A guide to China ETFs

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Foreword

London Stock Exchange is the leading venue for ETF trading in Europe and we currently offer our investors the deepest pool of liquidity in Europe. Our market share for European ETF trading is the largest at 41.1% as of April 2016 and we currently have over 1,200 ETFs and ETPs listed on our market.

China is home to the world's second largest economy and the global financial community is well aware that it is now just a matter of when, not if, it becomes the largest in the world. London Stock Exchange is committed to unlocking the Chinese capital markets and serving as the international hub for Chinese capital markets. We have established a leading role in the development of the offshore RMB market, with more RMB bonds listed on our market this year than any other international exchange, including the first ever sovereign bond listing by the Chinese Government outside Greater China. Our role is pivotal in allowing easier access and developing global investor appetite for China's ETF market to achieve its potential.

In January 2014, we launched the Source & CSOP Asset Management FTSE China A50 UCITS ETF on our London market, the first UCITS regulated RQFII ETF launched in Europe. Since then, a further eight RQFII ETFs have listed, making London Stock Exchange home to the most diverse range of RQFII products in Europe. London Stock Exchange welcomed CCB International Asset Management and Commerzbank AG in March 2015 to launch the Commerzbank CCBI RQFII Money Market UCITS ETF, which gives European investors exposure to China Interbank Bond Market. The most recent product DB X-Trackers Harvest FTSE China A-H50 Index UCITS ETF (DR) was listed in March 2016 to track the performance of the 50 largest China A-Share companies while capturing price differentials between dual listed constituents' mainland A-Shares and Hong Kong H-Shares.

The guide brings together important insights and in-depth analysis of key flows into China, providing extensive coverage of the major issues surrounding China's ETF market from specialists. I hope you find this publication useful and wish you every success in the future development of your business.

Pietro Poletto
Head of Fixed Income, ETFs and Structured Products, London Stock Exchange Group

Reaching China through ETFs

ETFs have been and will continue to be an important tool to allow investors to implement exposure to China.

Deborah Fuhr
Managing Partner, ETFGI

ETFGI is a leading independent research and consulting firm founded in 2012 in London providing research and consulting on trends in the global ETF eco-system

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Exchange Traded Funds (ETFs) have become popular and widely used investment vehicles globally. In a world in which new financial products come and go in the blink of an eye, ETFs might well be considered the leading financial innovation of the last few decades.

Since the first ETF was launched in Canada in 1990, ETFs have opened a new panorama of investment opportunities. They have fundamentally changed how both institutional and retail investors construct investment portfolios. Essentially, they are index funds that are listed and traded on exchanges like stocks. They allow investors to gain broad exposure to specific segments of equity markets with relative ease on a real-time basis, and at a lower cost than many other forms of investing.

ETFs may prove as liquid as the underlying basket of securities as they have a unique daily creation and redemption process. The ability to continually create or redeem shares helps keep an ETFs market price in line with its underlying Net Asset Value (NAV). A key feature that distinguishes ETFs is that the shares are created by Authorised Participants (APs) or creation/redemption brokers in 'creation units'.

The creator of ETF shares deposits into the applicable fund a portfolio of securities closely approximating the holdings of the index in exchange for an institutional block of ETF shares (usually 50,000). Similarly, they can only be redeemed in redemption units, mainly 'in-kind' for a portfolio of securities held by the fund. The redemption and creation processes are very similar.

As the job of most portfolio managers has become broader and deeper, covering developed, emerging markets and frontier markets as well as looking at sectors and countries, we have found that many are admitting that they do not have the time or resources to try to add value in all markets and are embracing the use of ETFs to gain international market exposure.

It is important to recognise that there are many different types of Chinese shares. There are A, B and H share classes, which are all Renminbi-denominated but traded in different currencies, depending on where they are listed in the People's Republic of China (PRC) and which investors are allowed to own them.

A Chinese 'A-Share' is a security of China incorporated companies that trade on either the Shanghai or Shenzhen stock exchanges. They are denominated and traded in Renminbi (RMB). They can only be traded by residents of the People's Republic of China or international investors under the Qualified Foreign Institutional Investor (QFII) or Renminbi Qualified Foreign Institutional Investor (RQFII) rules.

Chinese companies incorporated and listed outside PRC are generally referred to as 'Red-Chips', 'P-Chips', 'S-Chips' or 'N-Shares' depending on their ownership structure, revenue source and listing location.

Red-Chip is a company incorporated outside the People's Republic of China (PRC) that trades on the Hong Kong Stock Exchange and is a company that is substantially owned, directly or indirectly, by Mainland China state entities with the majority of its revenue or assets derived from Mainland China.

P-Chip is a company* controlled by mainland individuals, with the establishment and origin of the company in mainland China. It must be incorporated outside of the People's Republic of China (PRC) and traded on the Hong Kong Stock Exchange with a majority of its revenue or assets derived from mainland China.

S-Chip is a company controlled by Mainland Chinese entities, companies or individuals. It must be incorporated outside the PRC and traded on the Singapore Stock Exchange with a majority of its revenue or assets derived from PRC.

