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Global Asset Management Center Index Report (2021)

CEIBS LUJIAZUI INSTITUTE OF INTERNATIONAL FINANCE

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CONTENTS

PREFACE

After 30 years of hard work, Shanghai has basically become an international financial center with global influence. According to the deployment of the government, the "14th Five-year Plan for building Shanghai International Financial Center" clearly states that Shanghai will continue to promote opening-up and focus on institutional opening-up to further gather global headquarters and functional financial institutions, as well as enhance the function of global resource allocation with building an influential global asset management center.

Nowadays, Shanghai has formed a comprehensive financial market which includes stocks, bonds, currencies, foreign exchanges, commodity futures, financial futures, gold, insurance, draft, and trust. Shanghai also has built a series of financial infrastructures, including registration, custody, settlement and clearing, as well as advanced technological means. All provides a solid guarantee for the issuance, trading, pricing and risk management of financial assets. At the end of 2020, Shanghai Stock

Exchange ranked No.3 in the world in terms of stock market capitalization, No.1 in terms of IPO proceeds and No.5 in terms of stock trading volume. The interbank bond market is the second-largest in the world; the Shanghai Gold Exchange is the world largest exchange market for spot gold and crude oil futures market is already the third-largest globally.

At the same time, the asset management industry in Shanghai has formed: the Assets under Management (AuM) in Shanghai accounts for about 1/4 of mainland China, among which the AuM of insurance asset management and mutual funds account for more than 30% separately. 29 of the 33 Wholly Foreign-Owned Enterprise Private Fund Managers (WFOE PFM) registered with the Asset Management Association of China (AMAC) have settled in Shanghai. 17 of the world's top 20 asset managers have set up subsidiaries and expanded their businesses in Shanghai. Still， Shanghai has some shortcomings compared with the mature global asset management centers. According to government, Shanghai will strive hard to basically build a comprehensive and open asset management hub with high concentration of managerial elements, high internationalization level and relatively complete ecological system, and become an important hub of asset management in Asia and enter the forefront list of global asset management centers by 2025.

"Stones from other mountains can be used to polish jade." CEIBS Lujiazui Institute of International Financial has developed the "Global Asset Management Center Index" independently, aiming to learn the international experience and track the trend of the global asset management industry for the goal above by comparing with the world's leading asset management centers.

"Global Asset Management Center Index" has at least three spots worthy of attention. First, evaluates with the objective data which can be well sourced and shows the neutrality and objectivity. Second, highlights the importance of the core indicators, also takes universality into account. Third, open designing for sub-indices improvement and development in the future, which would have guiding value for the sub-industry markets of the asset management industry. Hope to contribute to Shanghai global asset management center construction by providing useful reference for regulators, asset management institutions, asset management service institutions and investors.

EXECUTIVE SUMMARY

Global Asset Management Center Index system includes three Tiers. Tier 1 distinguishes the business foundation from business performance of asset management. Tier 2 measures the business foundation from four aspects: capital supply (including domestic capital pool and overseas capital inflow), institutional opening-up, talent reserve and underlying assets. And the business performance is measured from four aspects as well: asset management institution, open-end fund, ESG (Environment, Social and Governance) business and alternative assets. Tier 3 reflects specific information by 48 indicators in total, including 46 quantitative indicators that are regularly updated and 2 qualitative indicators.

In order to show the gap between global asset management centers more clearly, the index carries out statistical evaluation of the indicators above according to eight sub-areas, and sets the score for the top city in each sub-area as 100 points; then convert the score for other cities in the same proportion. Last, sets different weights to each sub-area, and sums up to obtain a comprehensive score.

In terms of results, New York topped the list, followed by London and Boston. Even though, London has the gap of nearly 8 points with New York, and only 2 points ahead of Boston, which indicates that the strength of the second tier is similar, and a large gap with the first tier. Hong Kong, Singapore, Paris, Los Angeles, Shanghai, Chicago and Tokyo are within a two points score gap, which are in the third tier. In addition, the competitiveness of the cities such as Luxembourg, Dublin, Toronto, Frankfurt and Zurich are also extremely close.

Different asset management centers have different advantages in the eight sub-areas. New York is not prominent in ESG business and alternative asset allocation. European asset management centers such as Luxembourg and Dublin are the opposite. Shanghai has little competitiveness in many areas except assets supply and underlying assets. Hong Kong stands out in terms of its institutional opening-up and talent pool.

According to the ratio of two dimensions of AuM, global asset management centers can be categorized into three types: intermediary, overseas and balanced. A detailed comparison between Shanghai and leading asset management centers in three types shows that: Shanghai can provide more large-scale capital and underlying assets than Paris; Shanghai lags far behind Hong Kong in terms of institutional opening-up and talent pool, as well as far behind London and New York in institutional opening-up, talent pool and asset management institutions.

Therefore, the path for Shanghai to be global asset management center in coming 5 years is as follows: first, guide the leading domestic and foreign asset management institutions to allocate on China's green assets; second, promote the in-out flow of capital and talent, develop intermediary services, so as to provide various products and services for global asset management companies in China.

PART 1

COMPETITIVENESS OF THE ASSET MANAGEMENT CENTER

1.1 THE CORE COMPETITIVENESS OF ASSET MANAGEMENT CENTER IS ASSETS UNDER MANAGEMENT

The core of the competitiveness of the asset management center relies on the competitiveness of the asset management institutions. The revenue bases of asset management institutions are mainly management fees and performance fees, which are different from each other. Management fees are a fixed percentage of Assets under Management and vary by investment style and asset class, while performance fees depend on the relative asset performance against the benchmark such as a market index. It can be seen that this income structure is entirely dependent on the scale of Assets under Management.

Assets under Management (AuM) is the total market value of the portfolio managed by financial institutions on behalf of clients, reflecting both the inflow and outflow of specific funds and the price of assets which fluctuates daily. Capital inflow or appreciation will improve the AuM, while capital outflow or depreciation, and investor reduction will lead to the decline of AuM. For example, the growth of global AuM was mainly driven by the growth of market value, especially by the rise of stock market from the second half of 2020 to the first half of 2021.

1.2 THE GLOBAL ASSET MANAGEMENT CHAINS

Financial markets are essentially global in nature rather than regional. The asset management supply chain is also global, as asset management institutions tend to delegate their portfolios to managers overseas in order to gain local advantages. Some countries provide capital (demand of asset management), some provide the market (supply of asset management), and some provide the platform connecting supply and demand. As a result, there would be two characteristics of asset management industry inevitably. First, the demand of the asset management often comes from overseas in small countries, while the capital supply of big countries is mainly from domestic. Second, there are different conditions on the demand side, supply side and intermediary side of asset management business. In addition to abundant capital, the demand side also needs free capital flow. The supply side should have high-quality assets and a wide range of products. The intermediary should offer lower investment barriers and better infrastructure.

1.3 THE CORRELATIONS BETWEEN FINANCIAL SYSTEM AND ASSET MANAGEMENT CENTER

From the point of investment and financing, the international financial center has the advantage in two channels: bank and capital market. But financial systems differ from country to country. According to the World Bank, major Asian countries such as China and Japan as well as western European countries such as Germany and France set up financial systems dominated by commercial banks (indirect financing), while those of the United States and United Kingdom are dominated by capital markets (direct financing). In the global scope, the main body of asset management institutions is investment bank that mainly serve the capital market, which is the fundamental feature that distinguishes them from commercial banks. Therefore, international financial centers dominated by capital markets are often the leading asset management centers, while those dominated by the banking system developed relatively slower.

