresponding rules revisions, could not be purchased and redeemed for A shares to be sold on T+0, but this will be allowed upon the implementation of the revised rules. Investors may then purchase and sell ETFs more frequently on T+0, hence supporting the secondary market liquidity of ETFs.

⁴⁶ There is another fund type — closed-end fund. However, as a result of the reform of the Mainland fund industry, closed-end funds have diminished over the years. As of 7 August 2019, there were 2 closed-end funds traded on exchanges (one on each of the SSE and the SZSE). Source: Lists of funds on SSE's website and SZSE's website, viewed on 7 August 2019.

⁴⁷ The mother fund units can be formed by the combination of sub-units on the same trading day of purchase for redemption on the same trading day. See "Guidelines on business management of structured funds" (《分級基金業務管理指引》), issued by the SSE and the SZSE respectively on 26 November 2016; "Can I buy mother funds of structured funds? How can I buy them?" (《分級基金母基金能買嗎？分級基金母基金怎麼買？》), PPMoney (網貸), 28 April 2018.

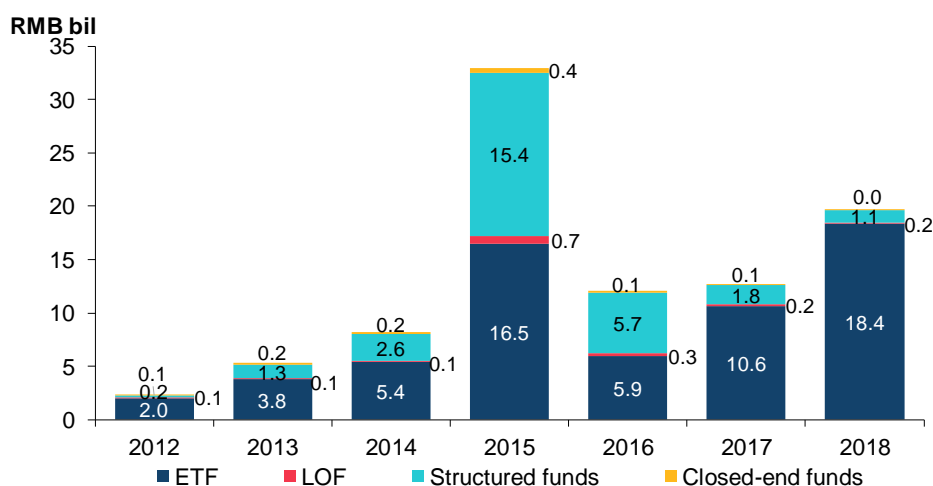
⁴⁸ Source: SSE's and SZSE's monthly statistics for ADT of LOFs and structured funds, on the respective exchanges' websites.

⁴⁹ The average daily turnover of ETFs was estimated from the WFE statistics on total ETF turnover per exchange. The onshore stock market turnover is available from Wind.

⁵⁰ The eligibility criteria of ETFs for margin financing and securities lending (which enables short selling) include being traded for at least 5 trading days after listing, an average AUM of at least RMB 500 million in the past 5 trading days and at least 2,000 holders of the fund. See the SSE's and the SZSE's related rules revisions on margin financing and securities lending (《融資融券交易實施細則(2019年修訂)》), issued by the SSE and the SZSE respectively on 9 August 2019.

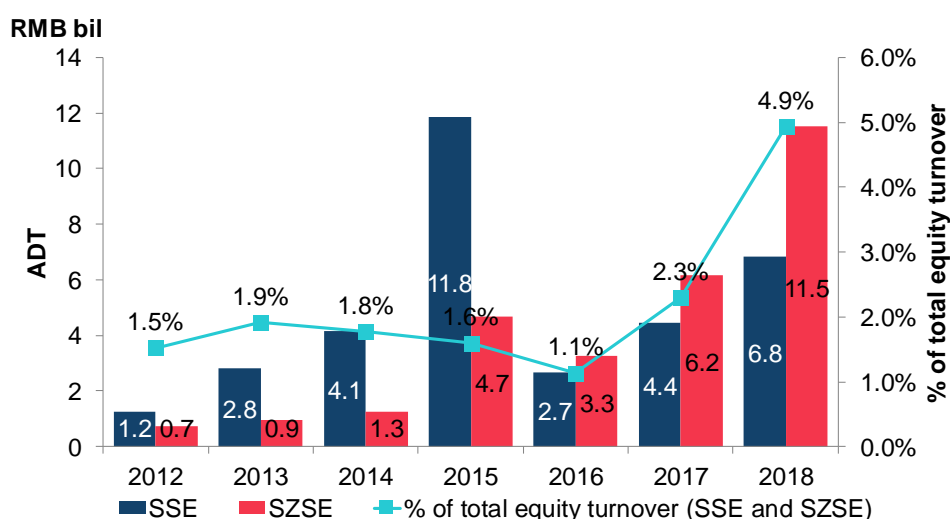
⁵¹ *Notice on technical preparation on the trading and settlement mechanism for ETFs on SZSE* (《關於做好深市ETF交易結算模式調整相關技術準備的通知》), issued by the SZSE on 8 April 2019; *Notice on the Detailed Implementation Rules on the Trading, Creation and Redemption of Securities Investment Funds on the SZSE (2019 revision for consultation)* (《關於就《深圳證券交易所證券投資基金交易和申購贖回實施細則(2019年修訂徵求意見稿)》公開徵求意見的通知》), issued by the SZSE on 23 August 2019.