N-Share is a company controlled by Mainland Chinese entities, companies or individuals. It must be incorporated

* Provided that the company does not satisfy FTSE Russell's Red-Chip definition

Exhibit 1

Share class	Country of incorporation	Country of listing	Trading currency	Other requirements	Available to mainland Chinese investors	Available to other investors
A	People's Republic of China (PRC)	China	CNY	None as they are specific share classes issued by the company	Yes	Yes under QFII/ RQFII program
B	People's Republic of China (PRC)	China	USD (Shanghai) HKD (Shenzhen)		Yes (if they have appropriate currency accounts)	Yes
H	People's Republic of China (PRC)	Hong Kong	HKD		Yes if QDII approved	Yes
Red-Chip	Non-PRC	Hong Kong	HKD	See notes below	Yes if QDII approved	Yes
P-Chip	Non-PRC	Hong Kong	HKD		Yes if QDII approved	Yes
S-Chip	Non-PRC	Singapore	SGD		Yes if QDII approved	Yes
N-Share	Non-PRC	United States	USD		Yes if QDII approved	Yes

Source: FTSE Russell October 2015 Guide to Chinese Share Classes

outside the PRC and traded on the New York Stock Exchange, the NASDAQ exchange or the NYSE MKT with a majority of its revenue or assets derived from PRC.

B-Share is a security of China incorporated companies that trade on either the Shanghai or Shenzhen stock exchanges. They are denominated in Renminbi (RMB) and traded in US dollars on the Shanghai Stock Exchange and Hong Kong dollars on the Shenzhen Stock Exchange. They can be traded by non-residents of the People's Republic of China and also residents of the People's Republic of China with appropriate foreign currency dealing accounts.

H-Share is a security of companies incorporated in the People's Republic of China and nominated by the Central Government for listing and trading on the Hong Kong Stock Exchange. They are denominated in Renminbi (RMB) and traded in Hong Kong dollars. Like other securities trading on the Hong Kong Stock Exchange, there are no restrictions on who can trade 'H-Share'.

Many investors have used ETFs to provide exposure to mainland China equities called A-Shares. ETFs have proved to be a popular tool to implement exposure to China A-Share benchmarks as access to A-Shares by offshore investors has been limited to investors who applied for and received a QFII quota, and those who received an RQFII quota and more recently those that have gained access via the Shanghai-Hong Kong Stock Connect (see the chart in the Appendix, page 06).

ETFs have allowed investors to gain access to Chinese A-Share benchmarks and to other types of Chinese benchmarks without having to apply for and receive a quota. As of the end of April 2016 there were 267 ETFs providing exposure to Chinese equity benchmarks with USD 57.6 billion in assets under management. 100 ETFs with USD 25.3 billion in assets under management or slightly less than half of the total products are listed in mainland China. The ETFs listed in mainland China are currently only available to mainland Chinese investors.

The iShares MSCI China Index ETF was the first ETF to provide exposure to China. It was listed in Hong Kong in 2001. The first ETF providing exposure to China to be listed in the United States was the iShares China Large Cap ETF on 8 October 2004 and the iShares China Large Cap UCITS ETF listed on London Stock Exchange on 25 October 2004 was the first ETF to provide exposure to China listed in Europe. The ChinaAMC China 50 ETF listed on the Shanghai Stock Exchange on 23 February 2005 was the first ETF to be listed in mainland China.

It is early June and many investors are wondering if MSCI will decide to include China A-Shares in its global indices. In March MSCI said they were considering a 5% inclusion factor for China A-Shares in their emerging market index. Market commentators have mixed views on if MSCI will announce the inclusion this year.

Exhibit 2: Top 10 emerging market benchmarks ranked on net new assets gathered in April 2016

Name	Assets (USD Mn) April 2016	NNA (USD Mn) April 2016	NNA (USD Mn) YTD 2016
MSCI Emerging Markets Index	38,757	1,645	4,807
MSCI Emerging Markets Investable Market Index	13,472	790	1,511
FTSE Emerging Markets Index	36,234	474	-176
MSCI Emerging Markets Asia Index	1,902	217	279
MSCI Brazil 25-50 USD Index	3,424	208	632
MSCI Emerging Markets Minimum Volatility Index	3,961	197	710
CSI 300 Index	13,606	159	1,285
CSI 500 Index	3,512	146	338
ChiNext Index	897	125	328
FTSE All World All Emerging Index	1,713	63	123

Source: ETFGI data sourced from ETF/ETP sponsors, exchanges, regulatory filings, Thomson Reuters/Lipper, Bloomberg, publicly available sources, and data generated by our in-house team.

ETFGI's analysis ranking of the top 10 most popular emerging market benchmarks based on net new asset inflows in April 2016 found three mainland Chinese A-Share benchmarks were in the top 10 as shown in exhibit 2 above.

The Shanghai Composite index hit a high on 12 June 2015 prior to the MSCI announcement. In June 2015, MSCI announced that China A-Shares would remain on the 2016 review list for potential inclusion into the Emerging Markets index. MSCI stated that the overall market accessibility of A-Shares had improved significantly over the years, but identified three critical accessibility issues: Quota allocation process, Capital mobility restrictions and Beneficial ownership of investments. Soon after the announcement – between 10 August and 27 August 2015 – the market suffered a 21.5% drop in local Chinese equities as measured by the CSI 300 Index.

The decision by MSCI is important as many asset owners and institutional investors use MSCI benchmarks to define their investment universe and create investment product that are designed to track or beat their benchmarks. By 2020 China wants to be a Global Financial centre and to meet this target will need to continue with reforms for inclusion in Global indexes. Investors believe that it is a question of when not if MSCI will include China A-Shares in their indices.

China is a very important economy ranking second behind the US. China's economy accounts for 15% of total world output and has been responsible for about half of global output growth in recent years. China's economy has grown at an average of 10% since beginning the implementation of free-market reforms over 30 years ago.