PART 2

2021 GLOBAL ASSET MANAGEMENT CENTER INDEX (GAMCI)

2.1 RANKINGS

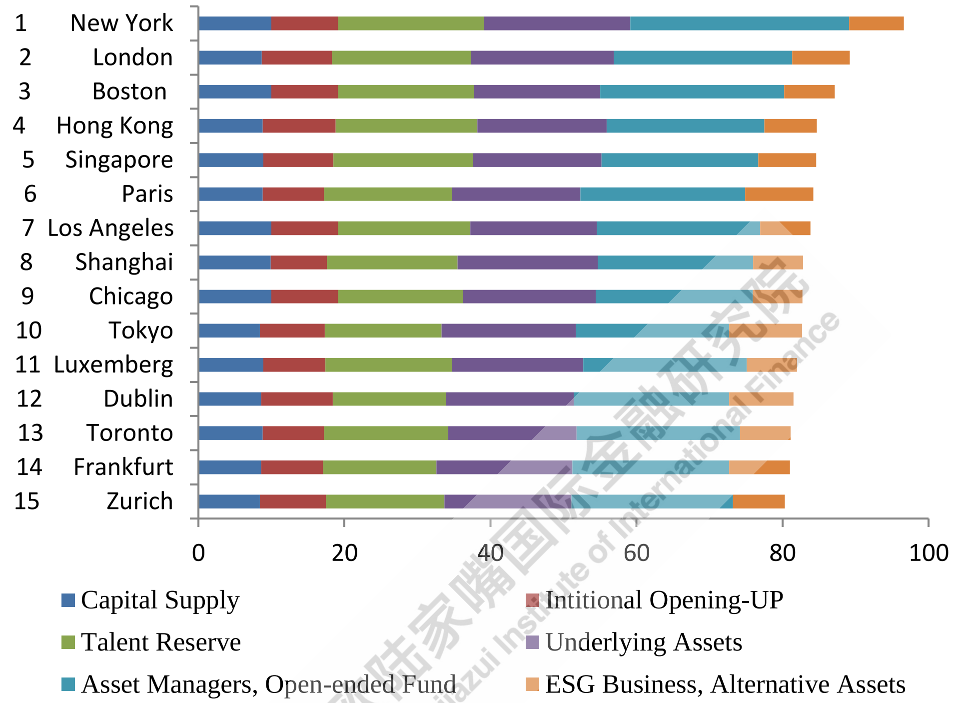
RANKINGS OF GLOBAL ASSET MANEGEMENT

In terms of results, New York topped the list, followed by London and Boston. Even though, London has the gap of nearly 8 points with New York, and only 2 points ahead of Boston, which indicates that the strength of the second tier is similar, and a large gap with the first tier. Hong Kong, Singapore, Paris, Los Angeles, Shanghai, Chicago and Tokyo are within a two points score gap of each other, which are in the third tier. In addition, the competitiveness of cities such as Luxembourg, Dublin, Toronto, Frankfurt and Zurich are also extremely close.

Table 2-1 Global Asset Management Center Ranking（2021）

Ranking	City	Ranks
1	New York	96.7
2	London	89.2
3	Boston	87.1
4	Hong Kong	84.7
5	Singapore	84.6
6	Paris	84.1
7	Los Angeles	83.8
8	Shanghai	83.7
9	Chicago	83.0
10	Tokyo	82.8
11	Luxembourg	81.9
12	Dublin	81.4
13	Toronto	81.1
14	Frankfurt	80.9
15	Zurich	80.3

Figure 2-1 Global Asset Management Center Ranking（2021）



RANKING IN DTEILD FIELDS

Different asset management centers have different advantages in the eight sub-areas. New York is not prominent in ESG business and alternative asset allocation. European asset management centers such as Luxembourg and Dublin are the opposite. Shanghai has little competitiveness in many areas except assets supply and underlying assets. Hong Kong stands out in terms of its institutional opening-up and talent pool.

Table 2-2 Global Asset Management Center Ranking in Sub-areas (2021)

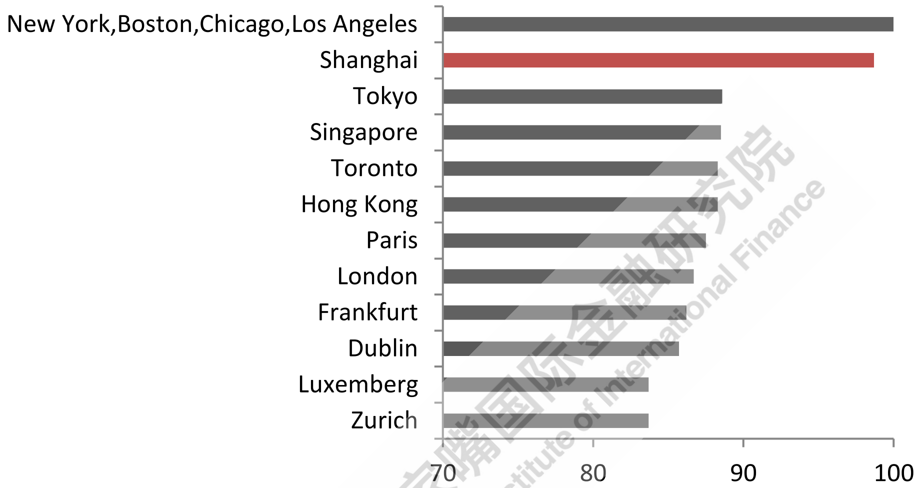
Ranking	Capital Supply（10%）	Institutional Opening-up（10%）	Talent Reserve（20%）	Underlying Assets（20%）	Asset Manager、Open-end Fund（30%）	ESG Business 、Alternative Asset（10%）
1	New York	Hong Kong	New York	New York	New York	Luxemburg
2	Chicago	Dublin	Hong Kong	London	Boston	Paris
3	Boston	London	Singapore	Shanghai	London	Dublin
4	Los Angeles	Singapore	London	Chicago	Paris	Frankfurt
5	Shanghai	New York	Boston	Frankfurt	Frankfurt	Singapore
6	Tokyo	Chicago	Los Angeles	Luxemburg	Los Angeles	London
7	Singapore	Boston	Shanghai	Tokyo	Tokyo	New York
8	Toronto	Los Angeles	Paris	Hong Kong	Zurich	Hong Kong
9	Hong Kong	Zurich	Tokyo	Singapore	Hong Kong	Zurich
10	Paris	Luxemburg	Chicago	Paris	Singapore	Toronto
11	London	Tokyo	Toronto	Toronto	Frankfurt	Frankfurt
12	Frankfurt	Frankfurt	Frankfurt	Dublin	Chicago	Boston
13	Dublin	Toronto	Luxemburg	Zurich	Shanghai	Tokyo
14	Luxemburg	Paris	Dublin	Boston	Dublin	Shanghai
15	Zurich	Shanghai	Frankfurt	Los Angeles	Luxemburg	Chicago

Note： 1."Capital supply" and "Institutional Opening-up " are national indicators, New York, Chicago, Boston and Los Angeles rank the same with the same score. Rank them for clarity only.

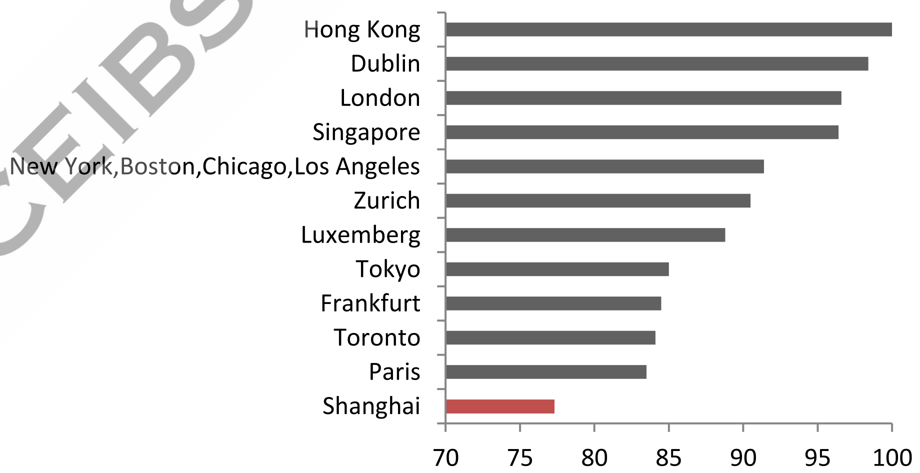
2. Data in brackets are weights.