Figure 11. ADT of Mainland listed funds by fund type (2012 – 2018)



Source: SSE and SZSE.

Figure 12 ADT of ETFs on the Mainland exchanges (2012 – 2018)



Source: WFE statistics on its website and Wind.

The primary market is another source of liquidity. For A-share ETFs listed in the Mainland (including cross-market ETFs), arbitrage activities between the primary market and the secondary market will be allowed on the same trading day (T+0) upon the implementation of the SZSE’s revised rules — newly created ETF units can be sold in the secondary market on the date of creation and the redeemed securities from cancelled ETF units can be sold in the secondary market on the date of redemption. This will be conducive to the price discovery of these ETFs given that short selling activities in ETFs are restricted. However, the settlement cycles are still different across different types of ETF and between ETFs and other listed funds in the primary market. For LOFs, the creation and redemption of fund units are cash-settled only and therefore may involve additional costs of buying and selling underlying securities. Like LOFs, the creation and redemption of cross-border ETF units are also cash-settled only. Noteworthy, for cross-border ETFs and QDII LOFs, it takes longer time to receive the cash — 4 to 7 days for cross-border ETFs and about 10 days for QDII LOFs⁵².

⁵² Sources: Li, C., Z. Song and B. Cheng (Hwabao Securities), “Detailed explanation on trading mechanism and net asset valuation of cross-border ETFs” (〈跨境 ETF 交易機制及淨值計算詳解〉), *xueqiu.com*, 20 November 2015; “Settlement rules on cross-border LOFs” (〈跨境 LOF 基金的交收規則〉), Guotai Junan’s website.

To summarise, Mainland investors may demand investment diversification through ETFs. Rising interests in ETFs by Mainland investors were observed from the growing market size and trading activities of the Mainland ETF market. However, Mainland-listed funds are dominated by funds on domestic assets (mainly equity) while the supply of listed funds on global assets was limited. The time delay to receive cash from the redemption of listed funds on global assets may constrain the liquidity of these funds. In the light of these, it would be beneficial to Mainland investors if they have access to the Hong Kong ETF market which provides more varieties of global asset classes (see Section 2.2).

2.2 Hong Kong ETF market as a platform for global investments

In two decades' time, the Hong Kong ETF market has developed into an investment platform for global investors to get exposure to multiple asset classes of domestic and global equities, fixed income and commodities traded in different currencies (see Figure 13). ETFs in Hong Kong are not only traded in HKD (63% of the total number of ETFs and L&I products⁵³), but also in US dollars (USD) (14% of the total) and RMB (23% of the total).

Types of ETF in Hong Kong⁵⁴ include:

- **Equity ETFs:** Cover at least 80% of total exposure of global equity markets⁵⁵, including ETFs tracking Mainland China A shares, Hong Kong equities, Asia-Pacific equities and other overseas equities. As of the end of the first half of 2019 (2019H1), there were 90 equity ETFs with an AUM of HK\$279.7 billion (86.0% of the total).
 - Hong Kong equity ETFs track the Hang Seng Index and Hong Kong indices, some with smart beta factors;
 - A-share ETFs track not only the Mainland flagship indices, but also A-share indices compiled by global index providers such as MSCI and FTSE;
 - Asia-Pacific equity ETFs track equity indices in India, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan and Vietnam;
 - Other overseas equity ETFs track US equities, European equities and equities in some emerging markets (e.g. Brazil and Russia). These include the world's first ETF tracking the NASDAQ Overseas China New Economy Companies Top 50 Index (covering Mainland new economies listed in Hong Kong and the US) launched in September 2018.
- **L&I products:** Deliver up to ± 2 times performance on Hong Kong and overseas equity indices. As of end-2019H1, there were 22 L&I products with an AUM of HK\$7.3 billion (2.2% of the total).
- **Fixed income and currency (FIC) ETFs:** Track the performance of high-quality bonds in the Mainland and Asia-Pacific markets as well as money markets of HKD and USD. As of end-2019H1, there were 11 FIC ETFs with an AUM of HK\$37.3 billion (11.5% of the total).
- **Commodity ETFs:** Track gold prices and crude oil prices in the global market. As of end-2019H1, there were 6 commodity ETFs with an AUM of HK\$1.1 billion (0.3% of the total).

