

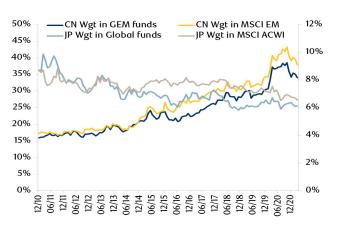
- Regional and global equity portfolios are often underweight Asian equities, but we believe Asian equities produce strong risk-adjusted returns when sources of alpha are diversified. Our study shows how Chinese equities can help global and emerging market investors lower volatility and add uncorrelated sources of alpha.
- Idiosyncratic alpha opportunities in China are what makes the country a more interesting
 market over the long term. This disruptive growth is best captured through an active
 manager that understands how China and Asia are changing; plain index exposure could
 be backward looking and lacks bottom-up considerations on environmental, social and
 governance (ESG) risk.

Why diversification matters and how we measure it

Most investors would agree that no single asset class can be an outperformer forever. In the last decade, U.S. equities outperformed all other major indices, while in the preceding decade, emerging markets (EM) equities was the stand-out asset class. There are cycles to relative performance among regional equities and outperforming markets can change. The danger for global allocators is to underestimate this possibility and to invest only in recent winners without paying sufficient attention to diversification and risk management.

Global investors are often underweight Asian equities.² China is the second largest economy after the U.S. but it is still 'emerging' and has the growth potential of EM. However many global, even EM equity, investment managers do not appear to appreciate fully the importance of the inclusion of the China A shares in MSCI indices and how this is affecting their China or EM strategies. According to a 2019 survey, 30% of EM managers and 73% of global equities managers had zero exposure to China A shares, despite it being announced as a part of the MSCI Emerging Markets Index in 2017.³ Similarly, Japan is the second largest

Exhibit 1: Country weight held by fund managers relative to benchmark



Source: Citi Research, EPFR. Japan vs MSCI ACWI Index (right hand side) and the China vs. MSCI Emerging Markets Index (left- hand side). Data as at December 2020.

country in the MSCI World Index after the U.S. but many have yet to consider a long-term active investment strategy for Japan and some have no exposure at all to Japan (Exhibit 1).

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¹ Bloomberg, MSC1, data as at May 2021.

² Citi quantitative research, MSCI, EPFR data as at March 2021. Sample size of 99 GEM (global emerging markets) managers and 141 ACWI (all country world index) managers, representing USD572bn and USD733bn in total AUM respectively.

³ Greenwich Associates. April 2020. Crafting the Optimal China Allocation Strategy: The Asset Owner's Perspective. Interviews were conducted in 2H of 2019 with 118 institutional investors globally and 20 investment consultants.



This oversight is understandable. At the index level, Asian equities achieved long-term returns comparable to those of EM or Europe and the aggregate weight of Japan and China currently, based on the MSCI All Country World Index (ACWI), is only 10%-12% which is well below that of the U.S. at around 55%. China's role in the global economy has been growing along with its index weight, but global investors remain hesitant, possibly due to EM equities struggling since the global financial crisis, or because of concerns about corporate governance or geopolitical risk.

Nonetheless, we believe allocating capital to Chinese equities, including onshore A shares, deserves careful consideration by global investors seeking to lower their portfolio risk in a meaningful way while also accessing new and different sources of alpha.

Diversifying makes even more sense when global markets are increasingly volatile and there may be structural shifts in major sources of economic growth. China's meteoric economic rise in the last two decades - and the subsequent challenge to world order - is one shift that is still evolving.

Diversification helps investors to remain steadfast and fully invested for the long term while managing volatility and risk. Portfolio diversification can be achieved by owning stocks from different sectors, geographical areas or those with different style exposure, regardless of investment mandate and objective, be it to maximize Sharpe ratio or to minimize risk.

There are minimal diversification benefits if two assets are highly correlated however and therefore checking empirical data for low correlation is useful to gauge whether a set of two assets (such as adding Asian equities to a global equities portfolio) can provide lower volatility in aggregate and effective diversification. On the other hand, it is also necessary to understand the historical data and contextualise it to form a forward-looking view. As active investors, we also try to consider

"China's meteoric economic rise in the last two decades - and the subsequent challenge to world order - is one shift that is still evolving"

why something is or is not correlated from a fundamental point of view.