Figure2-2 Global Asset Management Center Ranking in Sub-areas (2021)

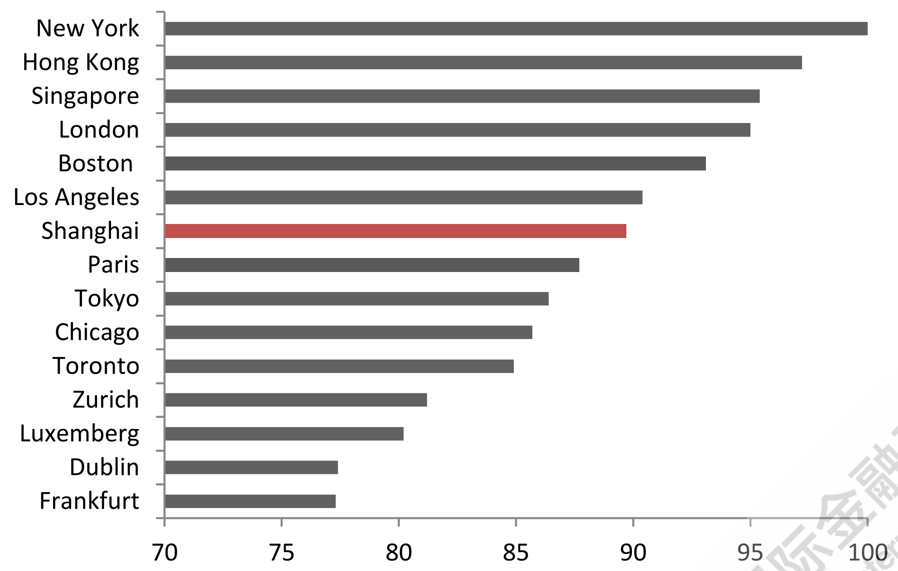
Capital Supply



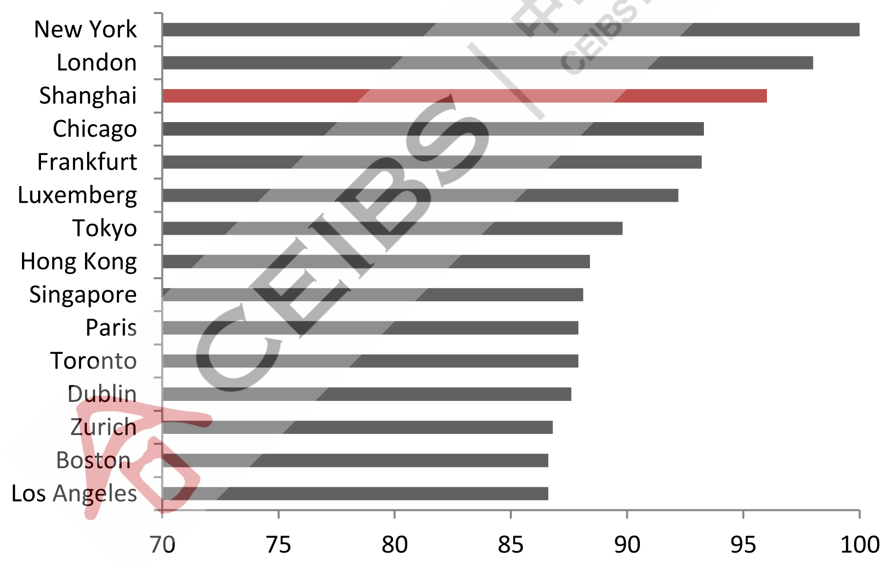
Institutional Opening-up



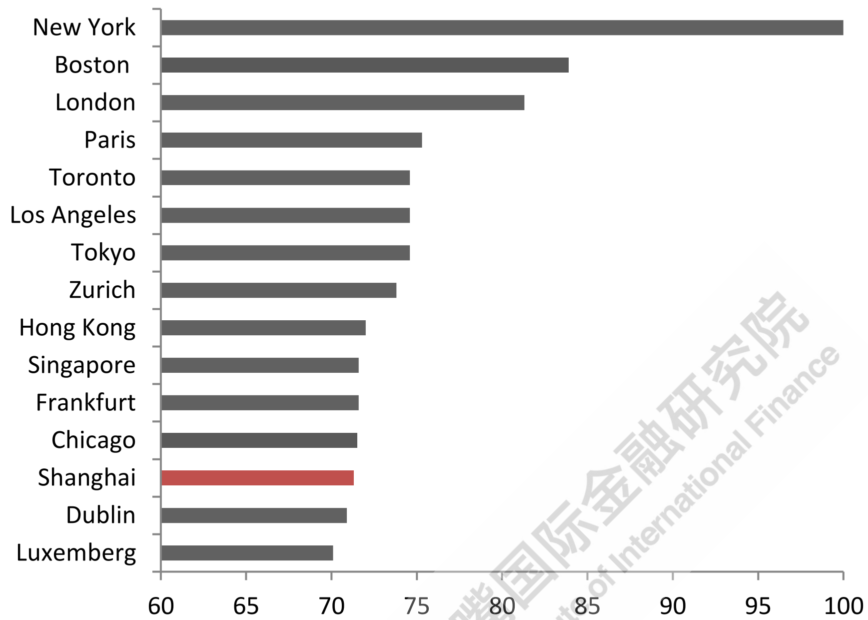
Talent Reserve



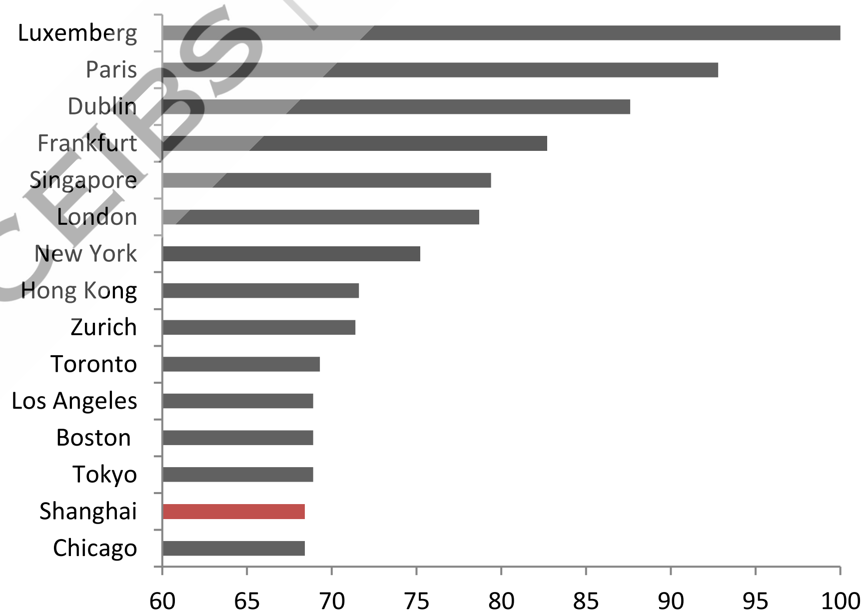
Underlying Assets



Asset Management Managers and Open-end Fund



ESG Business and Alternative Assets



2.2 INDICATOR SYSTEM

PRINCIPLE OF INDICATOR CHOICE

The index is compiled with the following five principles:

First, highlight the AuM which is the core of the asset management center in weight design.

Second, highlight the infrastructure functions of exchanges to reflect the different characteristics of the asset management industry from other financial sectors, that is, to serve the real economy through capital markets.

Third, consider the evaluation results of horizontal comparison and dynamic comparison, finding the main factors that promote or hinder the development of global asset management center.

Fourth, give consideration to both growth and scalability of index research in the future, the sample cities should be comprehensively reflected from all angles as far as possible.