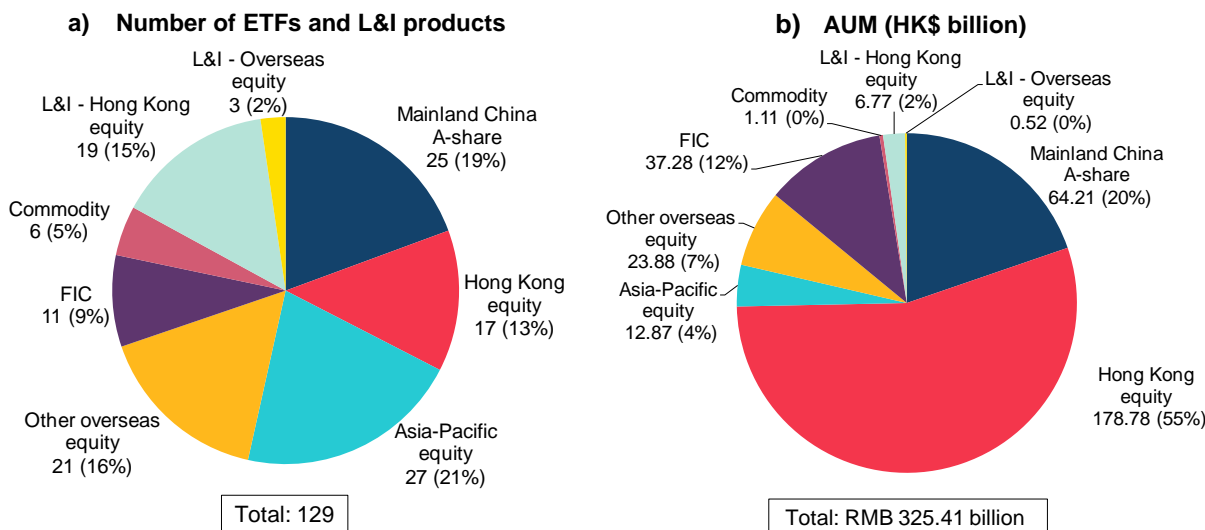
⁵³ Source: "List of securities" webpage for ETPs on HKEX's website. As of June 2019.

⁵⁴ All the statistics on the different types of ETF presented in this part are sourced from "ETF perspective", June 2019 issue, published on HKEX's website, unless otherwise stated.

⁵⁵ The Hong Kong-listed ETFs issued by Vanguard already cover more than 80% of the exposure of global equity markets as of end-March 2018. Source: "Vanguard launches Hong Kong's most comprehensive China ETF", news release on Vanguard's website, 10 May 2018.

- **Active ETF:** Hong Kong regulator started to accept applications of active ETFs from January 2019. The first active ETF, tracking USD money market, was listed on 18 June 2019⁵⁶.

Figure 13. Distribution of the number and AUM of ETFs and L&I products in Hong Kong by underlying asset type (2019H1)

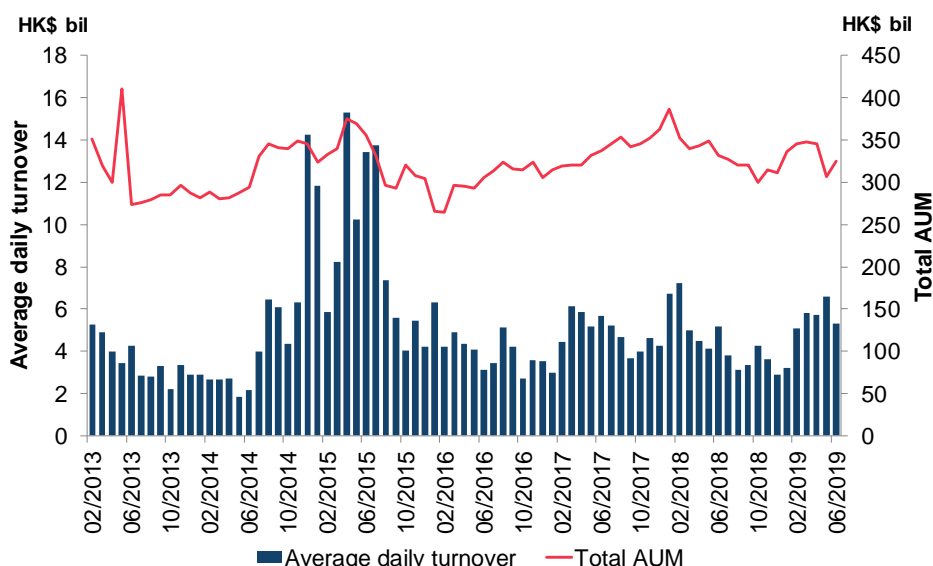


Note: The listings of multiple currency counters of an ETF are counted as one product.

Source: "ETF perspective", June 2019 issue, published on HKEX's website.

