Capital Market Assumptions

As of 30 June 2019

Empower Results®

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The China A-shares market on the rise

Institutional investor exposure to Chinese companies has tended to be dominated by offshore companies. While these companies are mostly incorporated in mainland China, they are typically listed on the Hong Kong Stock Exchange (H-shares) or indeed, in the U.S., in the case of American Depository Receipts. H-shares, while providing investor exposure to China equities, form only a relatively small subset of listed Chinese companies. They are dwarfed in size by their A-share counterparts, which are Chinese securities that are incorporated and listed in mainland China and traded in renminbi.

The market capitalization of the A-share market is large, even when we compare across global markets. Had the A-share market been fully included in the global equity opportunity set, its weighting would be close to 14%, close to that of the current combined UK and Japan weights in the MSCI AC World Index.

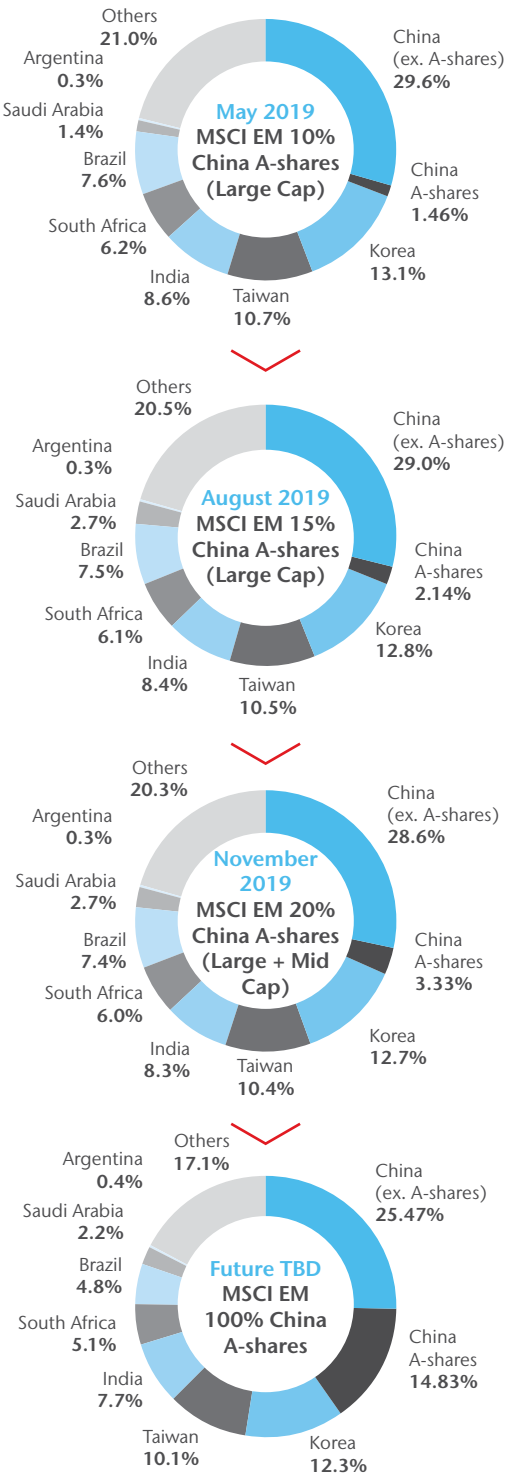
Onshore China equity markets

Share class	Definition	Stock exchange (currency)	Market capitalization ($bn USD)
A	Securities incorporated and listed in mainland China, and traded in RMB	Shanghai (RMB) Shenzhen (RMB)	7,754.00
B	Securities incorporated and listed in mainland China, but traded in either U.S. dollars or Hong Kong dollars	Shanghai (USD) Shenzhen (HKD)	21.94
H	Securities incorporated but listed in Hong Kong and traded in Hong Kong dollars	Hong Kong (HKD)	684.23

Source: Bloomberg, Aon
Note: The above only includes securities incorporated in mainland China and excludes share classes, such as Red-Chips and P-Chips, which are incorporated outside of mainland China but nonetheless provides exposure to the Chinese equity market. It also excludes securities listed overseas (such as ADRs).

