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Executive Summary

China's asset management market is now entering a new stage as the market opens up for foreign players and as fund management begins to substitute 'shadow banking asset' based wealth management products.

One interesting trend we have observed is the growing popularity of passive investment in China. More players are now eyeing the emergence of exchange traded fund (ETF) products in China as the next engine of growth. This report aims to discuss how the ETF market has evolved and gained momentum in China, and to help asset managers to understand the opportunities that lie ahead in order to capitalize on the growing demand for such products while smoothly navigating through China's unique yet challenging market.

Section 1 identifies the year of 2018 as the inflection point for the ETF market, where assets under management (AUM) rapidly grew to RMB 381 BN (or USD 56 BN) with close to 40 new funds launched during the year. However, China's ETF market is still at a nascent stage compared to other markets.

Section 2 evaluates the driving forces for future growth in the ETF market. First and foremost, retail investors are gradually maturing and recognizing the benefits of ETF products as low-cost investment vehicles, while institutional wallets are also deepening and broadening. Secondly, the advancement of analytical capabilities is now equipping fund managers with the ability to develop a broader range of products, including narrow-based and smart-beta index funds. In addition, players are showing initial signs of bringing down management and custody fees, which may drive more product adoption, as ETF products in China become genuine 'low cost tools'. These drivers are coupled with active market development advocacy by both the regulators and exchanges.

management companies (FMCs) need to move away from a product-centric mindset. Instead, they should carefully examine the needs of different investors and develop a thoughtful and informed strategy to win the hearts of investors. Specifically, investors could have different objectives ranging from tactical position taking to long-term portfolio construction – this would translate into different key purchasing criteria, where uniqueness of the indices would be more important for the former and cost efficiency would be more important for the latter.

2018 is undoubtedly an inflection point for the ETF market in China. Continued growth is expected, but the readiness of different asset managers to ride on the trend will differentiate the winners. Asset managers should therefore keep a close watch as the market evolves and stay prepared for any exciting opportunities.

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[1] BACKDROP: 2018 AS AN INFLECTION POINT

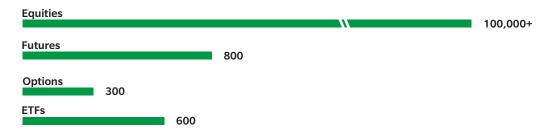
ith the first ETF product only introduced in China in 2004, the ETF market in China has a relatively short history and is still at a nascent stage compared to other markets.

ETF products make up only \sim 7.5% of China's mutual fund market today in terms of AUM, which is still notably smaller than that of the US. Currently, there are only limited investors trading ETF products on the Shanghai Stock Exchange (SSE) compared to other investment instruments, such as equities and futures (See Exhibit 1).

Exhibit 1: Size of the ETF market in China

Size of the ETF market ¹ , China vs US ² 2018 ² , BN RMB	% of MF AUM ¹	# of ETFs
381	7.5%	173
24,783	22.8%	1,977

Number of investors trading ETFs and others on the SSE 2018 H1, thousands



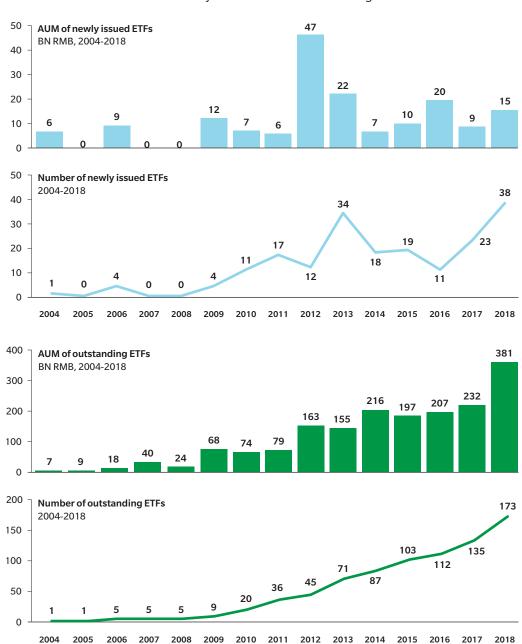
^{1.} Excluding Money Market Funds; 2. China data is by 2018YE, US data is by 2018 Nov

Source: Wind, ICI, Shanghai Stock Exchange, Oliver Wyman analysis

Over the past decade, the ETF market in China has been experiencing slow growth. While the number of ETFs steadily increased from 45 funds in 2012 to 135 funds in 2017, AUM only grew 40% over the course of those 5 years from RMB 163 BN (or, USD 24 BN) to RMB 232 BN (or, USD 34 BN) (See Exhibit 2).