Fifth, the index compilation method is transparent and simple. Real data using the quantitative indicators which can be examined and traced can avoid the fuzziness and intractability of the index.

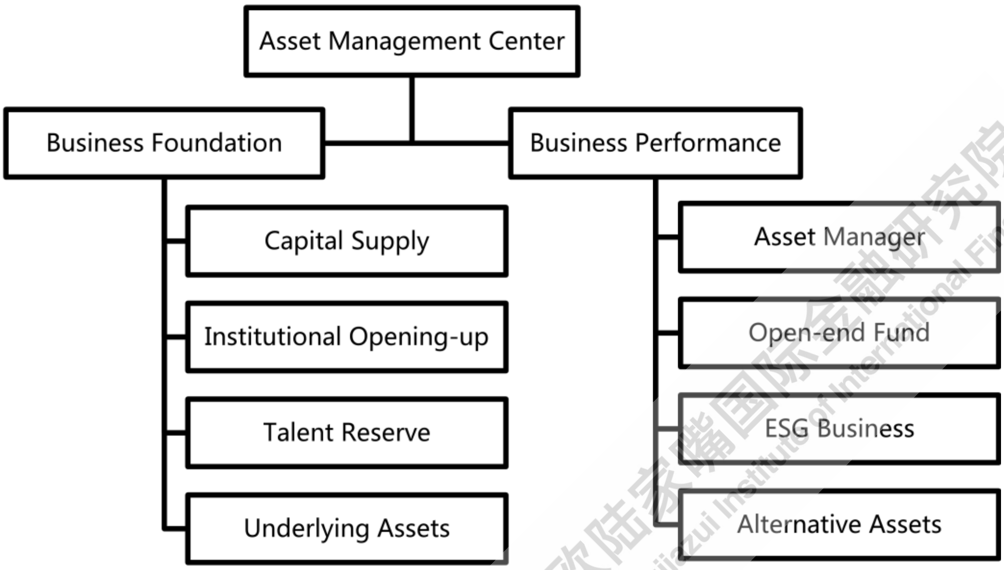
Government and asset management institutions can conduct collaborative research on relevant issues and lay a solid foundation for the scientific development of the index.

Based on the principles above, the specific methodology of adopting indicators for this index includes the following four points: indicators should come from reliable institutions and have with mature methodology; Indicators are steadily available through public channels; Indicators are updated regularly, at least once a year.

INDICATOR SYSTEM

Global Asset Management Center Index system includes three Tiers. Tier 1 distinguishes the business foundation from business performance of asset management. Tier 2 measures the business foundation from four aspects: capital supply (including domestic capital pool and overseas capital inflow), institutional opening-up, talent reserve and underlying assets. And the business performance is measured from four aspects as well: asset management institution, open-end fund, ESG (Environment, Social and Governance) business and alternative assets. Tier 3 reflects specific information by 48 indicators in total, including 46 quantitative indicators that are regularly updated and 2 qualitative indicators.

Figure 2-3 Global Asset Management Center Index (2021)



In order to show the gap between global asset management centers more clearly, Global Asset Management Center Index carries out statistical evaluation with SPSS to the indicators above by 8 sub-areas, and sets the score for the top city in each sub-area as 100 points; then convert the score for other cities in the same proportion. Last, sets different weights to each sub-area, and sums up to obtain a comprehensive score.

Table 2-3 Global Asset Management Center Index (2021)

Tier 1	Tier 2	Tier 3	Sources
BUSINESS FOUNDATION	Capital supply（Domestic Capital pool and overseas capital inflow）	Total deposit	CEIC
		Insurance premium	
		Private pension funds	
		Foreign reserve	
		Sovereign wealth funds	SWF
		Public pension funs	
		Balance payment account-non reserve financial account	CEIC
		Balance payment account-financial and insurance service trade	
		GDP growth rate (current year)	IMF
		Average long term government bonds yields	BLOOMBERG
		Major stock index yield(1 year）	
	Institution opening-up	Financial system	WORLD BANK
		Legal system	
		FDI Restrictiveness Index-financial industry	OECD
		FDI Restrictiveness Index-business industry	
		Capital gains tax rate	KPMG
		Corporate tax rate	
	Talent Reserve	Number of university which economy and econometrics in top 100 of QS	QS
		Number of employee in financial industry	BUREAU OF STATISTISC
		Number of employed in Finance/ Number of employed in tertiary industry	
		Average salary in financial industry / Average salary	
		Individual income tax rate	KPMG
	Underlying Assets	Number of listed stocks	WEF
		Number of listed bonds	
		Number of listed funds	
		Number of derivative	
		Value of stock trading	
		Outstanding of debts	
		Value of exchange bonds trading	
		Value of listed funds trading	
		Value of futures and options trading	
		Open position of futures and options	
		Value of OTC foreign exchange derivatives trading	BIS
		Value of OTC interest rate derivatives trading	

Table 2-3(continued) Global Asset Management Center Index (2021)

Tier 1	Tier 2	Tier 3	Sources
BUSINESS PERFORMANCE	Asset managers	Total AuM of top 10 local asset managers	ASSET MANAGERS
		Number of local asset managers which ranking global top 50	
		Total number of branches of global top 50 asset managers in the sample city	
		AuM locally in the sample city	REGULATORS
	Open-ended funds	AuM	IIFA
		Number of funds	
		Market capitalization of ETFs	WEF
		Number of ETFs	
		Value of ETFs trading	
	ESG products	Number of ESG ETF	
		Number of ESG funds	
		Number of ESG bonds in stock exchange	
	Alternative assets	AuM	IIFA
		Number of funds	

EXPLANATION OF MAIN INDICATORS

Business Foundation

(1) Capital for asset management comes from bank deposits, insurance, pensions and foreign exchange reserves. And capital flows freely within a country.

(2) The balance of international payments account is divided into current account and capital and financial account. Among them, the financial and insurance services account and the non-reserve

financial account mainly reflect the net inflow of foreign capital.

(3) The drive of capital inflow mainly comes from the expectation of a country's economic growth and the onshore/offshore interest rate spread, which is reflected in the expected GDP growth rate, long-term Treasury bond yield and stock yield.

(4) According to the research, the common law system would be better for the development of capital market which is closely related to the asset management business than the civil law system. Therefore, the financial system dominated by capital market is more conducive to the development of the asset management center than by banks.

(5) The FDI Restrictiveness Index in financial sector and business sector are assigned by OECD with a range of 0-1. The higher the value, the higher the degree of control of capital flows. Capital inflow is positively correlated with the AuM, which means the higher the FDI Restrictiveness Index is, the more negative the impact on the asset management center is.

(6) Considering the differences in industrial structure and currency among the sample cities, the number of people employed

in the financial industry is divided by the number of people in the tertiary industry, and the average salary in the financial industry is divided by the average local salary to eliminate the relevant influence.

(7) Asset management products with more scale usually have higher market trading volume and more liquidity. Therefore, the trading volume of exchange (stocks, bonds, futures) and off-exchange (foreign exchange derivatives, interest rate derivatives) comprehensively reflects the supply capacity of the underlying assets of the asset management center.