Despite the considerably larger opportunity set in the A-share market, international investors have so far been unable to build significant allocations due to restrictions placed on non-domestic ownership. However, in recent years efforts to liberalize capital markets in China have led to greater accessibility for international institutional investors. On the back of this, major index providers such as MSCI, FTSE and S&P, to name a few, have initiated market inclusion processes to reflect improved accessibility. From current low weights in the MSCI Emerging Markets Index (estimated to be c.1.7% as at June 30 2019), the proposed increase of the China A-shares inclusion factor, as well as the addition of mid-cap A-shares stocks, will see an uptick in the A-shares weight to above 3% by the end of 2019. This would add to the existing weight of the offshore market in China, to take the combined weight of China to approximately 32% of the MSCI Emerging Market (EM) Index. Looking further out, MSCI has indicated that A-shares alone could constitute approximately 15% of the MSCI EM Index upon full inclusion, representing the second largest market in the EM index.

Path towards full China A-share inclusion in the MSCI EM Index



Source: MSCI, based on February 2019 Report on "Further Weight Increase of China A-shares in MSCI Index". Indices cannot be invested in directly. Please refer to Appendix for Index Definitions and other General Disclosures.

Even though the process of raising the A-share market's capitalization weighting in global equity indices is gradual (it is highly unlikely that the full $7.7tn will be accessible for investors in the near term), this change is of major importance. It represents a significant change to a passive investor's emerging market portfolio, changing their China allocation substantially. It also represents a sizeable new opportunity set for active managers. The potential to add excess return over benchmark that reflects the current relatively immature state of development in this market is an inducement. Even from passive management flows alone, it is expected that the increase in A-share market's weight to c.15% in the MSCI EM index could bring as much as $322.7bn in new funds to China's on-shore markets.

Reflecting its growing size and importance as we look ahead, some standalone China allocations are starting to be seen in global institutional portfolios and we expect China's representation in global investor portfolios to increase considerably in time. Our new set of capital market assumptions for the China A-share market recognizes this development.

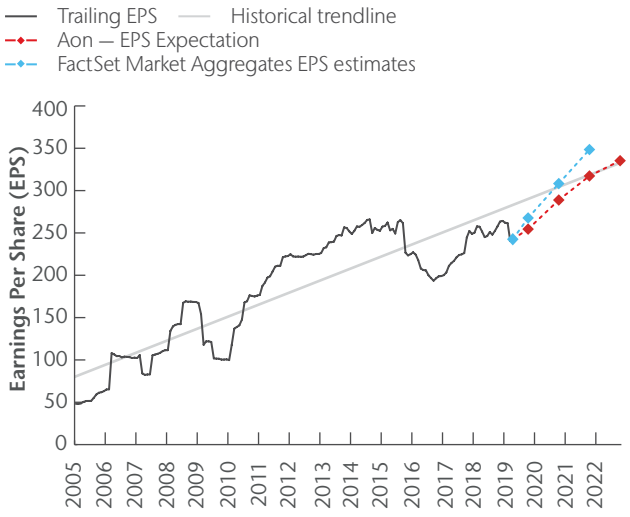
Setting out our return assumptions

In estimating nominal returns over the next ten years, we employ the same framework used for other equity markets thereby ensuring consistency across our other regional equity assumptions. This involves a discounted cash-flow approach whereby we generate a forecasted real (i.e. after inflation) return by discounting the aggregate forecasted real cashflows to shareholders. These are then converted to a nominal return by using our inflation assumptions.

Our starting point, as with our other equity assumptions, is the earnings yield (trailing twelve-month earnings over the current equity market price) which provides the basis for projected earnings over our 10-year time horizon. Rather than assuming that earnings follow a linear long-term trend where growth is constant through the entire horizon, we assume, as with other equity markets, that there is an initial period during which earnings growth will likely deviate from the longer-term growth trend. The rationale behind having a different time path for a near-term horizon is that it allows us the scope to account for cyclicality in earnings. Such cyclicality is important for the full picture on earnings. We only need to look back to the Global Financial Crisis (GFC) where the collapse in earnings was followed by a strong rebound which would have needed to be taken into account in order to avoid over and under-estimating near-term earnings growth, respectively, going through the 2007–10 period. Our initial period earnings (we look at earnings per share or EPS)

growth is derived from consensus estimates which are then assumed to revert to long-term real trends as reflected in the chart below.