Interestingly, we observed a sudden surge in AUM in the ETF market in 2018, reaching RMB 381 BN (or, USD 56 BN) with close to 40 new funds launched during the year.

Exhibit 2: Number and AUM of newly issued ETFs and outstanding ETFs in China



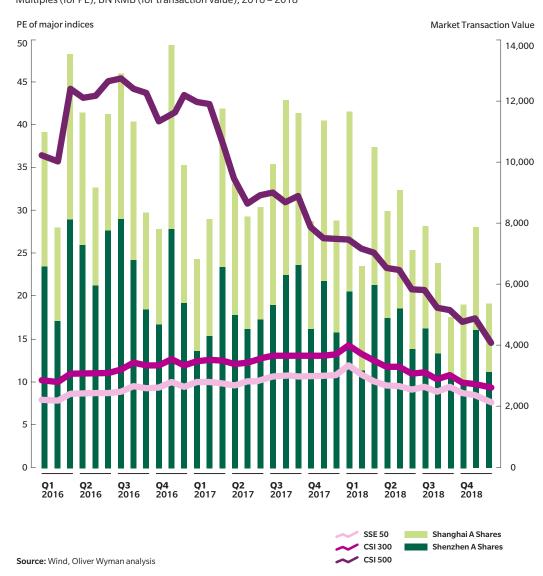
Source: Wind, Oliver Wyman analysis

Research suggests that institutional investors are beginning to take positions in ETFs in order to take advantage of the low-and-attractive valuation of China's major indices. The Chinese stock market slumped in 2018, having its weakest performance over the past thr years; the P/E of China's major indices were also close to their historical low and below those of the major indices of the global market, thus making the valuation appealing to investors (See Exhibit 3).

Benefitting from the market environment, ETFs have started to take off in China.

Exhibit 3: Performance of major indices in China

PE of major indices (SSE 50, CSI 300, CSI 500) vs. Market Transaction Value (SH, SZ) Multiples (for PE), BN RMB (for transaction value), 2016 – 2018



[2] RISING DEMAND FOR ETF PRODUCTS

Given the short history of the ETF market in China, investors, fund managers and other associated market participants have, so far, suffered from the various pain points of an underdeveloped market, including insufficient product knowledge, a narrow product range and limited distribution channels (See Exhibit 4).

Exhibit 4: Pain points for segmented consumer base and value chain players



Retail investors



Institutional



Sales channels



Market makers

- Lack of understanding of passive investment products
- · Lack of understanding of ETF risks versus returns
- Relatively low liquidity for ETFs
- · Relatively low liquidity for ETFs
- Limited product choices, poor index performance, difficult to be used for long-term return and risk diversification
- Investors favor absolute returns and don't understand concept of asset allocation
- · Limited investment channels, e.g. ETF transaction must be done through stock exchange accounts
- Low ETF commissions
- · Lack of sales training
- Lack of incentives to improve ETF market liquidity
- · Lack of effective hedging strategies and tools



FMC/ **ETF** issuers



Exchange



Index supplier



Technology supplie

- · Lack of incentives to issue ETFs due to limited market demand
- · Poor index quality
- · Barriers between exchanges and **OTC** transactions
- Low liquidity for ETFs transacted on the exchange, exchange lacks mechanism to optimize ETF liquidity
- Market demand focuses Lack of market scale on equity index, but not on bond/commodity index

Despite the myriad challenges, we have observed that the market has been undergoing a rapid evolution, with both shifting investor behavior and favorable market developments¹, which have laid a solid foundation for ETFs to grow and flourish continuously.

2.1 Maturing retail investors and the broadening of the institutional client group

One impediment to the ETF market in China has been the limited investor mix. As a tool for passive investment, ETFs have long been invested by institutional investors for asset allocation in other mature markets. However, the Chinese market is predominated by retail investors who typically look for short-term gains.