Business Performance

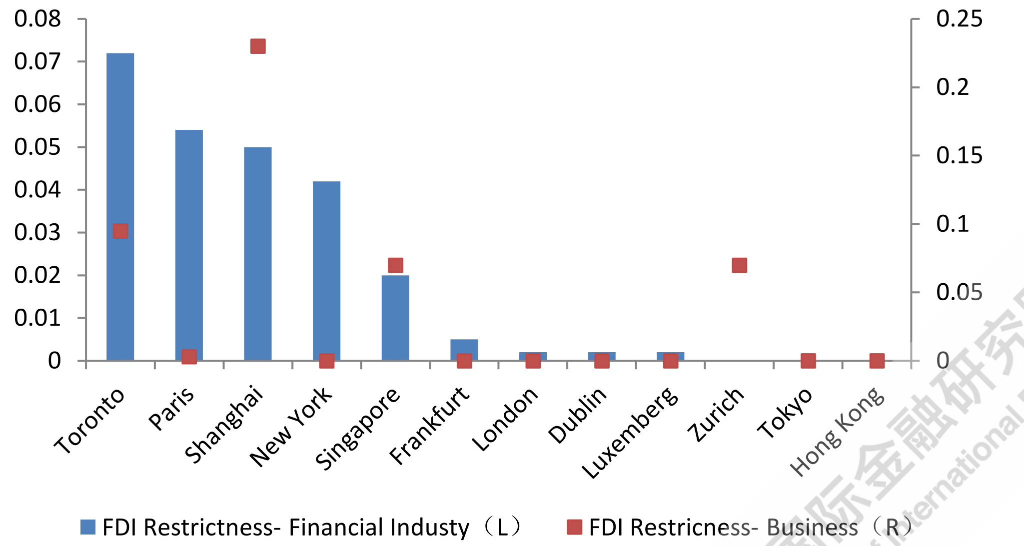
(8) The AuM and global ranking of the local leading asset management institutions is the core of a global asset management center, as well as the number of local branches of the global leading asset management institutions.

(9) Currently, the proportion of open-end funds in the world is as high as over 90%, the quantity and net assets of open-end funds are important indicators of asset management center.

(10) ESG has become an important field for the sustainable development of the global economy, and ESG financial products have accelerated expansion since the pandemic in 2020, which is the main innovation direction of the asset management industry globally.

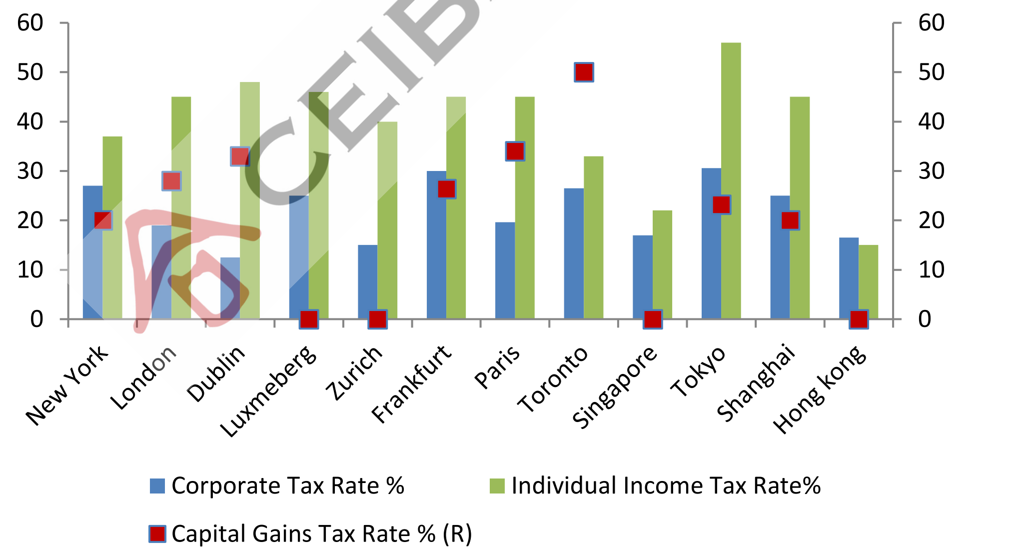
(11) In the process of economic recovery, the traditional investment market has appeared a series of problems, such as high valuation, limited correlation between fixed income and equities, bond yields continue to fall and risk asymmetry. More and more investment strategies have turned to AID (Alpha, Income and Diversity) investment which has become the indispensable to the global investors' portfolios to pursuing excess returns.

Figure 2-4 FDI Restrictiveness Index in finance and business（2020）



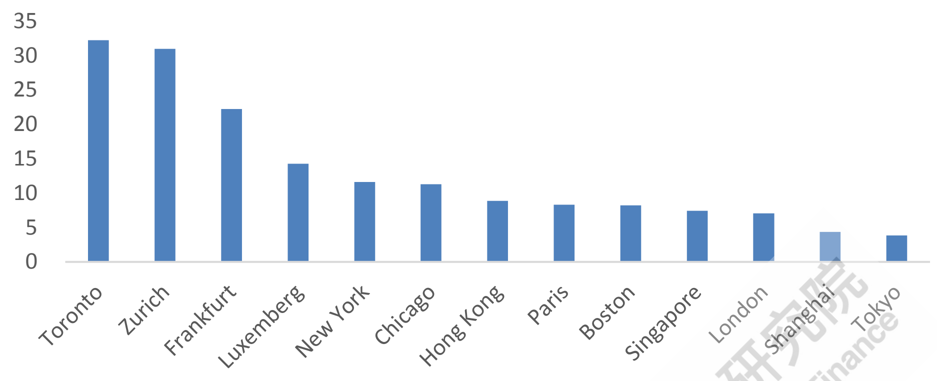
Source： OECD

Figure 2-5 Tax rate%（2020）



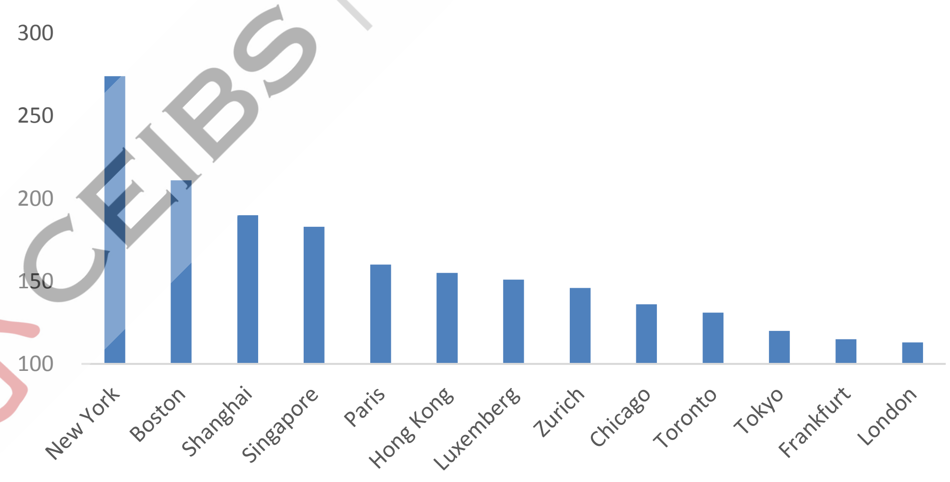
Source： KPMG

Figure 2-6 Employed in Finance/Employed In tertiary Industry%（2020）



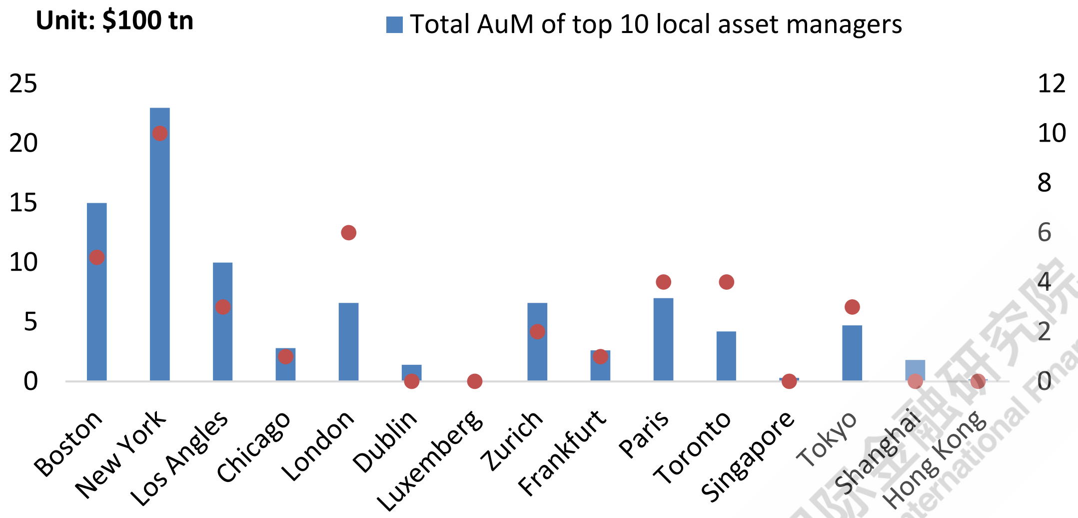
Source: Bureau of Statistics in each city