China's two stock markets – the Shanghai Stock Exchange and the Shenzhen Stock Exchange – rank 4th and 7th based on domestic market capitalisation and 5th and 4th based on the value of shares traded year to date through April 2016 (as shown in exhibits 3 and 4).

Exhibit 3: Top 10 stock exchanges ranked by domestic market capitalisation (USD millions)

Exchange	April 2016
NYSE	18,505,106.7
NASDAQ – US	6,910,063.6
Japan Exchange Group	4,797,457.0
Shanghai Stock Exchange	3,854,844.4
London SE Group	3,745,306.0
Euronext	3,429,667.0
Shenzhen Stock Exchange	3,060,719.0
Hong Kong Exchanges and Clearing	3,045,354.8
TMX Group	1,904,393.5
Deutsche Boerse	1,669,696.8

Source: World Federation of Exchanges and ETFGI

Exhibit 4: Value of share trading year to date through end of April 2016 (USD millions)

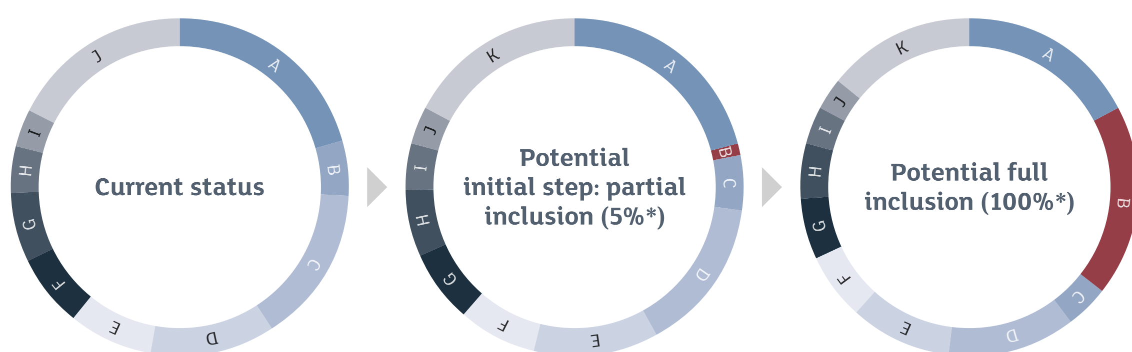
Exchange	April	Year to date
NYSE	1,376,236.1	6,053,781.1
BATS Global Markets – US	1,056,568.1	4,919,367.0
NASDAQ – US	873,675.6	4,051,578.9
Shenzhen Stock Exchange	1,108,096.2	4,048,814.4
Shanghai Stock Exchange	654,241.7	2,618,781.6
Japan Exchange Group	487,999.0	1,941,900.6
BATS Chi-x Europe	217,970.2	985,588.0
London SE Group	187,443.6	809,740.9
Euronext	147,800.5	650,533.2
Korea Exchange	142,843.2	542,782.7

Source: World Federation of Exchanges and ETFGI

The mainland Chinese A-Shares market is too big to be ignored but remains difficult for many institutional investors to access. How can global investors avoid a stock market that is now the world's second-largest, with a total market value of nearly USD 7 trillion, putting it just behind the United States? The ability for foreigners to invest in mainland Chinese A-Shares has historically been limited. This is one of the reasons MSCI has not included Chinese A-Shares in their indices.

It is estimated that USD 1.4 trillion tracks the MSCI emerging market index. The current MSCI emerging market benchmark provides exposure to offshore Chinese shares and not to on-shore mainland China A-Shares as shown below. Including China A-Shares at a 5% inclusion factor would represent a 1.1% allocation within the MSCI EM index and would likely create around USD 15 billion in net inflows. Moving to full inclusion would see the weight of Chinese A-Shares increase to 18.2%.

Exhibit 5: Possible index inclusion roadmap of China A-Shares



Current status

China		
A	China	20.7%
B	China Overseas	5.2%
		25.9%
Emerging market		
C	KR	15.2%
D	TW	12.0%
E	IN	7.9%
F	SA	7.1%
G	BR	6.5%
H	MX	4.5%
I	RU	3.6%
J	Others	17.4%

Potential initial step: partial inclusion (5%*)

China		
A	China	21.0%
B	China A-Shares	1.1%
C	China Overseas	5.2%
		27.3%
Emerging market		
D	KR	14.9%
E	TW	11.8%
F	IN	7.7%
G	SA	7.0%
H	BR	6.4%
I	MX	4.4%
J	RU	3.6%
K	Others	17.1%

Potential full inclusion (100%*)

China		
A	China	17.4%
B	China A-Shares	18.2%
C	China Overseas	4.3%
		39.9%
Emerging market		
D	KR	12.3%
E	TW	9.7%
F	IN	6.4%
G	SA	5.7%
H	BR	5.3%
I	MX	3.6%
J	RU	3.0%
K	Others	14.1%

Source: MSCI
Data as of 30 March 2016

* The percentage number refers to the Inclusion Factor applied to the free float-adjusted market capitalisation of China A-Share constituents in the pro forma MSCI China Index. China A-Share securities are subject to a foreign ownership limit of 30%

Overseas listed Chinese listed companies were included in November 2015

MSCI estimates that there are active and passive funds worth USD 10.5 trillion tracking various MSCI indices globally. The A-Shares inclusion will impact the ACWI (All Countries World Index), EM and Asia indices, accounting for USD 4.5 trillion.