¹ For example, the speech by Di Liu, Director of SSE Product Innovation Center, 19 April 2018

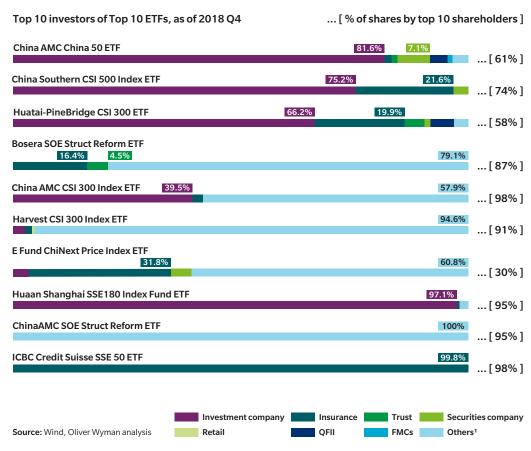
Nevertheless, we have observed changing investor behavior since 2018. The gradually maturing investment behavior of retail investors has paved the way for mutual fund market growth. In particular, investors have begun to learn more about the advantages of ETF investment as a low-cost investment vehicle. To facilitate the ease of ETF trading and improve penetration, the SSE has proposed setting up an online "Over-The-Counter (OTC)" trading platform to allow users without stock trading accounts to participate in ETF transactions.

In addition, we have observed increasing investment in ETFs by a broad range of institutional investors, including insurers, pension funds and trusts (See Exhibit 5).

In order to further improve the appeal of ETFs for institutional clients, the SSE has called for better incentives and policies for ETF market makers to improve market liquidity.

As a result, ETFs are gaining popularity among both retail and institutional investors with increasing adoption. As an example, the E Fund ChiNext ETF, the biggest ETF that tracks the start-up board in China, has seen jumps in its number of holding shares by both institutional and retail investors, with more than 480% and 340% growth from 2017 to 2018, respectively.

Exhibit 5: Investor structure of the Top 10 ETFs in China



^{1.} Includes banks' ETF Feeder Funds, corporate pension plans, SOEs (oil & gas, energy, manufacturing, etc.)

2.2 Gradual proliferation of product development

There are limited product offerings for ETFs in China, with over 90% of products being equity ETFs and dominated by broad-based indices, which make up about 70% of total equity ETF AUM. On the contrary, the development of bond ETFs and commodity ETFs has been rather limited. Narrow-based products are also at an infancy stage, where the development of sector / thematic ETFs, cross-border ETFs and smart-beta ETFs began just a few years ago and with a limited variety (See Exhibit 6).

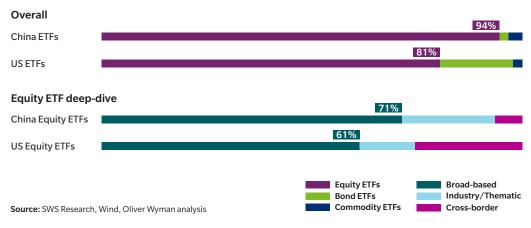
Exhibit 6: ETF product development and product range in the US and China

ETF product development in the US and China

Date of issue	By category, ETF first issued in the US	ETF first issued in China for each ca	ategory	Date of issue
1993	Broad-based ETF	China Asset Management	510050 ¹	2004 December
1996	Cross-border ETF	China Asset Management; E Fund Management	159920/ 510090 ²	2012 August
1988	Industry/Thematic ETF	China Merchants Fund	510150 ³	2010 December
2000	Smart Beta ETF	Bosera Asset Management	1590084	2011 June
2002	Bond ETF	Harvest Fund Management	159926 ⁵	2013 May
2004	Commodity ETF	Guotai Asset Management; HuaAn Funds	518800/ 518880 ⁶	2013 July
2006	Leveraged ETF	7//////////////////////////////////////		
2008	Active ETF			
2017	AI ETF	Ping An Fund	512930 ⁷	2019 May

^{1.} China AMC SSE 50 ETF (华夏上证50ETF); 2. China AMC Hang Seng ETF (华夏恒生ETF) / E-Fund Hang Seng H-Share ETF (易方达恒生H股ETF); 3. CMF SSE Consumer 80 ETF (招商上证消费80ETF); 4. Bosera SZSE Fundamental 200 ETF (博时深证基本面200ETF); 5. Harvest CSI Mid-term Treasury Bond ETF (嘉实中证中期国债ETF); 6. Guotai Gold ETF (国泰黄金ETF) / Huaan Gold ETF (华安黄金ETF); 7. Ping An AI ETF (平安人工智能ETF)

$ETF\ product\ development\ in\ the\ US\ and\ China,\ 2018$



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However, this trend is expected to shift as asset managers start to build more capabilities around alternative data and analytics, which present new opportunities for fund managers and index providers to issue more and different types of ETFs. In 2018, we observed an increasing number of FMCs competing in the ETF space. For instance, 20 FMCs have together issued 38 ETFs in 2018, compared to only 6 FMCs issued 9 ETF products in 2016. Different from the previous focus where most new issuances were equity ETFs, there was a greater variety of product offerings among the newly issued ETFs in 2018, including several bond ETFs, smart-beta ETFs and SOE reform themed ETFs.