Figure 2-7 Average Salary in Finance/Average Salary in City%（2020）



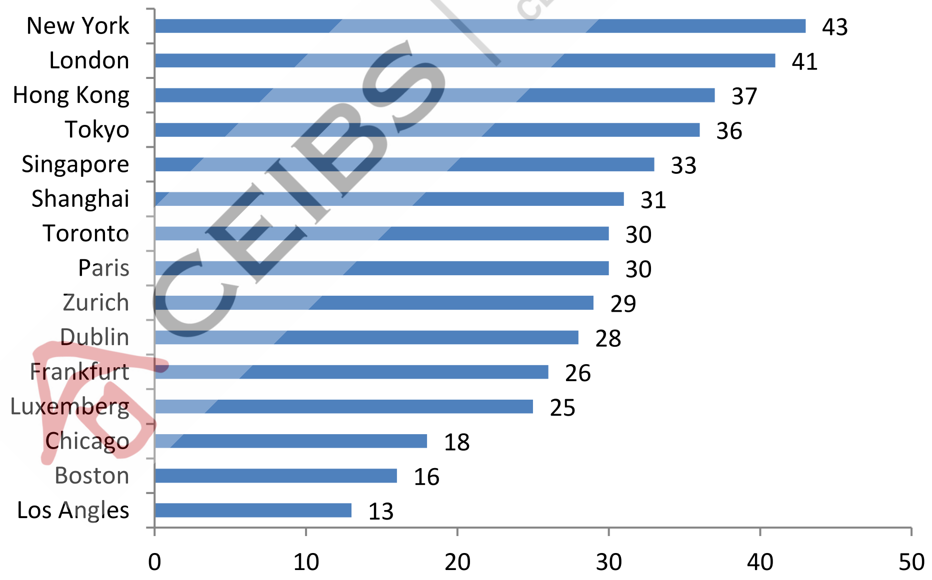
Source: Bureau of Statistics in each city

Figure 2-8 AuM and quantities of local asset managers（2021）



Source: Asset managers

Figure 2-9 Branches of global top 50 asset managers in asset management centers (2021）



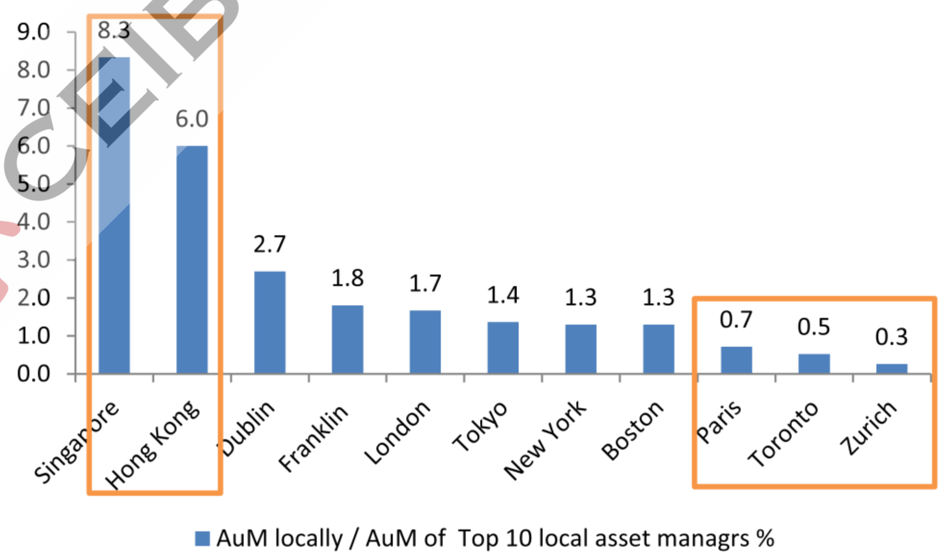
Source: Asset Managers

2.3 ANALYSIS OF INDEX

TYPES OF GLOBAL ASSET MANAGEMENT CENTERS

From the two dimensions of the AuM, there is a huge difference between the local AuM (including local asset managers and global managers) and the global AuM of the local asset managers. Based on the ratio of two kinds of AuM, the sample global asset management centers can be roughly divided into three categories: Luxembourg, Singapore and Hong Kong with a ratio of more than 3. Paris, Toronto and Zurich have ratios below one. The remaining cities are in the third category, with a ratio between 1 and 3.

Figure 2-10 AuM comparison in two dimensions (2021)



Note: Luxembourg has a ratio of 98.3, which is not shown in the chart.

Intermediary asset management center

By the end of 2020, the AuM of Luxembourg, Hong Kong and Singapore was $5.9 trillion, $1.2 trillion dollars and $2.5 trillion respectively, while the AuM of the top 10 local asset managers were only $0.06 trillion, $0.2 trillion and $0.3 trillion respectively. It shows that the capital owners of asset management are mainly from overseas, while the center can provide abundant asset management products and services locally, making it a typical intermediary asset management center.

Overseas asset management center

At the end of 2020, Paris, Toronto and Zurich had $5.0 trillion, $2.2 trillion and $1.7 trillion of asset management respectively, while the AuM of the top 10 local asset managers had $7.0 trillion, $4.2 trillion and $6.6 trillion respectively. This shows that the local asset managers are skillful at investment service, though the vitality of the local capital market is relatively limited, and the asset managers mainly focus on overseas.

Balanced asset management center

London, Frankfurt, Tokyo and Dublin had $11tn, $4.7tn, $6.4tn and $3.8tn respectively at the end of 2020, while the AuM of the top 10 local asset managers had \$6.6tn, \$2.6tn, \$4.7tn and \$1.4tn respectively. The AuM in the local market is close to that of overseas markets shows that capital supply and capital market are similar scale.

LONDON IS DRAGING DOWN BY BREXIT

The index concludes that London is not in the top tier of global asset management centers for two reasons:

First, from the point of view of the supply of high-yield market, the overall risk of UK market is lower, and provides small profit margins than emerging economies. As a result, UK leads the world in commercial banking and foreign exchange trading business, but it does not dominate the overseas business of multinational investment banks. For example, announced by Goldman Sachs group in 2020, the proportion of UK in its overseas business has dropped to less than 10%, which is lower than the Chinese market (including the mainland, Hong Kong, Macao and Taiwan).

Second, in terms of the intermediary business, the negative impact of Brexit on London is already beginning to show.

(1)Labor mobility barriers weaken London's human capital. Under the Brexit trade arrangement, current EU rules on free flow of labors no longer apply to UK and vice versa. About 1 million EU citizens were living in London at the end of 2020, with about 10% working in finance, 10% in business and professional fields.

(2) London stock market has shrunk dramatically. Trading volumes in euro-denominated shares on the London exchange have fallen by 50 per cent since the first trading day of 2021 compared with the same period last year, and trading in the shares of several large multinationals has shifted to other European Union bourses, notably Paris, Amsterdam and Frankfurt.

(3) Assets are transferred by multinational financial institutions to the EU. As the Brexit agreement only involves trade in goods, UK's financial services industry has lost its free operation right in the EU market, and negotiations on the UK-EU financial services trade are still in progress. At the same time, as EU regulators restrict EU companies and investors from buying the services of financial institutions outside the EU (including possibly restricting non-EU asset managers from managing EU funds), transnational financial institutions are moving one after another.