A 5% inclusion factor will translate to ~USD 21 billion of inflows from the ACWI, EM and Asia Indices, which will grow to ~USD 360 billion as the full weight is allotted (table below). These numbers may overestimate the size of inflows as some actively-managed funds tracking the MSCI may not follow the inclusion in day one. In terms of the market impact, A-Shares (Shanghai and Shenzhen) is a USD 6.6 trillion market, so a USD 21 billion inflow accounts for merely 0.33% of the market cap. Daily trading volume in Shanghai and Shenzhen is around USD 5.5 billion post the market correction (it was as high as USD 18 billion mid-last year before the crash), so a USD 21 billion inflow alone is unlikely to have a major impact. That said, one should not underestimate the possible spillover effect from the feel-good mentality of an inclusion, as last year's rampant rise before the June collapse was partly contributable to the anticipation of the MSCI inclusion.

ETFs have and will be an important tool to allow foreign investors to gain access to China A-Shares as it charts a journey to joining the MSCI emerging market index. ETFs have also and will continue to be an important tool for investors wanting to implement exposure to Emerging Market benchmarks.

Appendix

	RQFII		QFII		Stock connect
Eligible investors	Institutional investors based in selected eligible locations Individual quota: none		Institutional investors that meet certain operation and AUM requirements Base quota ranging from USD 20 million to USD 5 billion		All investors
Application process	Need license (CSRC) and quota (SAFE) The process can range from weeks to months		— Applications for base quota will be filed with SAFE via onshore custodians — Applications for quota exceeding USD 5 billion will be required to apply to SAFE directly for approval		N/A
Capital mobility	**Open-ended funds** Repatriation: daily Lock-up: none Remit period: none Others: quota required to be used within 1 year upon approval	**Others** Repatriation: monthly Lock-up: 1 year Remit period: 6 months	**Open-ended funds** Repatriation: daily Lock-up: 3 months Remit period: N/A Others: monthly repatriation cannot exceed 20% of NAV of previous year	**Others** Repatriation: daily Lock-up: 1 year Remit period: 6 months Others: monthly repatriation cannot exceed 20% of NAV of previous year	No restriction
Equity coverage universe	All securities listed on Shanghai and Shenzhen Stock Exchanges				570+ stocks listed on Shanghai Stock Exchange

Source: MSCI

Deborah Fuhr
Managing Partner

ETFGI LLP
60 Gresham Street
London EC2V 7BB
United Kingdom

Mobile +44 (0)7775 823111
deborah.fuhr@etfgi.com

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China A-Shares: back on the MSCI agenda

Howie Li
Executive Director – Co-Head of CANVAS, ETF Securities

Introduction

In June 2015, New York-based global equity indices provider MSCI put its decision to include China A-Shares in its MSCI indices on hold. The index provider deemed at the time that China needed to further relax its capital controls before it could reasonably include Chinese domestic shares in any of its global benchmarks. While this was a setback for Beijing at the time, China A-Shares once again returned to the agenda in the MSCI June 2016 review. The proposal was once again rejected, in spite of China's sustained commitment to openness and transparency over the last year. MSCI explained their decision by highlighting a number of accessibility concerns. How investors play the China A-Shares story now, coming out of the decision, will depend on confidence levels surrounding the pace of continued liberalisation.

Key accessibility issues

Over the last couple of years, the Chinese government has been taking slow yet important steps to open up its onshore capital markets and to liberalise its Renminbi (RMB) currency. To better understand the MSCI decision, it is imperative to consider the steps taken by Chinese regulators over the last year. Five key accessibility issues were highlighted during the 2015 MSCI Annual Review, and while gatekeepers made inroads on each, key concerns still remain. These concerns were highlighted in the recent review:

1. Beneficial ownership of assets under separate accounts
Historically, under the Shanghai-Hong Kong Connect, the clearing companies in the two markets had been the nominal holders of the underlying assets. In the last year, the Chinese Securities Regulatory Commission (CSRC) began allowing QFIIs to open securities accounts in the holder's name, or the nominee holder's name. MSCI concluded that the topic of beneficial ownership was said to be satisfactorily resolved as per the clarifications released by CSRC in early May 2016.

2. Time to gauge effectiveness of the QFII quota allocation and capital mobility policy changes
International institutional investors asked for more time to better be able to gauge the success of the recent QFII policy changes, including measures and enhancements designed to reinforce capital mobility. For example, during the consultation, it was discovered that a number of investors were still awaiting their QFII quote allocation, even though applications had been submitted several months earlier. Also, certain investors were still unable to benefit from daily capital repatriation, in spite of the recent policy changes that took effect in early February. MSCI noted based on investor feedback that a positive experience with regard to quota applications and clear and streamlined execution of daily capital repatriation remained two critical points.

3. Risks associated with the 20% monthly repatriation limit for investors facing redemptions
A vast majority of market participants interviewed underscored the operational challenge of the 20% monthly repatriation limit. This point was left unaddressed by Chinese authorities while submitting its recent capital mobility enhancements. Current rules prevent QFII investors from repatriating more than 20% of their prior-year NAV each month. Such a ceiling may pose liquidity concerns for investors who must honor redemption outflow. Investors noted that this ceiling must be removed or substantially increased (with a shorter repatriation horizon).

4. Measures to stop voluntary trading suspensions
Investors expressed concern around the liquidity risk associated with widespread voluntary suspensions in trading of mainland Chinese companies. While the MSCI welcomed the recently announced changes to suspension activity by the Shenzen and Shanghai exchanges, it was noted that regulation was still very new, and required a period of scrutiny. It is worth noting that 34% of the market capitalisation of China A-Shares was suspended last year at the peak of a turbulent market. Although the suspension has since been relaxed, 9% of the market capitalisation continues to be in lock-up today. Such interruptions have the effect of restricting market liquidity and thwarting natural price discovery.