To support continuous innovation, the SSE has highlighted a few areas for potential expansion, including cross-market bond ETFs, green finance themed ETFs, SOE reform themed ETFs, fintech ETFs and active ETFs. The increasing number of players and the enablement of favorable policies are expected to stimulate product development in China, ameliorating product quality, performance and variety.

2.3 Emerging battleground on fee reductions

Historically, the development of the ETF market in China has been hindered by high management and custody fees. Reasons behind the high costs include insufficient market infrastructure, limited scale and high distribution costs as a pay-to-play market. Management fees and custody fees for ETFs in China are, on average, about 0.5% and 0.1% per year respectively, whereas in the US, these could be as low as a total of 0.05% per year. Globally, we have even observed leading players launching zero-fee ETFs and zero-commission trading platforms covering a range of ETFs.

Compared to the first two trends, this trend has not fully emerged in China, even though we have begun to see some leading players in China recently trying to bring management fees and custody fees down to 0.15% and 0.05%, respectively, for their newly launched products. We believe the providers might need to further adjust the economics of local ETFs to further encourage their adoption by the investment community.

[3] PROPOSITIONS FOR ETF PROVIDERS

Historically, FMCs in China have adopted a product-centric approach with their offerings. We believe that it is important for FMCs to take on a more customer-centric approach in the future, as investors become more sophisticated with diverging needs.

Moreover, the investment objectives and decision-making processes for retail and institutional investors tend to be very different, even though both retail and institutional investors could use ETFs for short-term tactical purposes and long-term allocation purposes. To broaden the adoption of ETFs, FMCs need to better understand the investment needs and preferences of their various investors and develop strategies accordingly (See Exhibit 7).

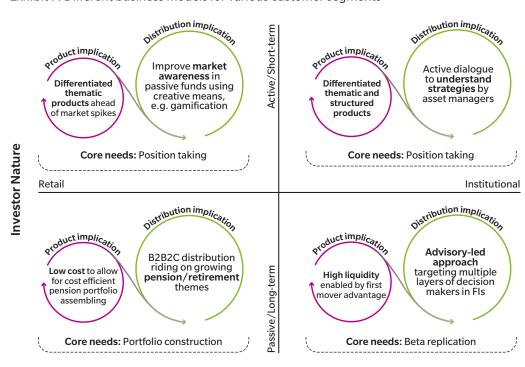


Exhibit 7: Different business models for various customer segments

Investor Type

3.1 "Position taking" for active/short-term retail investors

Chinese retail investors have long been characterized for their short-term speculative investment behaviors. Such characters are particularly evident during bullish markets, where retail investors flock to invest in thematic stocks and/or active funds.

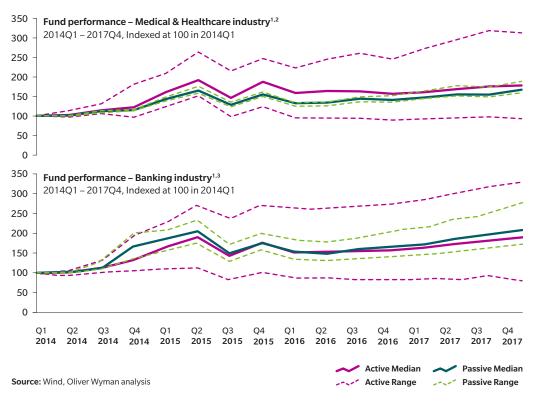
Hence, FMCs could provide and position sector / thematic ETFs as cheaper substitutes for such investors (See Exhibit 8).

In fact, we have already witnessed rapid growth in narrow-based index ETFs in recent years. Take the Growth Enterprise Board (GEB) ETFs as an example. The eight GEB ETFs recorded

about 6 times' growth in terms of their number of shares in 2018, driven by the market hype around emerging industries in China.

We anticipate more innovation in thematic products to capture upcoming hot topics. For example, the first ETF focusing on the Great Bay Area is expected to launch in mid-2019.