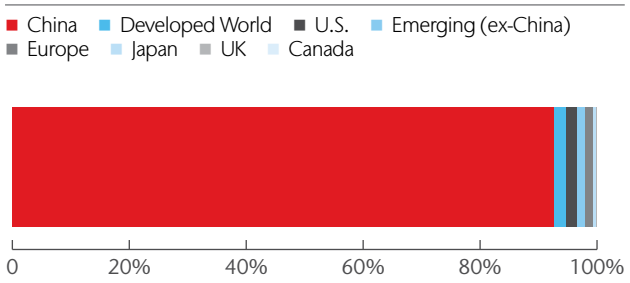
Our near-term earnings expectations do not solely rely on consensus or historic trends



Source: FactSet, Aon as of June 2019

Long-term earnings growth, by contrast, does not exhibit any cyclicality under our assumption process and is related to real GDP growth. Of course, companies do not solely operate and generate revenue from their domestic market and, as such, we do not assume a one-to-one relationship between a country's growth rate and the long-term earnings growth potential of companies listed on each respective stock markets, as reflected by the geographic revenue chart below. An exception could, of course, be made for China A-shares market which is more domestically-focused than other markets. Nonetheless, to ensure consistency with our other assumptions, our long-term earnings growth assumption is based on our usual accounting for the geographic distribution of earnings of the China A-shares market. As such, it is a combination of regional GDP growth rates, shown below, which gives us a GDP-derived growth rate of 4.6%, a little lower than the expected long-term China GDP growth rate of 4.8%

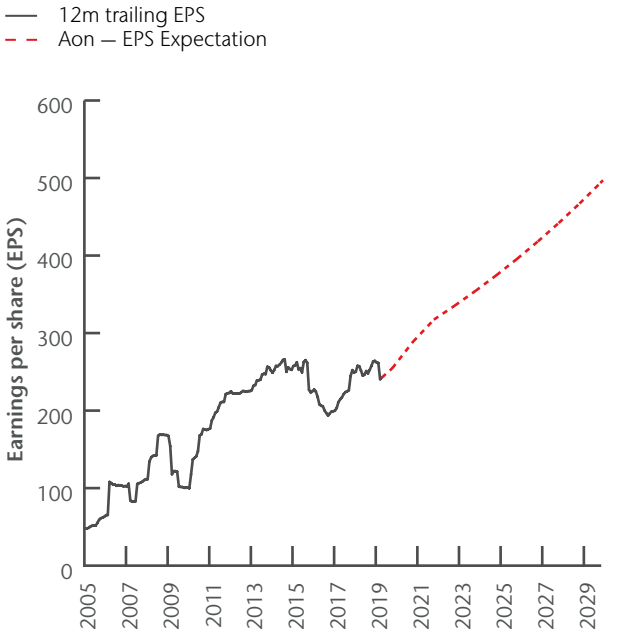
MSCI China A-Share Index underlying revenue exposure by region



Source: FactSet as of June 2019
Indices cannot be invested in directly. Please refer to Appendix for Index Definitions and other General Disclosures

We recognise that the linkage between investor returns and GDP growth, while directionally right, will not necessarily be close, and even less so in emerging markets like China. We allow for some leakage from GDP to corporate earnings in all our equity market assumptions. Here, to allow for emerging market characteristics of challenged corporate governance, there is an adjustment to shareholder payouts which are assumed to be smaller than for more mature markets. This gives us an implied sustainable payout ratio for earnings. Our sustainable payout ratio is the historical median payout ratio for the MSCI China A-shares which is currently assumed to be 32% for the China A-shares market, significantly lower than developed markets and also a little lower than global emerging markets as a whole (excluding A-shares).

Combining our initial and long-term earnings expectations



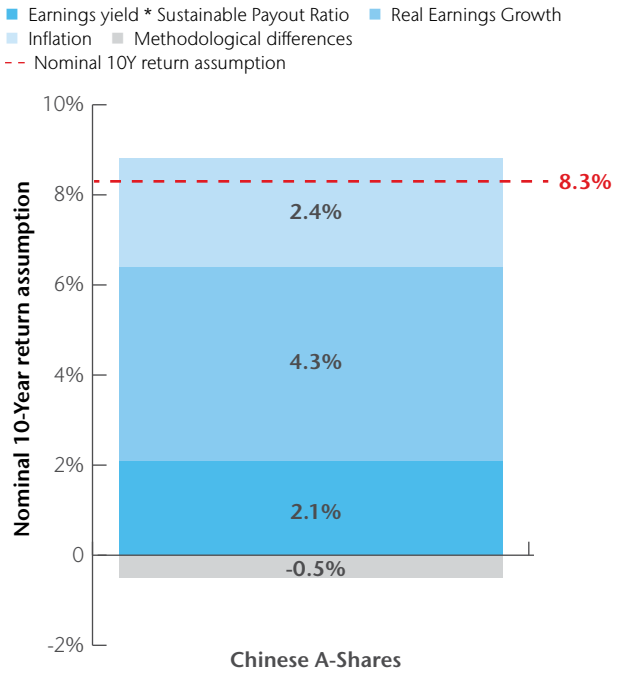
Source: FactSet, Aon as of June 2019

Bringing it all together

Using these building blocks (earnings yield, initial earnings growth, long-term earnings growth, geographical attribution of earnings, sustainable payout ratio) our expected return assumption is formulated using a discounted cashflow analysis for the China A-shares market over a 10-year period. This methodology brings us to a return assumption in real terms which we convert into nominal returns using our inflation assumptions. The chart below shows the inputs and aggregate assumption for China A-shares. Note, however, that our equity assumptions are generated using a discounted cashflow (DCF) approach rather than a building-block approach, which although utilises the same inputs to generate a simple equity return approximation, is a fundamentally different methodology. As such, this can