The total AUM of ETFs in Hong Kong was about HK\$325.4 billion as of end-2019H1 (see Figure 14). The ADT was about HK\$5.3 billion during 2019H1 (about 5.4% of total securities market turnover).

Figure 14. ADT and AUM of ETFs and L&I products in Hong Kong (Feb 2013 – Jun 2019)



Note: L&I products were launched in Jun 2016.

Source: "ETF perspective", February 2013 to June 2019 issues, published on HKEX's website.

⁵⁶ Source: "HKEX welcomes its first listing of active ETF", HKEX News Release, 18 June 2019.

Institutional investors accounted for over 81% of the ETF turnover in Hong Kong during 2016 and the first half of 2017 and the average transaction size of ETFs doubled from HK\$224,000 during 2007 to HK\$459,000 during the first half of 2017⁵⁷. A potential driver for institutional investor participation would be the growing number of global asset managers in Hong Kong — the number of licensed asset management companies in Hong Kong rose by 14% from 1,300 as of end-2016 to 1,477 as of end-2017 and further to 1,643 as of end-2018⁵⁸. Besides, they are interested in fixed-income ETFs, which are treated as alternatives for fixed-income exposure — a survey in 2018⁵⁹ showed that 83% of institutional investors in Hong Kong already invested in fixed-income ETFs, which was higher than 78% for equity ETFs and 25% for commodity ETFs.

The Hong Kong ETF market is characterised by diverse asset-class exposures and a broad institutional investor base. The market's edges on the issuance and trading of ETFs further support the prosperity of the market. These are discussed in Section 3.

2.3 Complementary nature of the Mainland and Hong Kong ETF markets

The product composition, investor base and market access of the ETF market in the Mainland and Hong Kong are very different. Yet, both markets demonstrate the growing appetite of investors for ETF investments. (The features of ETFs and LOFs in the Mainland as well as ETFs in Hong Kong are summarised in the Appendix.)

In the Mainland, the growing interests in ETFs and the high proportion of ETFs on domestic assets may hint at the demand for asset diversification by Mainland fund investors. However, Mainland fund investors can only invest in global assets through funds under the QDII scheme and the mutual recognition of funds agreement with Hong Kong, as well as a few cross-listed Japanese ETFs (see Section 2.1). On the contrary, Hong Kong ETFs cover a wide range of Asia-Pacific and overseas equities as well as other global asset classes including fixed income, currency and commodity. These ETF products could be considered as alternatives for Mainland investors.

In respect of investor base, retail investors are dominated in the Mainland market, who accounted for about 86% of turnover value in A-share market during 2018⁶⁰. The relatively low degree of institutional investor participation may limit the growth of trading activities in the ETF primary market (creation/redemption of ETF units), which is important to reduce the premium or discount to an ETF's NAV, in other words, to achieve a fair pricing of an ETF. The global institutional investor base in Hong Kong could be complementary to the investor base in the Mainland to support the growth of the Mainland ETF market.

Hong Kong, on the other hand, is already an ETF marketplace with a wide range of asset classes covering Mainland and global assets. However, the range of Mainland asset classes is still rather limited. Take A-share ETFs as an example. About a half of Hong Kong-listed A-share ETFs track the popular A-share indices in Mainland — out of 25 A-share ETFs as of end-June 2019, there were 8 ETFs tracking the CSI 300 Index and 4 ETFs tracking the FTSE China A50 Index⁶¹. In comparison, Mainland A-share ETFs not only track the headline indices, but also indices of different sectors, ownership and smart betas (e.g. growth, value

⁵⁷ Source: "SFC ETF Paper 2018".

⁵⁸ Source: SFC, "Asset and Wealth Management Activities Survey", 2017 and 2018 issues, published on the SFC website. (Referred to as the "SFC Asset Management Survey 2018" for the 2018 issue.)

⁵⁹ Source: "Ready to grow: ETF opportunities in Greater China", published on Brown Brothers Harriman's website, April 2018.

⁶⁰ Source: Mee, K. and G. Ralston, "Compelling characteristics of the A-shares market", published on *Insight* webpage of Schroders' website, 27 March 2019.

⁶¹ Source: "List of securities" webpage for ETPs on HKEX's website.

and dividend, etc). More diversified product composition in the Hong Kong ETF market, e.g. through access to Mainland ETFs, could contribute to attracting new investors worldwide.

In respect of trading activities, ETF turnover in the Hong Kong market is rather concentrated on a relatively small number of products — the five ETFs⁶² with the highest turnover value accounted for 90% of total ETF turnover value during 2019H1. Mainland investors may have different appetite of ETF investments across different asset classes. Opening access of Hong Kong ETF market to Mainland investors could be a potential driver of growth for the secondary market trading activities of Hong Kong ETFs.

Given the complementary nature of products and investors in the Mainland and Hong Kong, a potential increase of Mainland-Hong Kong market connectivity in the ETF market could meet investors' different investment appetite and improve the liquidity of the ETF primary and secondary markets on both sides. This could also further strengthen Hong Kong's edges as the Asia-Pacific hub for ETFs as discussed in Section 3.