5. Pre-approval limitations by local exchange on launching new financial products
China has a provision that requires all financial products using China A-Shares as an underlying (including exchange-traded funds) to be pre-approved by the Shanghai and Shenzhen exchanges, even if the products are listed overseas. This provision is unique to China amongst all emerging markets. International investors expressed concern over this provision, and affirmed that alignment to international norms was crucial for the inclusion of China A-Shares in their investment opportunity set.

Cognitive dissonance

Chinese regulators have made significant inroads in loosening capital controls over the last year. However, most destructive to these efforts has been the continued episodes of widespread suspensions. For example, as at 30 May 2016, out of the 2,855 stocks listed in mainland China, 306 stocks were in a trading halt, or 11% of the total (Source: Barron's). Surprisingly, most of these stocks issued trading halts recently – in the last three months. Interference in capital markets by Chinese authorities remains a threat to current and future investors, and moreover, is totally at odds with the other liberalisation measures implemented over the last year.

Gaining exposure to China A-Shares

There are investors who will have attempted to capture the momentum leading into the MSCI decision. Today, there will be those seeking to capture the momentum coming out of the decision. Some may bet on a mid-year inclusion, or inclusion in the 2017 Annual Review, others may be less optimistic after two years of pre-review hype and resulting non-decisions. Investors will be looking to invest in the pace at which Chinese authorities will continue to open up their onshore capital markets. While China A-Shares may seem likely to outperform over a longer time frame, given inclusion will occur eventually, the question today relates to how they will perform in the shorter to medium term. For a longer term investor, a way to gain exposure is through a long position to the MSCI China A Index. The index provides an exposure to China A-Shares. For shorter term investors, a long position in the FTSE China 50 3x Daily Leveraged Index may be more fitting. For more bearish investors, a long position in the FTSE China 50 3x Daily Short Index may be a possible choice. After all, Chinese stocks do remain some of the worst-performing in Asia thus far this year. Exposures may be achieved using ETPs listed on the London Stock Exchange.

Conclusion

MSCI is likely to continue seeking feedback from investors to guide its future decision-making process. It has also not ruled out the potential for an off-cycle announcement and inclusion. There is also likely to be increased pressure on China to speed up the pace of its 'controlled' liberalisation while facing greater investor scrutiny. Until then, China A-Shares will remain on the review list.

Howie Li

Executive Director – Co-Head of CANVAS, ETF Securities

Howie Li joined ETF Securities in 2009 and was appointed Co-Head of CANVAS and the firm's UCITS ETF business in 2013. CANVAS is ETF Securities' platform which focuses on bringing new ETFs to market in partnership with third parties. Prior to becoming Co-Head of CANVAS, Howie was Head of Legal at ETF Securities. His background is in legal and product development, maintenance and operation. Howie is a qualified solicitor in England and Wales having previously trained and worked at Simmons & Simmons in London, advising the hedge fund industry. He holds a LLB from the University of Leeds.

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www.etfsecurities.com

Contact information
Retail Team
retail-team@etfsecurities.com
Telephone +44 (0)20 7448 4330

Trading and liquidity considerations

ETFs as a China Access Vehicle for European investors

Slawomir Rzeszotko
European ETF Sales & Trading, London

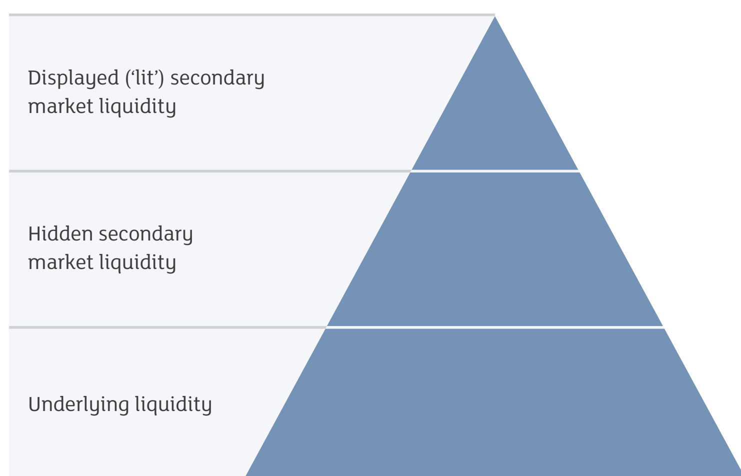
One of the most common ways in which investors have been using ETFs is as a convenient access tool, allowing them to gain exposure to markets and asset classes which could otherwise be difficult to replicate in their portfolios. The story of the recent rise in popularity of ETFs investing in Chinese equities presents some of the best evidence of such an application. The continuous and rapid growth of the Chinese economy compels investors to consider such exposures when constructing their global asset allocation models. With differences in time zones and sometimes-complicated local market access mechanisms, ETFs offer a suitable alternative from an ease of use and cost perspective.

As it is the case with most financial instruments however, the exact efficiency of using ETFs to gain Chinese equity market exposure will depend on many factors. Preferences determined by differences in portfolio construction, replication methodology, index composition and management fees would likely play a major role when selecting the product. Additionally from a trading perspective it is also important to understand the factors affecting both process efficiency (sufficient liquidity) and cost of application (bid/offer spreads, market impact).