In this article we will expand on our current thinking to explain why allocating to Asian equities should benefit global investors, mainly through diversification but also idiosyncratic alpha generation. We will then focus on how owning Chinese equities can help to lower risk for global or EM equity-focused investors, with a particular emphasis on China A shares.

We ask ourselves the following questions, broadly employing the same analytical framework:

- 1. Who are the key market participants here (e.g. retail vs institutional and domestic vs foreign)? Is this market unique in terms of who dominates the trading volume, and how does that affect volatility? How is this changing over time?
- 2. How correlated is the market to other markets? What does earnings growth rely on for companies in this country/market? How sensitive is this market to global macro events? How much of the economy is made up of domestic rather than global business? How connected is the economy to the rest of the world?
- 3. Is this a stock picker's market? Are there opportunities to capture idiosyncratic alpha through stock-picking led by fundamental research and active investing? By definition idiosyncratic alpha is not highly correlated with factors; as such unique sources of alpha also help to lower risk and offer diversification benefits.

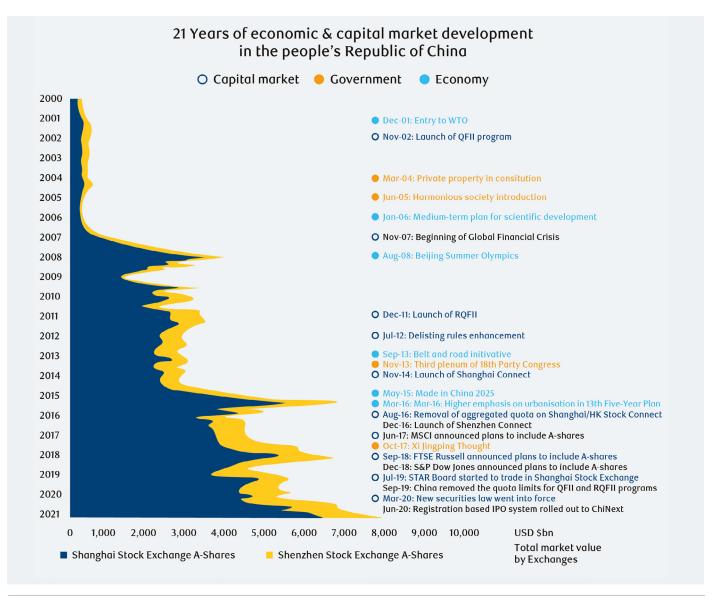
How can Chinese equities offer diversification benefits?

The Chinese economy has transformed itself over the last two decades since joining the World Trade Organization (WTO). The Chinese equities market has also progressed materially: deregulation, the Shanghai Stock Connect of 2014, the Shenzhen Stock Connect of 2016, and the inclusion of China A shares in certain MSCI Indices in 2017 are all key events (Exhibit 2).4

In fact, Chinese equities having a low correlation with other global markets is a view that has become generally accepted among both asset owners and investment managers in recent years. It is important, however, to consider that the market has also been evolving rapidly and the fundamental drivers of the economy have also been changing. Rather than relying on this commonly-held belief, we have revisited the topic using more up-to-date data and have also examined the underlying fundamentals to understand how the asset class may be evolving.

The increased access to the onshore Chinese market for foreign investors has caused a notable change to China A shares and is potentially a driver of the changing characteristics of the asset class. Historically it was difficult for foreign investors to access Chinese onshore equities because capital markets' access was tightly regulated through a quota system called QFII (Qualified

Exhibit 2: Timeline of key developments in China since 2000



Source: Bloomberg, Morgan Stanley Research. Data as at 9 May, 2021.

Stock Connect is a collaboration among the Hong Kong, Shanghai and Shenzhen stock exchanges allowing international and onshore Chinese investors to trade securities through their home exchanges' trading and clearing facilities. Hong Kong Exchanges and Clearing Limited, 2020. "What is Stock Connect?".

Foreign Institutional Investors).⁵ Daily trading volumes have long been dominated by retail investors; institutional investors - both domestic and foreign - were never as prevalent and this resulted in very different trading behaviour and risk characteristics when compared to that of the rest of the world.