lead to non-negligible differences relative to our assumption but does provide some insight as to what factors are driving return assumptions which are difficult to attribute under our current DCF approach.

Illustrative building blocks for the China A-shares return assumption as of June 30 2019



Source: Aon

Note: Expected returns are using Aon's Q3 2019 10-Year Capital Market Assumptions as of 6/30/2019 which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. Indices cannot be invested in directly. Please refer to Appendix for Index Definitions, Capital Market Assumptions and other General Disclosures.

Volatility

In our capital market assumptions' methodology on volatility we make some forward-looking assessments, but an important element is also to look at broader market views and expectations on volatility. We tend to use implied option volatility to garner an indication of the market's view of expected volatility in the future. However, given the lack of available implied option volatility pricing for China A-shares we use an alternative approach that we already use for emerging market equities in the form of a volatility premium to developed markets to allow for the continued tendency of these markets to behave differently from more mature markets as they pass through market cycles.

Having looked at rolling three and ten-year standard deviations of the China A-share market and other equity markets, we see a substantial volatility premium over developed markets and even emerging markets too, as the table below highlights. That said, even though absolute volatility remains high, the trend is for the A-share market to have become a little less volatile over time, a process which should, on the whole, continue with greater maturity and improved access over the next decade. Our current 10-year volatility assumption of the China A-share market is 34% vs 27% for emerging markets. This is a volatility premium of 7% relative to global emerging markets, 16% vs Global Developed Non-U.S. Equity and 17% vs US Large Cap Equities. As the table shows, this is in line with the historical median difference in 10-year annualised volatility between China A-shares and other equity regions. We have not attempted at this stage to allow for a significant reduction in China A-shares market volatility but given China's fast changing market character this assumption will have to be reviewed periodically.

China A-shares Volatility Premium

Country	Historical differential relative to China A-shares* (A)	10-year Aon volatility assumption (B)	Implied China A-Shares equity volatility assumption (A+B)
World Equity	15.5%	18.5%	34.0%
Large Cap U.S. Equity	16.9%	17.0%	33.9%
Emerging Markets Equity	7.9%	27.0%	34.9%

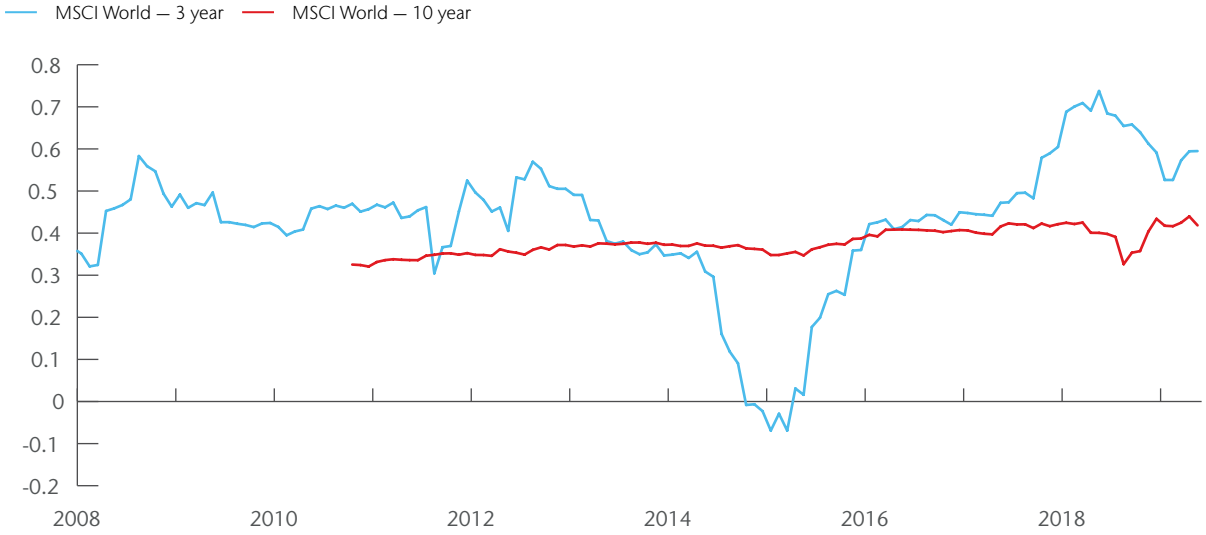
Source: FactSet, Aon as of June 2019

* Calculated as the difference between the median of 10-year rolling volatilities of the respective equity markets relative to the median of the 10-year rolling volatility of the MSCI China A-Shares index. Please refer to Appendix for Index Definitions and other General Disclosures.