This article focuses on the trading and liquidity aspects of China ETFs, as viewed from the perspective of the European investor. In order to make the argument more focused – and unless stated otherwise – this analysis will focus on the universe of ETFs tracking Chinese equity indices listed on London Stock Exchange[1]. The intention is to discuss the pricing mechanisms of these instruments with a specific focus on interactions between the primary and the secondary market of an ETF. A comparison between the products representing the onshore (e.g. A-Shares, etc) and offshore (e.g. H-Shares, ADRs, etc) China markets as well as a quick look at the various available methods of trading China ETFs will hopefully make the paper interesting from the practitioner's perspective.

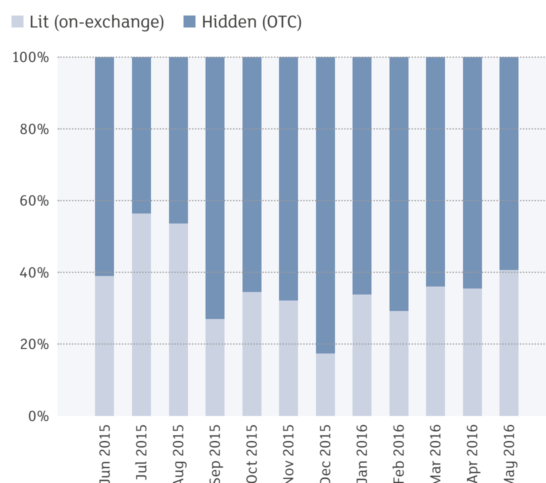
[1] As of now LSE's market share in European ETP trading turnover is at approx. 32% of the total activity in Europe. Source: www.lseg.com

Figure 1: Layers of ETF liquidity



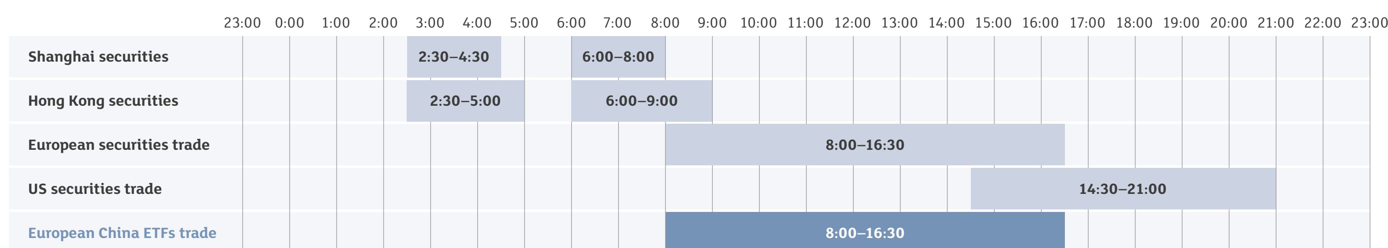
Source: Jane Street Financial Ltd

Figure 2: Lit and hidden trading activity China ETFs



Source: Internal trade records, Jane Street Financial Ltd

Figure 3: Trading hours of different types of international securities
(Subject to change – please note China does not move with daylight savings so trading end will move with respect to London between winter/summer)



Source: Jane Street
Financial Ltd

The true liquidity of an ETF

Before proceeding with specifics of the mechanisms determining trading and liquidity of China ETFs, it seems appropriate to set the scene with a general reminder of how to understand the liquidity formation of an ETF.

One of the key characteristics of an ETF is that whilst structured as an open-ended fund it trades like an equity listing on a stock exchange. This provides for a convenient platform for execution and the ability to mark-to-market in realtime. It is important however to remember the dual nature of an ETF: a fund, which is trading similar to a single stock. Thus, to understand its overall liquidity one needs to consider the available liquidity of the underlying constituents of the ETF, and the efficiency of the creation/redemption mechanism that links the ETF to its underlying assets. These two critical factors are essential in determining the liquidity of an ETF. Trading firms authorised to interact directly with the fund in the primary market are called Authorised Participants (APs) and their role is to channel the liquidity between the underlying securities and the fund.

Indeed it is also worth highlighting that the secondary market liquidity of an ETF can be split into two “layers”: displayed (or “lit”) liquidity constituted by bids and offers visible on the exchange orderbook and hidden liquidity available in the over-the-counter (OTC) market. Figure 1 shows the layers of ETF liquidity while figure 2 displays the split between the lit and hidden trading activity in China ETFs calculated using Jane Street’s internal trade records.