With the Stock Connect and MSCI Index inclusion, foreign interest in Chinese onshore equities is growing. Foreign ownership in China A shares increased from below USD100bn in 2013 to over USD300bn as of Sept 2019. Retail contribution to trading volume dropped from almost 90% in 2015 to an estimated 75% in 2020.6

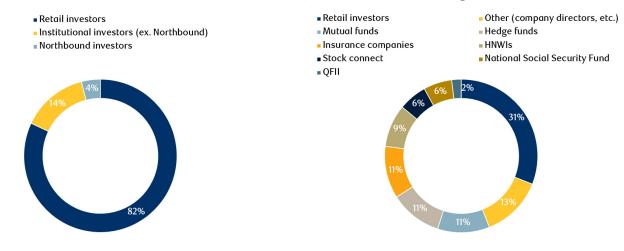
While the momentum is obvious, this shift is still in its early days and recent data show that not much has changed yet in terms of market structure. Retail investors still control 80% of the average value traded in overall onshore markets while holding less than a third of the free-float market cap. Institutional and foreign investors' participation is growing but the market remains relatively unsophisticated and not particularly institutionalised. Other Asian markets that have the highest retail participation include Taiwan and South Korea and these markets show approximately 50%-60% contribution from retail and around 30% from foreign investors. Chinese onshore equities should continue in this direction, provided that we see further meaningful deregulation in future (Exhibit 3).

So where does that put us today? Is the low correlation between Chinese onshore equities and other global equities markets still valid even after these market developments have been set in motion? Does it still offer diversification benefits even as the unique market access and participants structure is changing? We believe so.

Since the Stock Connect and MSCI Index inclusion, the correlation between the MSCI China A Index and global markets has gradually increased and is now at a similar level to that of the MSCI China Index, which include Chinese offshore equities, listed in Hong Kong, the U.S., and other markets. This convergence is not surprising considering the two distinct developments: Chinese onshore equities are becoming more institutionalised, pushing up the correlation of the MSCI China A Index with global markets. MSCI China Index is seeing lower correlation with global markets as it adds more Chinese onshore equities, going from zero in May 2018 to the 12.28% weight it has today.9 We believe that the MSCI China Index will increasingly resemble Chinese onshore equities, because it is likely that MSCI will continue updating its "index inclusion factor" rules (Exhibit 4).10

A more detailed analysis shows that even on a shorter, more recent data set since 2015, the MSCI China Index and the MSCI China A Index are still the best sources of diversification for a global equities investor with average

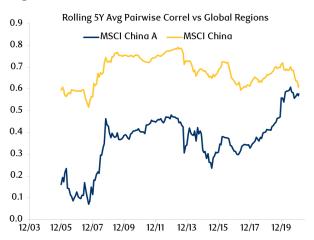
Exhibit 3: China onshore equities market participants by market cap and trading volume



Source: UBS Securities research. Left-hand graph data as at March 2020. Right-hand graph shows the estimated breakdown of trading activities in 2019.

- ⁵ QFII is a legal framework that regulates foreign investment into China. It was launched in 2002 shortly after China joined the WTO. The framework itself has been updated for further liberalization since, e.g. launch of RQFII, removal of quota limits. FTSE Russell (What are QFII and RQFII? | FTSE Russell).
- 6 UBS quantitative research, based on Shenzhen Stock Exchange data. Morgan Stanley research based on Shanghai Stock Exchange data.
- UBS quantitative research.
- ⁸ UBS quantitative research, based on CEIC data as of May 2020.
- 9 MSCI, Bloomberg. Data as of end of April 2021.
- China onshore equities (e.g. A shares) are included in the MSCI China index only at a fifth of its free float market capitalization today when China offshore equities (e.g. H shares, ADRs) are included at its full market capitalisation, due to the different index inclusion factor applied by MSCI. This MSCI inclusion factor for China A shares was updated from 5% initially to 20% today. Historically, we have seen MSCI use these partial inclusion factors with other emerging markets like Taiwan and Korea. February 2019. Further Weight Increase of China A Shares in MSCI Indices.

Exhibit 4: Pairwise market correlation with other regions



Source: Citi research. MSCI China Index and MSCI China A Index. Data as at December, 2020.

pairwise correlation of 64% and 56% respectively. This is lower than any other available alternative, including EM equities. In fact, comparing the correlation with ACWI to the MSCI China Index and the MSCI Emerging Markets Index

respectively using time series data since 2013, we see that the former is consistently lower than the latter over the period. In addition, the MSCI China A Index remains the best source of diversification for an EM equities investor with an average pairwise correlation of 58%, much lower than Latin America at 76% or any of the other available options. The same analysis on a longer data set since 2000 helps to quantify how much correlation between Chinese equities and global markets have increased over that period. China's low correlation levels compared to different regions of the world are quite apparent and very much intact (Exhibit 5 & 6).