How attractive do China A-shares look?

On a normal risk-return basis, the higher volatility in the A-share market lowers its relative attractiveness versus other equity markets, reducing the portfolio value of the higher expected returns in this market. That said, the assumed co-movement (correlations) between China and developed markets is lower relative to other emerging markets reflecting its hitherto closed status. This provides some diversification[1] scope and its related benefits. However, we would expect this portfolio benefit to dwindle gradually as the market becomes more accessible over time. This has, indeed, been the recent trend with the three-year rolling correlation between developed markets and the A-shares market higher than ten-year rolling correlation, as demonstrated in the chart below.

Rolling correlation with MSCI China A Onshore Index



Source: FactSet, Aon as of June 2019
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1 Diversification does not ensure a profit nor does it protect against loss of principal. Diversification among investment options and asset classes may help to reduce overall volatility.

Inflation

	USD	GBP	EUR	CHF	CAD	JPY
Consumer Price Index (CPI) Inflation (10-year assumption)	2.1%	2.1%	1.7%	1.2%	1.9%	1.1%
Retail Price Index (RPI) Inflation (10-year assumption)	–	3.0%	–	–	–	–

Source: Aon's Capital Market Assumptions. Please see the appendix for more information.
Note: The Consumer and Retail Price Indices are used as measures of inflation of consumer and retail prices, respectively. They are constructed using the weighted average of prices of a basket of goods and services.

Despite relatively tight labor markets across most developed economies, inflation has failed to accelerate in a meaningful way. Instead they may limit the extent of price level moves in the future. Indeed, this has been reflected in consensus expectations of inflation in major economies over the next two years where the global reduction in inflationary pressures has led to downward revisions. On the back of these changes, we too, have lowered our near-term inflation expectations for most of the regions we cover. Looking further ahead, we have also reduced our long-term inflation expectations for the U.S., Canada, Japan and Australia in line with the revisions made in the consensus outlooks. Long-term inflation in Switzerland, on the other hand, has now been raised by 0.1% to 1.2%. This increase and the reduction in our Japanese inflation estimate has now meant that Switzerland no longer has the lowest inflation assumption. Although there has been no announcement by the UK Treasury office in their evaluation of the existing RPI methodology, we have taken the decision to reduce both our near-term and long-term RPI inflation assumption by 0.1%. Consequently, this has the effect of lowering the implicit "RPI-CPI wedge" to 1%. Aside from these changes, our longer-term inflation assumptions were unchanged from last quarter.

Of the countries considered, we believe persistent systemic deflationary pressures in Japan and Switzerland are likely to result in inflation undershooting the respective central bank targets over the 10-year horizon. For the U.S., UK, Canada and Europe, long-term inflation is expected to be at or near the respective central bank inflation targets. Note the European Central Bank adopts an asymmetric inflation target of below (but close to) 2%.

Fixed income government bonds

10-year annualized nominal return assumptions

		USD	GBP	EUR	CHF	CAD	JPY
U.S.	5yr	2.0%	2.0%	1.6%	1.1%	1.8%	1.0%
	15yr	2.6%	2.6%	2.3%	1.8%	2.5%	1.6%
UK	5yr	0.8%	0.7%	0.4%	-0.1%	0.6%	-0.2%
	15yr	1.2%	1.2%	0.9%	0.4%	1.0%	0.2%
Eurozone	5yr	0.2%	0.2%	-0.1%	-0.6%	0.1%	-0.8%
	15yr	0.8%	0.8%	0.4%	-0.1%	0.6%	-0.2%
Switzerland	5yr	0.3%	0.2%	-0.1%	-0.6%	0.1%	-0.8%
	15yr	0.8%	0.7%	0.4%	-0.1%	0.6%	-0.3%
Canada	5yr	1.4%	1.4%	1.1%	0.6%	1.3%	0.4%
	15yr	2.5%	2.4%	2.1%	1.6%	2.3%	1.4%
Japan	5yr	0.8%	0.7%	0.4%	-0.1%	0.6%	-0.2%
	15yr	1.2%	1.1%	0.8%	0.3%	1.0%	0.1%

Source: Aon's Capital Market Assumptions. Please see the appendix for more information.
In our assumptions, we take French bonds to represent eurozone bonds.