PART 3

CHALLENGES AND OPPORTUNITIES FOR SHANGHAI AND THE GLOBAL ASSET MANAGERS

3.1 HOW SHANGHAI STEP INTO LEADING ASSET MANAGEMENT CENTER

STRENTH OF SHANGHAI BUILDING GLOBLE ASSET MANAGEMENT CENTER

First of all, Shanghai has great advantages in capital supply and underlying assets due to China’s great economic power especially in term of scale. China's bond yield and the long-term appreciation trend of RMB will become the main driving force of overseas capital inflow.

Second, as the global pandemic continues, China’s prevention measures have greatly attracted the return of overseas talent. If the pilot reform on tax rates is promoted, it will significantly increase the pool of talent and internationalization of Shanghai's asset managers.

DISTANCE BETWEEN SHANGHAI AND OTHER LEADING ASSET MANAGEMENT CENTER

According to the evaluation of 8 detailed fields, Shanghai has obvious deficiencies in institutional open-up, asset management institutions and ESG business.

First, China's financial system is dominated by banks (indirect financing) and the civil law system in terms of law. Compared with the financial system dominated by capital markets (direct financing) and the Common law system, less support is given to the development of the asset management industry. In addition, according to the data of OECD, although China has accelerated the opening of its financial industry in recent years, the FDI control on the financial industry and business is still relatively strict, capital gains tax rates and corporate tax rates are also much higher than in smaller economies such as Hong Kong, Singapore and Luxembourg.

Second, Shanghai has lower aggregation of global asset managers both in terms of headquarters and branches. The AuM of top 10 shanghai-based asset managers just over $2,000bn, compared with $23tn in New York and $6,600bn in London. None of the Shanghai-based asset managers are ranked in the top 50 in the world, compared with 10 in New York and 6 in London. The aggregation of branches is a little bit lower too. Within Asia, 31 of the world's top 50 asset managers have branches in Shanghai, compared with 37 in Hong Kong, 36 in Tokyo and 33 in Singapore.

According to statistics, overseas large asset managers in Asia usually choose two cities to land; Tokyo is relatively independent, while Singapore and Hong Kong are strong substitutions to Shanghai.

Third, Shanghai's innovation business is still in the early stage of development both in quantity and scale. For example, although there are more than 1,200 ETFs in Shanghai Stock Exchange, there are only 10 ETFs relative in ESG, far less than those in Europe and the United States. The allocation ratio of alternative assets in Shanghai's public funds is not low(about 10% compared with 5.8% in Hong Kong, 21.2% in Singapore and 16.3% in Dublin) but still small in terms of AuM.

WHERE ARE SHANGHAI’S DEVELOPMENTS MOVE TO

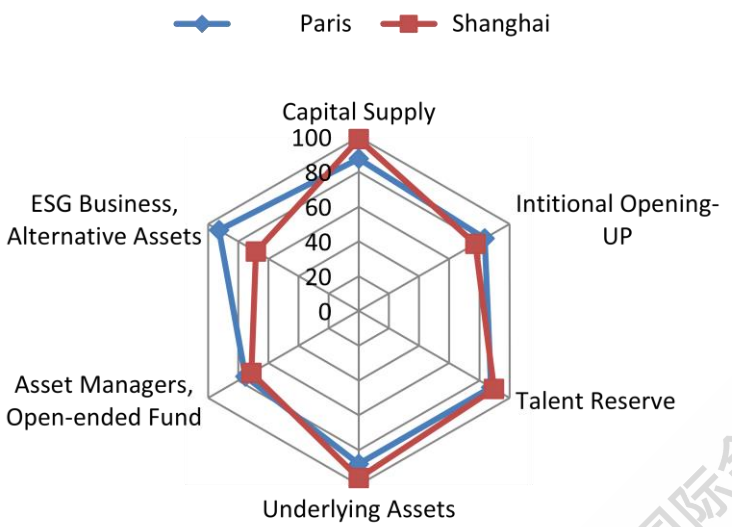
We compare Shanghai with the leading asset management centers in 3 types to find the way Shanghai’s asset management business develops probably. Shanghai has similar comprehensive strength with even more capital supply and underlying assets than Paris. There is a big gap between Shanghai and Hong Kong in institutional opening-up and talent reserve. Shanghai lags far behind London and New York in institutional opening-up, talent reserve and asset managers. In the future, Shanghai may:

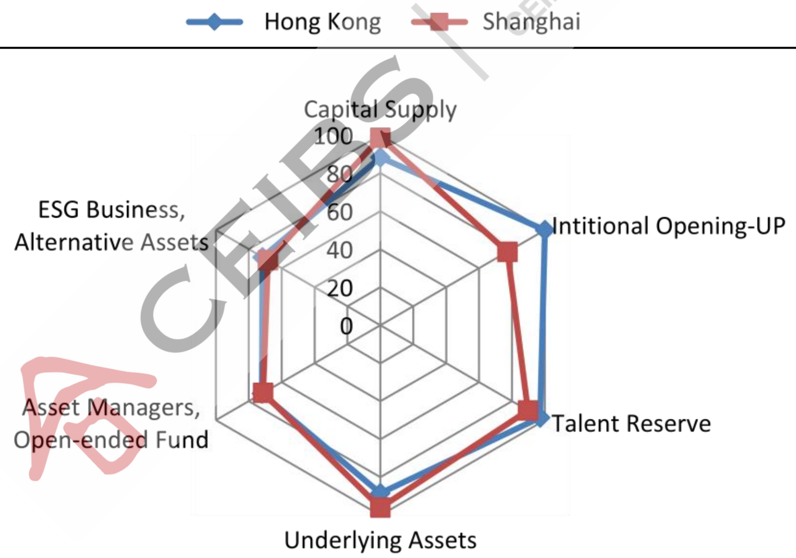
(1) Promote the innovation of green asset management products, guide domestic and foreign leading asset managers to allocate on China's green assets so as to serve China's "Two-Cycle" strategy;

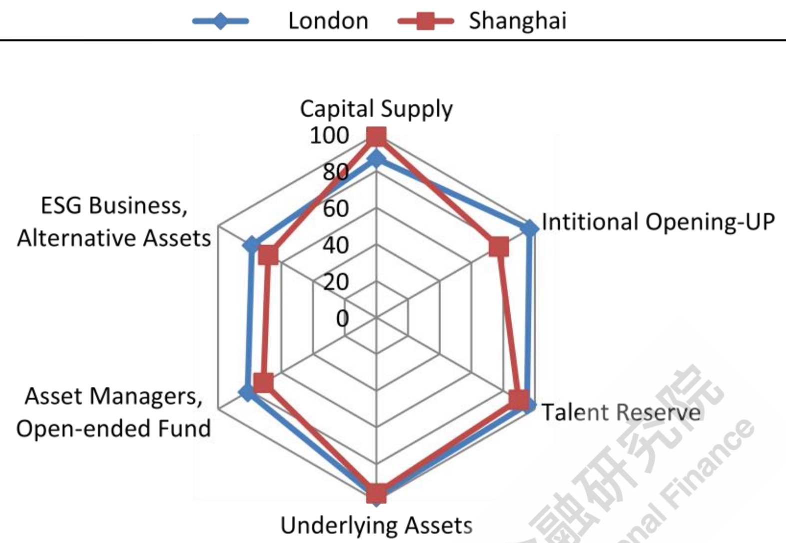
(2) Promote in-out capital flow and talent flow, develop intermediary services and become an important platform for global asset allocation;