3. HONG KONG'S EDGES AS THE ASIA-PACIFIC HUB FOR ISSUING AND TRADING ETFS

3.1 Issuers' considerations to issue ETFs in Hong Kong

Given the growing demand for global passive investments, the number of issuers (or ETF managers) in the Hong Kong ETF market has grown steadily. The number of ETF managers rose from 7 in 2008 to 21 in 2012 and to 27 in 2018⁶³, despite the withdrawal of some ETF managers from the market due to keen competition and changing market sentiment. The attractiveness of the Hong Kong ETF market to issuers lies in the factors discussed below.

First, the presence of a global investor base with increasing demand for ETFs. In 2018, 62% of the funding sources of asset and wealth management in Hong Kong came from global investors⁶⁴, including global asset managers with Asia-Pacific operations headquartered in Hong Kong. These global investors have been investing in Mainland securities through Hong Kong, which are facilitated by Stock Connect, Bond Connect, and QFII and RQFII schemes. The optimism over the inclusion of A shares into global indices would further accelerate the inflows. Besides, the demand of local institutions for ETF investments is expected to rise. For pensions in Hong Kong, the AUM of Mandatory Provident Fund (MPF) schemes reached HK\$813 billion as of end-2018 with an average yearly inflow of about HK\$40 billion⁶⁵. Mandatory Provident Fund Authority (MPFA) accepted 131 ETFs as index-tracking collective investment schemes (ITCIS) into the investment scope of MPF schemes in Hong Kong⁶⁶.

Second, the rising number of market makers support the market liquidity. In Hong Kong, an ETF is required to have at least one market maker. The number of ETF market makers, which can be proprietary trading firms or investment banks, increased from 14 in 2008 to 24 in 2012 and to 33 in 2018⁶⁷. Market makers make profits on arbitrage activities between the primary and secondary markets and their activities provide liquidity to secondary trading of the

⁶² These comprise five ETFs tracking FTSE China A50 Index, CSI 300 Index, HSI and Hang Seng China Enterprises Index (HSCEI) respectively. Source: HKEX.

⁶³ The figures on 2008 and 2012 (up to May) are sourced from the presentation slides at HKEX's seminar on RQFII ETFs on 19 June 2012 (see "HKEX hosts seminar on RQFII ETFs", HKEX News Release, 19 June 2012); the figure in 2018 (as of end-2018) is sourced from the "List of securities" webpage for ETPs on HKEX's website.

⁶⁴ Source: SFC Asset Management Survey 2018.

⁶⁵ Source: "Mandatory Provident Fund Schemes Statistical Digest", MPFA's website, December 2018.

⁶⁶ Source: MPFA's website (as of 13 May 2019).

⁶⁷ The figures in 2008 and 2012 (up to May) are sourced from the presentation slides at HKEX's seminar on RQFII ETFs on 19 June 2012 (see "HKEX hosts seminar on RQFII ETFs", HKEX News release, 19 June 2012); the figure in 2018 (as of end-2018) is sourced from the "List of securities" webpage for ETPs on HKEX's website.

ETFs. Market makers are obliged to input market making orders upon an occurrence of a “wide spread” for at least 3 minutes. The market making order may range from 4 to 32 spreads depending on the ETF⁶⁸. Market makers have to submit two-sided market making orders with 3 to 30 spreads (depending on the ETF) within 90 seconds for 3 minutes. In fact, certain ETFs are usually being quoted to the tightest spread in accordance to the spread table. Market makers may provide even tighter quotes if the tick sizes in the spread table can be reduced for ETFs, which have been suggested by market participants. The market making obligations would help smoothen out the demand for redemption during market correction. For example, during the Mainland stock market correction in 2015, although there were major redemptions, these redemption requests on ETF managers were met in an orderly manner without activating any redemption tools such as redemption suspension or gate⁶⁹.

Third, the “Trade Asia in Asia” trading philosophy highlights Hong Kong’s geographical advantage for ETFs on Asian underlying assets. In addition to time zone preference, asset managers in Hong Kong are experienced in investing in Asia-Pacific assets and over 65% of assets managed in Hong Kong were invested in Asia Pacific during 2014 to 2018⁷⁰. ETF liquidity tends to go with the availability of trading in the underlying assets due to hedging needs. The bid-ask spread, i.e. the trading cost, usually decreases with increasing liquidity. The bid-ask spread can be wider for US ETFs on underlying assets in international markets, which may be closed when the US market is still trading⁷¹. When the underlying market is opened, ETF managers and market makers can hedge their risks in the underlying markets and are more willing to support the liquidity of the ETF. Otherwise, they need to rely on estimating the fair value when the underlying market is closed. Therefore, the liquidity of ETFs in Hong Kong on Asian underlying assets tends to be better than those in American and European time zones.