Exhibit 8: ETFs could be positioned as low-cost alternatives to actively managed funds



- $1. \, Fund \, sample \, determined \, based \, on \, Wind \, classification, \, and \, only \, includes \, funds \, that \, were \, in \, operation \, throughout \, the \, observation.$
- 2. Sample includes 43 active funds and 4 passive funds.
- 3. Sample includes 133 active funds and 58 passive funds

In addition, smart-beta ETFs are also beginning to gain traction among investors. For instance, Fullgoal Fund Management has recently launched an ETF where it tracks 100 undervalued companies with long-term growth potential. Different from most ETF products, in which institutional investors mainly invest, retail investors are responsible for over 95% of AUM for this product.

To ensure their success, it is important for FMCs to be able to anticipate market 'hotspots' and create compelling products in advance to enjoy first mover advantages. Secondly, FMCs should think about how they could market ETFs to these retail investors in more appealing ways. For example, global asset managers are actively exploring gamification as a means to educate investors and to encourage investment. Considering the abundance of digital wealth platforms in China, FMCs could explore the possibility of partnering with such platforms to attract a broader investor community.

3.2 "Position taking" for active institutional investors

Asset managers require efficient tools for them to take up an investing position. In fact, research² suggests that Chinese institutional investors trade way more frequently than their global peers.

ETFs could be positioned as a quick and easy way for asset managers to implement such tactical asset allocation. Institutional investors could use thematic ETFs as a proxy to access the specific growing theme / sector at a low cost. The intraday trading nature of ETFs could also allow investors to bet on the direction of short-term market movements.

This is particularly important for asset managements to keep fully invested in the market and explore short-term tactical gains, while ensuring liquidity to meet subscription / redemption obligations as they manage their investor flows.

FMCs targeting this segment should build up product capabilities and offer a range of thematic products to gain strategic exposure to an array of assets, sectors or countries.

Globally, leveraged and inverse ETFs are popular tools for investors to make specific bets, especially in highly volatile markets, given they are designed to deliver the desired returns over prespecified periods. While these products are not yet available in China, several local FMCs have already announced plans to capture the growing demand.

Exhibit 9: Potential ETI	nroduct ideas for	· EMCs in China
exhibit 9. Potential e n	- product ideas for	rivics in China

Category	Perspectives
Equity ETF (inc. thematic ETF)	 Current funds are largely based on "broad index", while there are still undeveloped areas on "narrow index" – esp. since Chinese investors enjoy investing into themes FMCs could focus on themes with longer-term sustainability to truly create value for investors, with new themes emerging such as AI, blockchain, new economy, etc. ESG is another theme that has been receiving policymakers' attention recently.
Bond ETF	 Low penetration today; while very relevant under allocation needs of target-date FOF Current bond ETFs are primarily based on sovereign bonds, some players are exploring sub-segment indexes, e.g. policy-driven bonds / debts, etc.
Smart Beta ETF	 Strategies are currently undifferentiated (focusing on fundamentals and styles), could potentially explore more factors such as high dividend and low volatility, or even innovative factors based on alternative data (e.g. social data) and artificial intelligence Could also replicate successful strategies from top local hedge / private securities funds
Commodity ETF	Could potentially adopt CTA strategies that are based on indexes
Cross-border ETF	Currently focused on HK and US markets Continued rising demand expected on the back of diversification needs and also for the purpose of accessing unique and high quality Chinese companies listed abroad
Alternative ETF	• Potentially produce indices on non-standard assets (e.g. private securities funds, private debts, etc.) and then ETFs on these transparent indices

^{2 2018} Greater China ETF Investor Survey Results, Brown Brothers Harriman

3.3 "Portfolio construction" for long-term retail investors

As previously mentioned, Chinese retail investors still tend to treat mutual funds (including ETFs) as short-term investment tools. Hence, it is difficult for FMCs to convince retail investors to buy ETFs so as to meet their long-term investment objectives.

The positive side for FMCs is that the demand for personal retirement planning in China has heightened over time. While the pension system in China is still immature, pension fund-of-funds (pension FOFs) are emerging as the 'third pillar' of the pension system. Since the launch of the first pension FOF in China last year, the market has been burgeoning with more than 40 pension FOFs approved by the Chinese authorities.

The pension angle could serve as a great lever for FMCs to tap into longer-term retail wealth. Several prominent pension FOF providers, such as HuaAn Funds and Bosera Funds, have publicly highlighted the use of passive funds, including ETFs, for portfolio construction, due to the high efficiency and low transaction cost.

FMCs offering ETFs should capitalize on the trend and work under an open architecture with various pension FOF providers to develop more ETF products to meet the demand for pension FOFs with different mandates, and to collectively advocate and educate investors on the benefits of pension FOFs as a packaged solution.