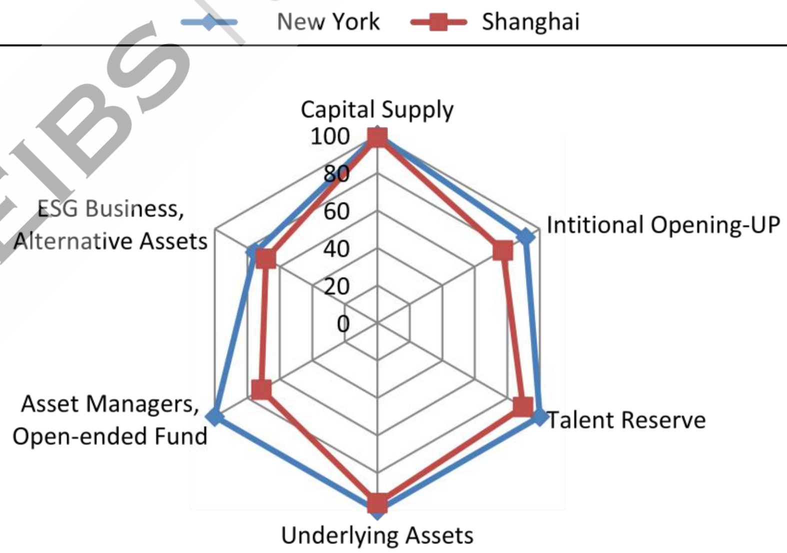
(3) Expand the overseas distribution of Chinese financial groups and provide sustainable overseas investment services for domestic pension funds, sovereign wealth funds, insurance companies, banks and individuals.

Figure 3-1 Shanghai compare with other leading asset management centers (2021)






London
Shanghai
Capital Supply
100
80
60
40
20
0
Intitional Opening-UP
Talent Reserve
Underlying Assets
Asset Managers, Open-ended Fund
ESG Business, Alternative Assets


New York
Shanghai
Capital Supply
100
80
60
40
20
0
Intitional Opening-UP
Talent Reserve
Underlying Assets
Asset Managers, Open-ended Fund
ESG Business, Alternative Assets

3.2 HOW GLOBAL ASSET MANAGERS CAN BENEFIT FROM SHANGHI

PENSION FUNDS

Pension funds in the field of sustainable investment focus on the public pension funds. In the process of global economic recovery, public pension funds have become an important capital owner. For example, infrastructure investment matches the investment cycle, investment capacity and investment demand of pension funds. In 2020, pension fund investments in infrastructure continued to grow, including renewable energy, agricultural and industrial properties (including warehouses, industrial plants and logistics centers).

By the first half of 2021, pension assets explicitly linked to ESG were close to $20tn, or 40 per cent of total global pension assets which set portfolios rarely invest in developing markets though. China is the world's second largest economy and the largest developing country, the national household balance sheets more than $70 trillion, GDP topped RMB 100 trillion, but the pension wealth reserves of about RMB 12 trillion, only 10% of GDP, which still has larger distance compare with the average proportion of OECD countries as high as 80%. Pension fund and capital market are highly matched since they are both long-term. The introduction of pension funds will greatly increase the proportion of institutional investors and improve the structure of China's capital market.

ESG PRODUCTS

According to UNCTAD, there were 552 ESG ETFs globally in 2020, attracting about $300bn inflow. From January to August 2021[1], the global ESG ETF net inflow reached $100 bn, and the number of products increased to 726, involving nearly 2,000 listed companies. Total assets have reached $325 bn, as well as the net inflow has exceeded the level of the whole year last year.

Even though, from the perspective of regional distribution, the development of ESG ETF is not balanced. Backed by legislation to shift to a low-carbon economy in the EU and strong demand for big Tech stocks in Europe, 70 per cent of global ESG ETFs are set up in Europe, followed by North America at about 20 per cent and less than 10 per cent elsewhere. ESG ETF inflows in Europe reached $65.6 bn in the January-August period, accounting for 50 percent of total ETF inflows in Europe. ESG ETFs account for more than

[1] Trackinsight，https://www.thearmchairtrader.com/trackinsight-etf-data-esg-august-2021/；https://www.nasdaq.com/articles/global-esg-etfs-attracted-record-inflows-over-h1-2021-2021-07-30

16 per cent of total ETF turnover on Xetra, Frankfurt's electronic trading platform, compared with 6% in 2020, according to Deutsche Borse. Assets in its ESG ETF reached $160bn, up 219 % year on year. Moreover, Luxembourg is the largest single host country, holding nearly 30 per cent of the global market by assets.

Compared with Europe and the US, developing countries account for only 3% of ESG ETFs and only 5% of the world by products volume. But emerging economies, represented by China, have become important players in a range of SDG areas, such as pharmaceuticals and renewable energy, with significant growth potential.

Table 3-1　AuM of ESG ETF in Europe and US（2021）

2021(Jan-Aug)	ESG ETF share of ETF	
	AuM share	Net inflow share
Europe	13%	50%
US	2%	6%

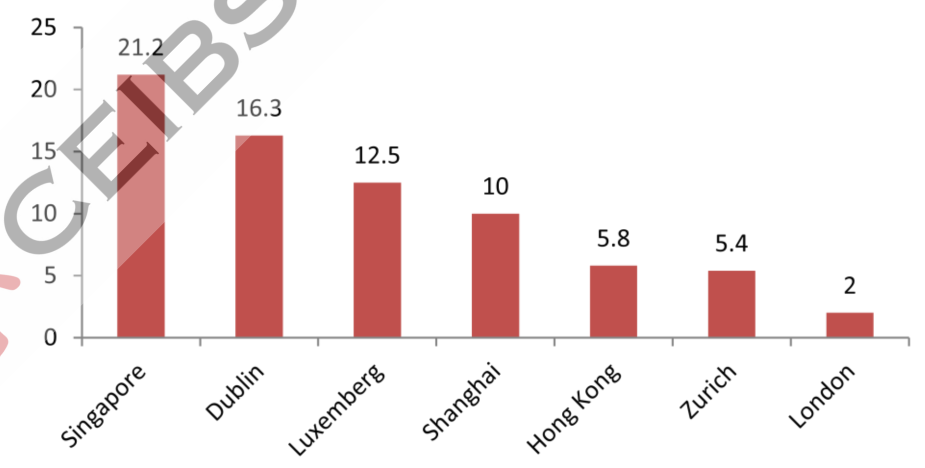
Source: REUTERS

About $600 bn of ESG bonds were issued globally in 2020. China is the world's fourth largest market for green bond issuance, with a total financing volume of about $15 bn, but less than a quarter of the U.S. ($61.5 billion) and half of France ($37 billion). At the same time, in the social bond and sustainable bond market product issuance has not entered the global forefront.

ALTERNATIVE ASSETS

The recovery has seen a series of problems in traditional investment markets, such as overvalued, limited correlations between fixed income and equities, persistently low bond yields and asymmetric risk. More and more investment strategies have turned to AID (Alpha, Income and Diversity) investment for pursuing excess returns. These alternative investments have become integral to the portfolios of global investors.

Figure 3-3 Alternative Asset Allocation in Global Asset Management Centers%（2021）



Note： Data in Shanghai is the alternative assets ratio in public funds.
Source： Asset managers, Security Regulators.

For example, in basic assets such as core physical assets, investors have access to stable cash flows generated by long-term contracts that will grow with inflation. Traditional bond yields have been historically low during the pandemic, but yields on core real assets have remained stable and are significantly overpriced relative to fixed income assets. When monetary policy is normalized, its risk premium will be further compressed. But with rising interest rates and rising inflation, there is still room for yields in core real assets, even as bond yields rise. As a result, yield-seeking investors are increasingly allocating capital to private infrastructure, with high-quality core property particularly attractive and REITs fast becoming a standard part of asset allocation for managers.

Though REITs has more than 60 years of development history in the international capital market, it is still a new thing for the domestic capital market. According to regulations, China's infrastructure public offering REITs are listed and traded on the stock exchange. Currently, Shanghai Stock Exchange has 6 REITs only. In the future, it is necessary for Shanghai to follow the national strategy closely, focus on high-quality projects, promote actively more products to be listed, and give full play to the intermediary function of the asset management industry to connect investors with the real economy.