Fourth, the market-friendly regulatory environment supports the issuance of a diverse range of ETFs. The Hong Kong market regulator, the Securities and Futures Commission (SFC), seeks to strike a balance between market development and investor protection⁷². To support product innovation, the SFC approved the launch of L&I products in February 2016 amid the rising demand in Asian markets. L&I products are designed for sophisticated trading-oriented investors with short-term investment horizon. To avoid excessive risk taking, the SFC capped the leverage factor at two times, alongside with requiring warnings as upfront disclosure in offering documents and different naming from ETFs⁷³. Since July 2017, the SFC has accelerated the authorisation of investment funds with a target to limit the processing time of an application to within 2 months for “Simple Applications” and within 6 months for “Complex Applications”⁷⁴. Effective from January 2019, the SFC extended the coverage of

⁶⁸ ETPs are classified into 5 groups (A-E) which determine the market making obligations. Prior to the listing of an ETP, HKEX will consult the individual ETP issuer and market makers and set the ETP’s grouping. See “Market making arrangements of exchange traded products”, information sheet on the HKEX website, viewed on 26 June 2019.

⁶⁹ See “SFC ETF Paper 2018”.

⁷⁰ Source: SFC Asset Management Survey 2018.

⁷¹ Source: Hammond, O. H., M. Lieder, “Debunking myths about ETF liquidity”, published on JP Morgan Asset Management’s website, May 2015.

⁷² The authorisation of ETFs in Hong Kong as “collective investment scheme” is governed by the Code on Unit Trusts and Mutual Funds (“UT Code”) of the SFC while authorised ETFs can be listed once they meet the requirements set out in Chapter 20 of the Listing Rules of the Stock Exchange of Hong Kong (SEHK).

⁷³ See *Circular on Leveraged and Inverse Products*, issued by the SFC, 5 February 2016; *Supplemental Circular on Leveraged and Inverse Products*, issued by the SFC, 14 March 2019; “How do L&I Products differ from ETFs?”, the *Chin Family* website, 8 May 2019.

⁷⁴ See *Circular to Management Companies of SFC-authorized unit trusts and mutual funds - Launch of pilot revamped process to enhance the processing of post authorisation applications*, issued by SFC, 30 June 2017. “Complex Applications” refer to those with new and/or change of appointment of key operators, change of place of domicile of SFC-authorized funds, merger of SFC-authorized funds, termination of SFC-authorized funds involving specific issues or material issues and/or policy implications relating to the application. Otherwise, the applications will be classified as “Simple Applications”.

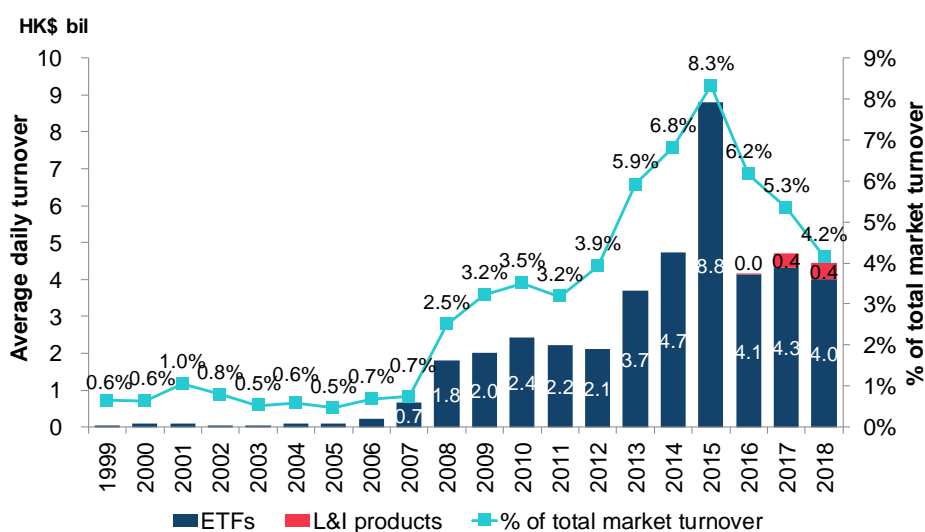
authorisation to include active ETFs⁷⁵. It also issued new provisions for UCITS funds (including ETFs domiciled in Europe) in December 2018 to provide more clarity on the cross-listing process, which has been streamlined since 2007⁷⁶. These efforts of the regulator to support market growth are accompanied by the imposition of certain safeguards to protect ETF investors' interests. For example, the SFC requires synthetic ETFs to have a marker "X" to be placed at the beginning of the short names and an asterisk (*) with an annotation of warning in English and Chinese, and imposes collateral requirements of at least 120% of gross counterparty risk exposure for equity collateral of synthetic ETFs⁷⁷.

3.2 Factors supporting the liquidity of ETFs in Hong Kong

First, the primary and secondary markets of ETFs in Hong Kong are very liquid.