Perhaps even more exciting than the diversification benefits is the rich alpha opportunities that China offers as a retail-heavy market with inefficiencies and ample liquidity. Low average pairwise stock correlation or high stock return dispersion within the market show that stocks do not move together and that return outcomes can vary more widely, i.e. a better market set-up for stock pickers to differentiate themselves by selecting winners. Comparing Chinese equities with other global markets over the last 5/10/15 year time horizons on this framework illustrates that China tends to be a better set-up for stock pickers and at least on par with emerging markets (Exhibit 7).

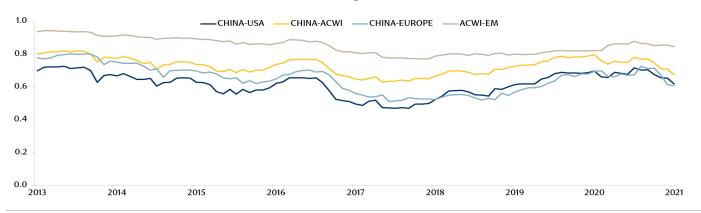
Exhibit 5: Pairwise market correlation with other regions - China

Correlation matrix since 1996 - (December 2000)									Avg pairwise correlation		
	MSCI China A	MSCI China	US	EU	JP	AxJ	LatAm	EMEA	DM	EM	Global
MSCI China A	-	0.59	0.34	0.36	0.28	0.49	0.36	0.34	0.33	0.40	0.36
MSCI China	0.59	-	0.62	0.65	0.53	0.86	0.64	0.69	0.60	0.73	0.67
US	0.34	0.62	-	0.87	0.64	0.75	0.69	0.73	0.76	0.73	0.74
EU	0.36	0.65	0.87	-	0.67	0.79	0.76	0.83	0.77	0.79	0.79
JP	0.28	0.53	0.64	0.67	-	0.61	0.54	0.67	0.65	0.61	0.63
AxJ	0.49	0.86	0.75	0.79	0.61	-	0.77	0.82	0.72	0.80	0.75
LatAm	0.36	0.64	0.69	0.76	0.54	0.77	-	0.85	0.66	0.81	0.72
EMEA	0.34	0.69	0.73	0.83	0.67	0.82	0.85	=	0.74	0.84	0.78

	Correlation matrix since 2015 - (December 2014)								Avg pairwise correlation		
	MSCI China A	MSCI China	us	EU	JP	AxJ	LatAm	EMEA	DM	EM	Global
MSCI China A	-	0.83	0.56	0.52	0.55	0.78	0.46	0.48	0.54	0.58	0.56
MSCI China	0.83	-	0.61	0.60	0.61	0.92	0.50	0.61	0.61	0.68	0.64
US	0.56	0.61	=	0.86	0.82	0.74	0.59	0.72	0.84	0.68	0.75
EU	0.52	0.60	0.86	-	0.85	0.76	0.70	0.81	0.85	0.75	0.79
JP	0.55	0.61	0.82	0.85	=	0.71	0.57	0.70	0.83	0.66	0.73
AxJ	0.78	0.92	0.74	0.76	0.71	-	0.67	0.77	0.74	0.72	0.73
LatAm	0.46	0.50	0.59	0.70	0.57	0.67	-	0.86	0.62	0.76	0.68
EMEA	0.48	0.61	0.72	0.81	0.70	0.77	0.86	=	0.74	0.81	0.77

Source: Citi research. Data as at December, 2000 & December 2014.

Exhibit 6: Pairwise market correlation with other regions - China



Source: UBS research. Data as at January 2021.