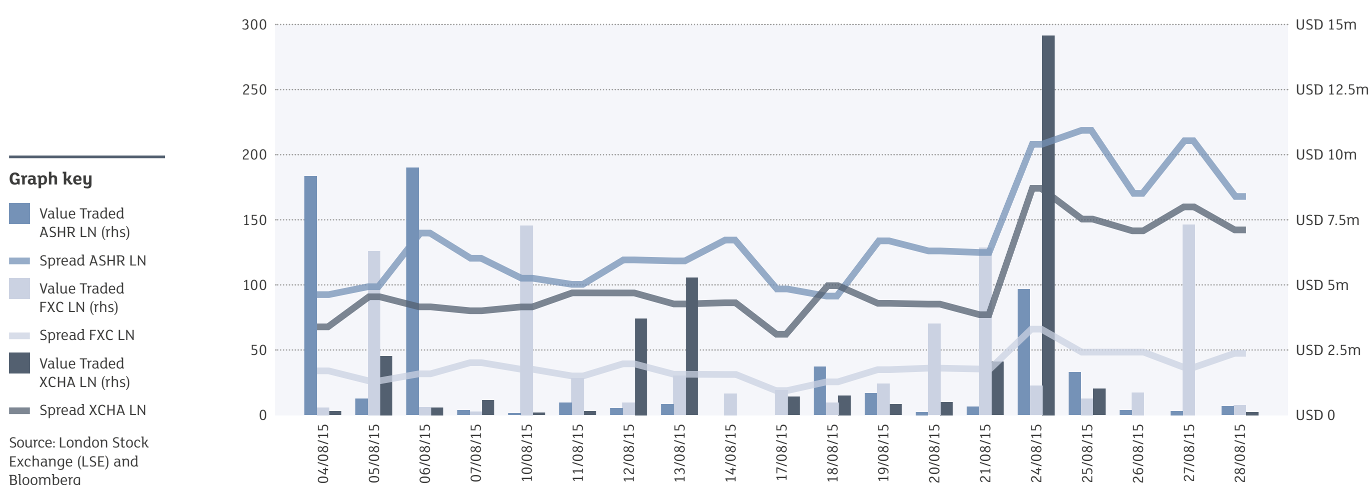
When it comes to the underlying liquidity of an ETF it is important to understand the arbitrage mechanism between the underlying securities and the ETF. If an imbalance of supply and demand of ETF shares pushes the price of the ETF (compared to its underlying basket) to a point where an arbitrage opportunity arises, the liquidity providers react by trading directly in the underlying basket as they move to take advantage of the arbitrage opportunity. The levels at which an arbitrage opportunity occurs depends on the costs associated with buying and selling the underlying basket of securities versus the cost of trading the ETF. The width of this arbitrage channel will be thus defined by the bid/offer spread of the underlying basket plus the additional static costs associated with trading it (e.g. custody transaction fees, commissions and taxes). Please note that it can be asymmetrical (example: taxes levied on buy and sell transactions in the underlying markets are often different) and that less price certainty when it comes to the underlying securities will result in the widening of the arbitrage channel.

Pricing China ETFs during European hours

A common consideration among European investors seeking to access China markets via ETFs listed on the European stock exchanges is the aspect of the time zone difference. The overlap in trading hours between the European and Chinese markets is very small, which provides for both an opportunity and a challenge from the ETF trading perspective. The former is represented by the ease of access and transparency of pricing offered by the ETF. The latter centres on the question about the possibility of efficiently pricing China ETFs in the European trading hours.

Figure 3 illustrates overlaps in trading hours of different types of instruments, which can be taken into consideration when pricing China ETFs. While there is no universal recipe for how a market maker would calculate the fair value

Figure 4: Daily bid/offer spread and average daily value traded ASHR LN, FXC LN and XCHA LN (August 2015)



of a China ETF during European trading hours, working with correlations and looking at price movements of various reference markets remains a standard process of pricing international equity baskets, composed of securities whose regular trading hours are often spanning several time zones. Therefore when it comes to the general method, pricing China ETFs would not differ to pricing other international equity ETFs globally and there are multiple trading firms specialising in this activity.

Notwithstanding the last point made above, it is necessary in this context to go back to what was discussed in the previous section about how uncertainty in pricing the underlying basket impacts the width of the arbitrage channel of the ETF. The necessity of relying on price proxies and correlations, combined with factors such as restrictions in accessing some of the China underlying securities (particularly onshore) and complexities of trading the local currency result in the arbitrage channel for those instruments to be wider than it would be the case for a plain vanilla European equity exposure equivalent. In practice the end investor will likely be able to observe the results of this mechanism when the ETF trades at somewhat greater premiums or discounts versus its intraday net asset value. At the same time however, it is worth emphasising that as long as the creation/redemption mechanism and access to the primary market remain functioning, the general ETF theory will hold and the arbitrage mechanism will continue to delimit the possible premiums and discounts of the ETF.

Onshore and offshore China ETFs

While most of the points raised so far can be generally applied to trading all types of China ETFs it is important to be aware of differences between products giving access to the offshore-listed Chinese securities as opposed to the rapidly gaining in popularity onshore ('A-Shares') ETFs. Investors selecting between the two types of products will consider the difference in exposure and return characteristics but it is also important to keep in mind factors defining liquidity and trading costs of the two sets of products.

While both types of ETFs reflect extremely liquid underlying markets, there are considerable differences between the Chinese onshore and offshore equities when it comes to flexibility and trading restrictions. The onshore market has been historically much more difficult to access and operated a quota system. While this is changing and there are several initiatives aimed at increased international access to the onshore market (QFII and RQFII, Shanghai – Hong-Kong Stock Connect programme, CEINEX etc.) for now there are still differences, which would be translated into the liquidity and pricing of the respective ETFs. There are also operational factors, which may make the two sets of products behave differently from the trading perspective – as an example custody transaction fees associated with trading 'A-Shares' baskets of underlying securities are considerably higher than is the case with offshore equivalents. Equally

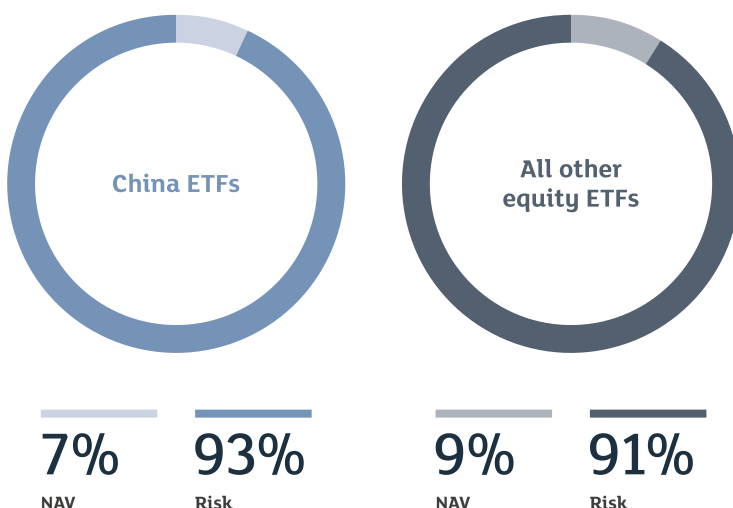
importantly the creation/redemption mechanism in case of the onshore China ETFs can at times be subjected to restrictions, e.g. related to quota availability.