Liquidity attracts more liquidity. The ADT of ETFs rose from HK\$1.8 billion (2.5% of the total securities market turnover) in 2008 to more than doubled in 2018 at HK\$4.0 billion (3.7% of the total securities market turnover), or HK\$4.4 billion (4.2% of the total securities market turnover) if L&I products are included (see Figure 15). The secondary market liquidity of the underlying assets has been sufficient to meet the needs of arbitrage activities from the ETF primary market. According to an SFC research report⁷⁸, the primary flows of HSI ETFs did not dry up the secondary market liquidity of HSI constituents towards market close (day-end turnover) during June 2012 to June 2017 — the median and 90th percentile of primary flows as percentage of HSI day-end turnover⁷⁹ was only 1% and 13% respectively. The same study found that the liquid ETF market contributed to small deviations (premium/discount) from the net asset value of the ETFs, which stayed within one percent for about 80% of ETFs listed in Hong Kong during 2013 to 2017.

Figure 15. ADT of ETFs and L&I products in Hong Kong (1999 – 2018)



Note: L&I products were launched in Jun 2016.

Source: HKEX Factbooks.

⁷⁵ See "Asia ETF Roundup (Industry) – December 2018 and January 2019", *Morningstar*, 14 February 2019.

⁷⁶ The details of streamlined process of cross-listing is available in "SFC simplifies authorisation of UCITS III funds with special features", news release on the SFC's website, 30 March 2007. For details of the new provisions, see "Hong Kong - The Revised Code On Unit Trusts And Mutual Funds", *Conventus Law*, 21 February 2019.

⁷⁷ See "New measures to raise investors' awareness of synthetic ETFs", SFC press release, 18 November 2010; "Enhanced investor protection for domestic synthetic ETFs", SFC press release, 29 August 2011.

⁷⁸ Source: "SFC ETF Paper 2018".

⁷⁹ "HSI day-end turnover" refers to the turnover (in value terms) of HSI constituents during 3:30 pm to 4:10 pm.

Second, the competitive total cost of ownership (TCO) supports “Trade Asia in Asia” through the Hong Kong ETF market. According to HKEX⁸⁰, the TCO for ETF investment includes trading costs (e.g. bid-ask spread and broker commissions) and holding costs (e.g. investor-level taxation and costs associated with tracking difference⁸¹ that include management fees, transaction costs and taxation at investment level and fund level). For trading costs, the Hong Kong Government extended the waiver of stamp duty to all ETFs in Hong Kong since February 2015. Besides, market makers in Hong Kong enjoy lower cost of trading to facilitate their market making activities as they are exempted from the exchange's trading fee (0.005%) and the regulator's transaction levy (0.0027%). As for holding costs, taxation is a key component in that investors' return is affected by three tiers of taxation — investment level, fund level and investor level. In fact, a study⁸² highlighted that Hong Kong's expanding bilateral tax treaty network and domestic tax rules are favourable for cost reduction. The same study concluded that ETFs in Hong Kong should be the most tax efficient among major markets when investing in Japanese equities and Mainland corporate bonds.

Third, multiple currency counters of ETFs facilitate usage by asset managers. ETFs in Hong Kong can be traded in multiple currencies, including HKD, RMB and/or USD. This allows the Hong Kong market to list and trade ETFs on Mainland-listed securities in RMB. ETF trading in RMB is supported by the extended coverage of the HKEX-provided RMB Equity Trading Support Facility (TSF) beginning in August 2012⁸³. Certain ETFs tracking US securities and global indices are not only traded in HKD and RMB, but also in USD. These currency counters expand the investment choices for exposure to different currencies. To further improve the liquidity of USD counters, suggestions were raised by market participants on either having a spread table of tick sizes harmonised with the HKD counter or allowing deviations from the “one-to-one conversion” rule (under which each unit of multiple counters of the same ETF must have the same NAV) to narrow the differences of tick size across counters of the same ETF⁸⁴.

Fourth, an ecosystem of risk management products in Hong Kong meet the needs of ETF investors. To hedge the market risk of ETFs in Hong Kong, stock futures and options of the top five ETFs by turnover value⁸⁵ are available. Index futures and options on the HSI and HSCEI as well as index futures on the CES China 120 Index and MSCI Asia ex-Japan Index are available for hedging the market risks of ETFs on these Hong Kong, Mainland and Asian equity indices. The benefits of these hedging tools in Hong Kong are recognised by market participants, who call for continued futures and options product innovation on more diversified underlyings. For gold ETFs, gold futures traded in USD and CNH are available for hedging the market risk of fluctuations in gold prices. To hedge for the currency risk of ETFs, deliverable USD/CNH futures and options as well as cash-settled futures on EUR/CNH, JPY/CNH, AUD/CNH and CNH/USD are available for investing in HKD, RMB and USD counters of ETFs.

⁸⁰ See “Exchange Traded Fund Handbook”, published on HKEX's website, viewed on 8 August 2019.