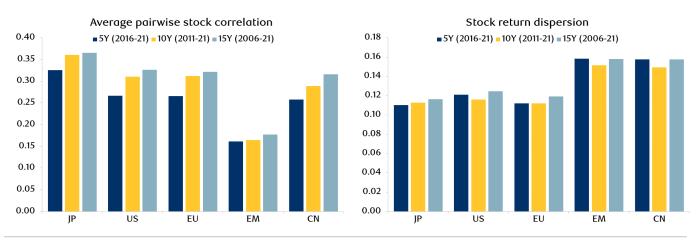
Chinese equities' performance appears to be driven less by (global) macroeconomic factors which can also be supportive for stock picking. Even in recent years, with more foreign investment since the Stock Connect, less than 40% of the variability of Chinese equity market returns can be explained by macro variables, whereas this figure can be as high as 70%-80% in the case of EM or U.S. equities (Exhibit 8). When macro risk is low in a market, active managers have more room to express their views on other risk bets, such as style and stock-specific returns. The Chinese equities market may also be more insulated from external factors and shocks; the heavy retail contribution makes the market less efficient, but it may also support it in times of crisis if domestic sentiment responds positively to the authorities' handling of a situation. 12

We understand that structural change in China is still ongoing. On one hand, foreign investment will likely grow

and make up a meaningfully larger share of the China onshore equities market than the 4% it is at today.¹³ But as the onshore equities market becomes more institutionalised, we need to recognise that the Chinese economy is becoming a salient force of its own, and to some extent less dependent on the global economy.

Chinese champions of the future are less likely to come from government-led infrastructure investments or even low-cost manufacturing exporters. In China, domestic consumption from the growing middle class and the tertiary industry (services) is outpacing other growth drivers. While China's economy has become well integrated into the global economy since it joined the WTO in 2000, in 2020 its service industry was still below 55% of GDP; this is a notable leap from 40% two decades ago but lower than the 70%-80% levels seen in the U.S. or Europe. 14 China already has the world's third largest consumer market after

Exhibit 7: Average pairwise stock correlation and stock return dispersion



Source: UBS research, MSCI Indices. Data as at May, 2021.

¹¹ USB quantitative research.

¹² Alphalytics by Bernstein, 28 October 2020, China – the Nirvana for Active?

¹³ Morgan Stanley estimates foreign ownership of China A shares to increase from 4% today to 10% by the end of next 10 years. Morgan Stanley Research. QuantChina: Enhancing Selection Alpha for Long-Only Strategy. 9 May 2021.

¹⁴ Statista. Data as of February 2021 (China: GDP breakdown by sector | Statista). CIA World Factbook.

Macro risk - China CN CPI YoY 0.45 Ching Fixed Asset Investment China 7 day Repo China Exports CN Industrial Production YoY USD Index 0.40 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00 2011 2012 2014 2017 2010 2013 2018 2015 2016 2019 2020 2021 Macro risk - Emerging Markets 1.0 ■US Yield 2Y ■US Industrial Production YoY ■Gold ■EURO Zone Sovereign Bond Spread ■Crude Oil 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0 2007 -0.1 2011 2015 2016 2019 2020 2008 2010 2012 2013 2014 2017 2021 Macro risk - US ■ USD Index US Yield 2Y ■US Industrial Production YoY ■ US AAA Spread US 2Y-10Y Spread ■ Gold 1.0 ■ EURO Zone Sovereign Bond Spread Crude Oil ■ China Market 0.8 0.6 0.4 0.2 0.0 2008 2010 2015 2018 2011 2012 2013 2014 2016 2017 2021 -0.2

Exhibit 8: Risk contribution from macroeconomic variables by country

Source: UBS research. MSCI China Index, MSCI Emerging Markets Index, MSCI U.S. Index. Data as at January 2021.

the U.S. and Europe but China's aggregate consumption is less than half that of the U.S. despite its population being more than four times the size of the U.S. As such, we see potential for the domestic market to play an increasingly larger role in the Chinese economy. As the domestic market becomes a larger component of growth, China may continue to move on different fundamental drivers to the rest of the world.

In conclusion, we maintain that Chinese equities continue to provide clear diversification benefits for investors

while also being a unique source of alpha. We believe both global equity managers and EM-focused managers should utilise the opportunity that Chinese equities provide rather than being satisfied with indirect exposure to China via allocation in EM or global indices. The alpha opportunities also support a case for approaching China more proactively through a dedicated active manager with a solid investment process in place who can conduct bottom-up research using local insights and can engage directly with company management.

¹⁵ Consumer market by country is estimated based on household final consumption expenditure (HFCE, current USD, 2019) which puts China at USD8tn and the U.S. at USD17.5tn. In contrast, China has a population of 1.4bn and U.S. less than a quarter of that at 328mn, according to 2019 data. World Bank Open Data.

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