Global government bond yields continued their slide to lower levels over the second quarter of 2019. Yet again, this was pervasive across developed markets with yields largely moving in line with each other. There were three main drivers that sent yields lower over the quarter: a downshift in the global economic outlook, lower inflation expectations and growing expectations that central banks would ease monetary policy. Although there was no change to the Federal Funds rate over the quarter, there was clear signalling of lower rates to come at the Federal Open Market Committee (FOMC) meeting in June with Fed chairman Powell even commenting that "an ounce of prevention is worth a pound of cure". On the back of this dovish twist, U.S. yields fell across the curve but most notably at the short end which led to a steepening of the yield curve. This has led to a 0.4% reduction in our U.S. government bond return assumptions. This was matched by the 0.4% decrease in our long-term Eurozone and Swiss assumptions. While the European Central Bank (ECB) also shifted to a more dovish stance with the statement that more easing is achievable, unlike the U.S. yield curve the Eurozone curve flattened as long-term yields fell more than shorter-term bond yields. As a result, there was a larger relative reduction in our long-duration government bond assumptions for the Eurozone.

The Japanese yield curve also flattened over the quarter but while our long-duration return assumption is now 0.2% lower, our short-duration assumption is unchanged. In the UK, the pick-up in gilt yields early in the quarter was completely reversed by late June with yields moving closer to near-2019 lows. Rather than being largely tied to the progress of Brexit negotiations, most of the fall in UK gilt yields appeared to be globally-driven. Overall, both short and long-duration government bond assumptions have been lowered. A parallel shift down in the Canadian yield curve has seen both short and long-duration assumptions fall by 0.2%. This was despite the Bank of Canada intimating that unlike other central banks there were no intentions to ease monetary policy imminently.

In our assumptions, we take French bonds to represent eurozone bonds as we want to ensure consistency between the nominal and inflation-linked government bond returns and there is a reasonably liquid market in French inflation-linked bonds. Our calculation of a weighted average eurozone government bond yield leads to a figure that is slightly higher than the yield on French government bonds. Our analysis therefore supports the use of French bonds as a proxy for eurozone bond portfolios, where these portfolios do not have a large exposure to the higher-yielding periphery.

Inflation-linked government bonds

10-year annualized nominal return assumptions

		USD	GBP	EUR	CHF	CAD	JPY
U.S.	5yr	2.5%	2.5%	2.1%	1.6%	2.3%	1.5%
	10yr	2.6%	2.6%	2.2%	1.7%	2.4%	1.6%
UK	5yr	0.6%	0.6%	0.3%	-0.2%	0.5%	-0.4%
	15yr	0.3%	0.3%	-0.1%	-0.5%	0.1%	-0.7%
Eurozone	5yr	1.3%	1.2%	0.9%	0.4%	1.1%	0.2%
	10 yr	1.3%	1.2%	0.9%	0.4%	1.1%	0.2%
Canada	5yr	–	–	–	–	–	–
	15yr	2.2%	2.2%	1.8%	1.3%	2.0%	1.2%

Source: Aon's Capital Market Assumptions. Please see the appendix for more information.
In our assumptions, we take French bonds to represent eurozone bonds.

In general, inflation-linked yields fell over the quarter but not in line with the move down in nominal yields. Although yields only fell slightly over the quarter, the slope of the UK inflation-linked yield curve flattened significantly over the quarter which together with a fall in our RPI inflation outlook has driven our return assumptions 0.2% lower. U.S. inflation-linked government bond return assumptions declined in line with the fall of the U.S. inflation-linked yield curve. There was also the 0.1% reduction in the long-term inflation expectation in the U.S. which impacted the assumption. Eurozone inflation expectations are unchanged since last quarter which has meant there has been more muted movement (down only 0.1%) in both our short and long-duration European inflation-linked government bond return assumptions. This was despite an uptick in short-duration yields as the slope of the inflation-linked yield curve flattened considerably. Our Canadian inflation-linked bond return assumption has also decreased by 0.1% but this driven by the fall in our inflation expectations.

We have taken French bonds to represent eurozone bonds partly because there is a reasonably liquid market in French inflation-linked bonds. Our analysis of nominal government bonds also suggests that French bonds are a reasonable proxy for eurozone government bonds, so we make the same assumption here for consistency. The bonds represented are linked to eurozone inflation.