⁸¹ Tracking difference is the difference in returns between an ETF and the underlying benchmark over a certain period of the time while tracking error is commonly calculated as the standard deviation of the differences in returns between an ETF and the underlying benchmark over a certain period of time.

⁸² Source: “ETF taxation report for investors 2019 (Hong Kong)”, report commissioned by the HKEX, published on Ernst & Young's website, 2019.

⁸³ See “Circular on extension of the product type coverage of the RMB equity trading support facility (TSF) on 6 August 2012”, issued by HKEX, 30 July 2012.

⁸⁴ Under the “one-to-one conversion” rule, the USD counter usually has a larger tick size as a percentage of the unit price than the HKD counter. This gives rise to spread cost concerns of brokers providing inter-counter transfer services for customers.

⁸⁵ See Section 2.3 above on the top five ETFs.

4. CONCLUSION

Investments in ETFs have become increasingly popular. The advantages of investing in ETFs versus mutual funds include convenience, cost effectiveness, high liquidity and transparency. Among global markets, Asia Pacific is the fastest growing ETF market on rising investor demand for portfolio diversification, particularly from Mainland investors.

Mainland ETF market has grown quickly to meet onshore investors' diversification demand, led by equity ETFs on Mainland indices and money market ETFs. In addition to ETFs, LOFs provide exposures of active returns, led by mixed strategy funds on onshore securities. Given the Mainland investors' growing desire for global asset allocation and their high acceptance of passive investments through ETFs, the limited supply of cross-border ETFs and LOFs on global underlying assets and the lack of multiple currency exposure in the Mainland market hint at the potential domestic demand for access to the Hong Kong ETF market.

The Hong Kong ETF market is a door to global investment, particularly for Mainland investors. It offers products on diversified asset classes from global markets and a well-established institutional investor base to support market liquidity. An ecosystem of global issuers and investors have supported the development of the Hong Kong ETF market. For issuers, they enjoy the strong demand from global investors, effective market making mechanism, geographical advantage of "Trade Asia in Asia" and the market-friendly regulatory environment. For investors, they can trade ETFs in the liquid primary and secondary markets with tax advantages, multiple currency counters, and the support of an ecosystem of risk management tools.

Hong Kong is well-positioned to be Asia's ETF marketplace. Staying close to global market trends will be crucial to continue the success of the Hong Kong ETF market. Market enhancements could include further expanding the coverage of underlying asset markets and supporting product innovations to meet investors' diverse needs. The wide range of exposures covered by Hong Kong ETFs not only meet the needs of global investors, but also Mainland investors potentially. In comparison, the variety of exposures in Mainland assets covered by Mainland ETFs could be attractive to global investors. In addition, the potential mutual access of the two ETF markets would facilitate a more balanced mix of investors in the ETF primary and secondary markets on both sides. Further development in Mainland-Hong Kong market connectivity in respect of the ETF segment will help broaden the investor base and increase liquidity in both markets. This will be conducive to the mutual growth of the two markets.

APPENDIX. COMPARISON BETWEEN ETFS AND LOFS IN THE MAINLAND AND ETFS IN HONG KONG

Feature	ETFs in Mainland	LOFs in Mainland	ETFs in Hong Kong
Number of fund units	Variable		
Secondary trading on exchange	Yes, during trading hours		
Market makers	Usually available but not mandatory	No	Yes and mandatory
Margin trading and short selling	Allowed for some eligible funds		No limit on margin trading; short selling only for eligible ETFs
Threshold for block trading	≥2 mil units or ≥RMB 2 mil		No limit on size
Settlement of secondary market	Securities settlement on T; money settlement on T+1		T+2
Primary market (creation and redemption)	<ul style="list-style-type: none"> Physically and cash settled Transacted on-exchange only For all investors High threshold (e.g. minimum 0.5-1 million fund units) 	<ul style="list-style-type: none"> Cash settled Transacted on- or off-exchange For all investors Low threshold (e.g. minimum 1,000 fund units) 	<ul style="list-style-type: none"> Physically settled Transacted off-exchange only Only for participating dealers (also CCASS* participants) High threshold (e.g. minimum 1 million fund units)
Cost	<ul style="list-style-type: none"> Management fee: 0.15%-0.8% of NAV 	<ul style="list-style-type: none"> Management fee: 0.1%-2.0% of NAV 	<ul style="list-style-type: none"> Total expense ratio (including management fee): 0.05%-0.99% of NAV Stamp duty exempted No withholding tax on dividends
Transparency	NAV updated every 15 seconds	NAV updated once a day at market close	NAV updated every 15 seconds
Strategy	Generally passive	Mostly active	Generally passive, but active and L&I products are allowed

* CCASS refers to Central Clearing and Settlement System of the HKEX securities market.

Source: SSE, SZSE, HKEX and Wind.

Remark

This research report has made reference to views and feedback on ETF market developments sought from ETF managers in Hong Kong.

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