To illustrate this last point figure 4 compares the daily bid/offer spread and average daily value traded of some of the most popular LSE listed offshore and onshore China ETFs during August 2015, a period of increased volatility in the Chinese equity market. It is not difficult to observe that the offshore ETF (FXC) has seen much less impact on the width of its bid/offer as compared to the onshore equivalents (ASHR and XCHA). At the same time around the week of 24 August 2015, trading volumes in the onshore ETFs spiked much more than it was the case with the offshore equivalent[2].

None of the above-described occurrences would be unexpected in the context of the general ETF theory. In times of market stress the data consistently shows that ETF trading volumes spike. This is sometimes because the risk transfer mechanism is expensive or impossible in the underlying securities themselves so the ETFs serve as a price discovery mechanism. Once the market calms down, the volumes remain elevated relative to pre-stress volume activity, which can serve as evidence that investors grow to trust ETFs through stressful market conditions.

[2] Bid/offer spreads in those instruments outside of periods of extreme volatility tend to be tighter. E.g. April bid/offer spreads for the three ETFs charted were: XCHA: 78bps; ASHR: 128bps; FXC: 26bps. Source: London Stock Exchange (LSE)

Figure 5: Trading activity in NAV vs. risk trading across China ETFs and other European listed equity ETFs



Source: Internal trade records, Jane Street Financial Ltd

The practice of trading China ETFs

Having decided to use the ETF as an access tool to get China market exposure, an investor is faced with several choices when it comes to executing the resulting trades. Some of the main considerations are related to the access route (exchange versus over-the-counter market), execution strategy (NAV or risk trading being the most commonly employed) and timing of the transaction. While there is no perfect answer that would suit every investor it is worth taking a closer look at all three of the above points.

As discussed at the beginning of the paper, one can think of ETF liquidity through the perspective of its three layers. In the European context it is particularly important to keep this in mind, as trade reporting of ETF transactions is yet to be made universally mandatory. While some exchanges (as it is the case of London Stock Exchange) already require its members to trade report, the lack of a pan-European regulation and absence of a “consolidated tape” make evaluating the amount of secondary market activity difficult. In general it would be fair to assume that the exchange orderbook can provide for more liquidity than it might be suggested by just looking at the historical lit average daily volume levels. However, faced with the uncertainty, many institutional investors elect to work with the OTC market instead.

When executing trades in the OTC market another question arising might be to decide between the preferred execution benchmark. The two most popular would be requesting risk prices (which in essence is similar to executing the order on exchange) or deciding for an execution benchmarked to the published NAV. Figure 5 illustrates the proportion of NAV vs. risk trading across all of Jane Street trading activity in European listed equity ETFs as well as in China ETFs only. In general terms executing a NAV order is similar to trading the underlying basket on MoC (market on close) basis. When it comes to trading China ETFs it has to be remembered that most NAVs are valued on t+1 basis (i.e. NAV will be struck to the next day’s underlying market close), which means that the time gap between submitting the order and the reference price calculation results in the investor taking a significant amount of market risk, when trading in this way. Additionally and specifically relevant to onshore China ETFs, it is very difficult to replicate closing prices of the underlying securities, increasing execution uncertainty vs the official NAV.

Conclusions

A growing number of products and listings confirm that using ETFs is one of the more attractive options available to European investors looking to add China equity exposure to their portfolios. As it is the case with all ETFs however, it pays to focus on the aspects of trading and liquidity when using ETFs as an access tool for China. Observing the mechanics of how these products are priced and traded, considering the total pool of liquidity available and paying attention to differences in product structures and underlying exposures can all help in minimising the cost of implementation. Ultimately there is no one solution to fit the need of every investor but following some of the practices discussed in this article may prove helpful to anyone interested in using China ETFs in their portfolio.

Slawomir Rzeszotko

European ETF Sales & Trading, London

Slawomir oversees European ETF sales initiatives for Jane Street. Slawomir has worked in the ETF industry for nearly a decade, including with large asset managers in which he acquired an in-depth understanding of ETF trading from both a trader's and customer's perspective. Before joining Jane Street, Slawomir worked at Vanguard Asset Management where he held the positions of Head of ETF Capital Markets and Head of Investment Product Specialist Group. Prior to Vanguard, Slawomir worked at BGI and Blackrock in various ETF related roles. Slawomir holds an MA degree from the University of Wroclaw, Poland, where he went on to lecture ethics and postmodern political philosophy while pursuing his PhD studies. Slawomir is a founding member of ETF Ambassadors in Switzerland, which aims to educate and raise awareness of ETFs with the Swiss private investor community.

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Contact details

30th Floor
20 Fenchurch Street
London, EC3M 3BY
United Kingdom

Telephone +44 (0)20 3787 3333
etfsaleslondon@janestreet.com
www.janestreetetfs.com

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Notes

ETF Team
London Stock Exchange
etfs@lseg.com

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London Stock Exchange Group plc, 10 Paternoster Square, London, EC4M 7LS
Telephone +44 (0)20 7797 1000
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