For example, a pension FOF portfolio for younger investors with high risk tolerance may wish to include more mid and small-cap products, which are typically poised for continued outsized gains, whereby those for investors who are entering retirement may prefer accessing a stable source of income through fixed income ETFs or dividend-stock ETFs.

3.4 "Beta replication" for long-term institutional investors

For long-term institutional investors, such as insurers, their core needs are to hold diversified beta exposure while maintaining liquidity. ETFs hence serve as a perfect tool for them to gain efficient exposure to different assets, sectors and markets in a cost-effective manner.

The key for product design to serve this segment is to ensure a high degree of liquidity. As an example, the recently launched 10-year government bond ETF provided a highly liquid investment tool for investors to access the otherwise relatively illiquid local government bonds. The product was highly welcomed by institutional investors and attracted over RMB 6 BN (or ~USD 0.9 BN) AUM at first subscription. It is important to note that first movers tend to attract more liquidity and thereby allow managers to charge higher fees, as global experience suggests.

To penetrate the institutional client market, it is very important for FMCs to understand how investment decisions are made in these institutions, and to be able to advise and convince institutional investors about the benefits of ETFs as a tool for 'beta replication'.

For example, investment decisions at insurance companies could span across the asset liability management function to various asset allocation and fund selection functions, and even to subsidiary asset management companies. All these functions have relatively different investment objectives; hence FMCs would need to understand how best to position their own ETFs for the respective functions (See Exhibit 10). Given the relatively immature ETF market in China, FMCs would also need to go above and beyond to provide thought leadership on how institutional managers could use ETFs to manage their portfolios and support strategic investment objectives.

Exhibit 10: "Multi-layer" investment decision-making at insurance companies in China

Management unit / department	Investment decision node	Implications for ETF managers
Life Insurance Actuarial and Finance Department	Asset Liability Management ALM Decide the profile & types of assets used to meet the liability obligations	Provide advisory input to liability side (i.e. what should be the targeted premium profile based on risk/return profiles as asset classes including ETFs)
Life Insurance Investment Department	Strategic Asset Allocation SAA Decide major asset allocation based on A/L requirement and risk appetite	Provide advisory service on strategic asset allocation according to A/L requirement and encourage the allocation to ETFs as an asset class
	Tactical Asset Allocation TAA Decide asset allocation based on SAA guidance & near-term market trend	Provide advisory service on tactical asset allocation and encourage the allocation to ETFs as an asset class
	Fund / Manager Selection Decide which fund to invest / which manager to choose	On-going institutional coverage to promote the benefits of ETFs and the unique differentiation of the FMC's own ETF
Insurance Asset Management Subsidiary	Portfolio Management Decide the allocation of assets from parent company	Create and customize ETF products according to the department and/or AM subsidiary's specific demand

Conclusion

We are convinced that the Chinese ETF market is set to grow rapidly in the next few years. To ride the growth wave, FMCs would need to deepen the understanding of the needs of different types of investors and develop differentiated propositions to address their needs.

We believe that ETF products should be embedded into any FMC's overall strategic roadmap, as moving fast and with a long-term commitment is required to develop meaningful scale and liquidity advantages.

More importantly, FMCs should appreciate that the development of the ETF market will hinge on the maturity of the broader ETF ecosystem. FMCs offering ETFs would need to tackle various challenges ranging from constructing new indices to managing the liquidity of the ETF. As such, FMCs would need to work closely with other financial institutions, including index companies and alternative data providers, market makers, and distributors (See Exhibit 11). They should also explore how to better mobilize resources across the group while balancing compliance and governance requirements.

Exhibit 11: Opportunities for different types of players across the ETF value chain



Primary activities

- Index identification
- Replication strategy
- Product and pricing design
- · Risk management
- Index provider. Authorised participants (AP), regulatory management
- · Basket creation
- Securities lending
- · Portfolio rebalancing
- · Fund management
- Product marketing
- Investment research Intermediary relationship management
 - End customer
- Market making / trade execution
- ETF creation / redemption (as AP)
- Custodian management
- Performance reporting & analytics

Parties involved

- Major index providers
- · Market makers (MM), AΡ
- Regulators, exchanges Regulators
- Securities research providers
- Securities firms

- Asset managers/HFs
- · Retail wealth managers
- Institutional investors
 Execution venues
 Custodian banks
 - (e.g. exchanges) Securities services
 - Brokers/ dealers Trade depositories

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