We formulate return assumptions for 10-year U.S. and eurozone inflation-linked government bonds rather than 15-year bonds. This is because we think the absence of inflation-linked bonds at the longest durations in these markets can lead to misleading 15-year bond return assumptions. We no longer publish a five-year-duration Canadian inflation-linked government bond assumption due to the lack of short-duration bonds in this market.

Investment grade corporate bonds

10-year annualized nominal return assumptions

		USD	GBP	EUR	CHF	CAD	JPY
U.S.	5yr	2.7%	2.7%	2.3%	1.8%	2.5%	1.7%
	10yr	3.1%	3.1%	2.7%	2.2%	2.9%	2.1%
UK	5yr	1.5%	1.4%	1.1%	0.6%	1.3%	0.4%
	10yr	1.7%	1.7%	1.3%	0.8%	1.5%	0.7%
Eurozone	5yr	0.6%	0.6%	0.2%	-0.3%	0.4%	-0.4%
	10yr	0.8%	0.8%	0.4%	-0.1%	0.6%	-0.2%
Switzerland	5yr	0.7%	0.7%	0.3%	-0.2%	0.5%	-0.3%
	10yr	1.0%	1.0%	0.6%	0.1%	0.8%	0.0%
Canada	5yr	2.5%	2.5%	2.1%	1.6%	2.3%	1.5%
	10yr	3.3%	3.3%	2.9%	2.4%	3.1%	2.3%
Japan	5yr	1.1%	1.1%	0.7%	0.2%	0.9%	0.1%
	10yr	1.2%	1.2%	0.8%	0.3%	1.0%	0.2%

Source: Aon's Capital Market Assumptions. Please see the appendix for more information.

Corporate bond returns depend on both a government yield component and a credit spread component but also account for losses arising from defaults and bonds being downgraded. The lead article in Aon's 31 December 2017 *Capital Market Assumptions* publication discusses our investment grade corporate bond methodology in more detail, while the 30 June 2015 publication sheds more light on defaults and downgrades as two potential drivers of credit losses.

Since last quarter, our corporate bond return assumptions are lower across the board. The dominant driver of the decline in our assumptions was the decrease in our underlying government bond assumptions. To a lesser extent, the narrowing in credit spreads also contributed to the reduction in our assumptions. The largest fall within our investment-grade corporate bond return assumptions was long-duration U.S. corporate bonds which fell by 0.5% due to the underlying fall in government bond return assumptions and a narrowing in spreads. Eurozone and Swiss credit spreads moved slightly higher over the quarter and partially offset the fall in underlying government bond yields. As such, the return expectations for both markets have fallen by less than our nominal government bond return assumptions.

U.S. high yield debt and emerging market debt

Unlike the investment-grade corporate bond market where credit spreads tightened over the second quarter, spreads on high yield debt rose slightly. However, this was spread widening was not sufficient enough to offset the fall in the underlying government bond return. As such, we now expect U.S. high yield debt to return 4.0% p.a. over the next 10 years — a decrease of 0.3%. No changes were made to our default and downgrade expectations. It is worth noting that our high yield debt assumption already incorporates an expectation that defaults will be consistently higher in the future than the very low levels seen in recent years. The lead article in Aon's 31 December 2015 *Capital Market Assumptions* publication discusses the high yield assumption in more detail.

Similarly, the decrease in our U.S. government bond return assumptions have driven our return expectations for USD-denominated emerging market debt lower to 4.2%, slightly above our assumptions for high yield debt. Although both detracting at the margin respectively, the combined contribution of lower spreads and a slight uptick in our provisions for default and downgrade losses put further downward pressure on our assumption.

Equities

10-year annualized nominal return assumptions

	USD	GBP	EUR	CHF	CAD	JPY
U.S.	6.2%	6.2%	5.8%	5.3%	6.0%	5.1%
UK	6.7%	6.7%	6.3%	5.8%	6.5%	5.7%
Europe ex UK	6.8%	6.8%	6.4%	5.9%	6.6%	5.7%
Switzerland	6.0%	6.0%	5.7%	5.1%	5.9%	5.0%
Canada	6.4%	6.3%	6.0%	5.4%	6.2%	5.3%
Japan	7.0%	6.9%	6.6%	6.0%	6.8%	5.9%
Emerging Markets	7.9%	7.9%	7.5%	7.0%	7.7%	6.8%

Source: Aon's Capital Market Assumptions. Please see appendix for more information.

Our equity return assumptions are driven by current market valuations, earnings growth expectations, and assumed payouts to investors. The price you pay is one of the biggest drivers of returns, even over the long term. Looking back at recent experience, strong equity market performance has been driven more by increasing valuations than by increasing profits.

Despite being rattled by concerns of slowing global growth and escalating trade fears, most regional equity markets ended the quarter up overall. Equities found support late in the quarter from signs of increasingly accommodative central banks as well as positive steps made in resolving the U.S.-China trade dispute. The general market appreciation has put downward pressure on our return assumptions for most of the equity regions we cover. The exceptions to this are Canadian, UK and Swiss equities. Although all three saw valuations increase, and thereby detract from return expectations, they were all offset by positive earnings revisions. The UK and Canadian equity assumptions are unchanged at 6.7% and 6.2%, respectively. Meanwhile an increase to our inflation assumption provided additional impetus to our Swiss equity assumption, which is now 0.1% higher at 5.1% but nonetheless remains our lowest returning equity region.

The rest of our developed market equity assumptions are 0.1% lower. Market appreciation over the quarter was a common factor behind the downward revisions apart from Japanese equities which fell slightly over the quarter. However, downward revisions to our earnings growth forecast and, to a lesser extent, inflation expectations more than offset the upward pressure from lower valuations in Japan. The same cannot be said for the U.S. equity return assumption which moved lower due to market appreciation and downward revision to our inflation assumptions, which slightly higher earnings growth expectations could only marginally offset. A combination of weaker earnings expectations, lower inflation assumption and market appreciation put downward pressure on our Eurozone equity assumption.

Similar to the prior quarter, equity markets in general have re-rated with market appreciation driven predominantly by valuation expansion rather than changes to earnings growth. As a result, U.S. equity valuations are now valued at 17.5 times our 2019 earnings assumption as at June 2019. In a similar vein, our lower European (ex-UK) equity return assumption came amid higher valuations, with the European market trading at 12.3 times our 2019 earnings assumption. Despite higher earnings growth expectations, valuations on UK equities have also increased from 12.5 to 12.7 times our 2019 earnings assumption.

Emerging market equity underperformance relative to developed markets persisted into the second quarter of 2019. EM equities dipped slightly lower over the quarter but the strong downward revisions to our earnings growth expectations more than offset any boost to our return estimates from market depreciation. As a result, our return assumption for EM equities is now 0.2% lower at 7.9%.

The earnings growth component of our equity return assumptions comprises both near-term and longer-term elements. While our Capital Market Assumptions process typically involves using consensus inputs, for some time we have believed that the consensus of analysts' forecasts has been unrealistically optimistic regarding near-term earnings growth prospects. Unlike analysts, against a backdrop of weak global growth, we do not expect company profit margins to increase from their already elevated levels. For this reason, we

have developed our own in-house corporate earnings paths, which has led to lower growth assumptions than forecast by the consensus. Not being influenced by short-term market sentiment, our near-term earnings growth assumptions have been relatively stable overall in contrast to consensus expectations, which have varied far more.

In the long term, we assume that companies' earnings growth is related to GDP growth. Crucially, we do not assume a one-to-one relationship between a country's growth rate and the long-term earnings growth potential of companies listed on the stock market within that country. We apply this strategy because many companies are international in nature and derive earnings from regions outside of where they have a stock market listing. An implication is that European company earnings have only about a 50% direct exposure to developments in the eurozone and, similarly, investors in non-European equity markets should not consider themselves insulated from events there, either. It is also notable that emerging markets are an important driver of profits earned in the developed world.

Private equity

As a reminder of our underlying private equity methodology, the assumption represents a diversified private equity portfolio with allocations to leverage buyouts (LBOs), venture capital as well as mezzanine and distressed investments. Compared to the previous quarter's publication, our expected returns for U.S. equities and U.S. high yield debt have both decreased. Despite the lower equity and high yield return expectations, our LBOs strategy return assumption has increased due to the lower cost of debt financing while our strategies have seen their return estimates lowered since last quarter. Given the greater weighting of LBOs strategy in our overall private equity assumption (representing over half of the global private equity assumption), we consequently assume that global private equity will return 8.7% per annum over the next 10 years in U.S. dollar terms—an increase of 0.1% from the previous quarter. The global private equity assumption represents a diversified private equity portfolio with allocations to leveraged buyouts (LBOs) and venture capital, as well as mezzanine and distressed investments. Return expectations for these different strategies depend on different market factors. For example, distressed investments are influenced by the outlook for high yield debt and so receive a boost from higher return expectations in this area. Similarly, LBO returns are influenced by the outlook for equity markets, as well as the cost of the debt used to finance these LBOs. Notwithstanding this, whereas in the past leverage has been a big driver of private equity returns—particularly for LBOs—in the future, managers' ability to add value through operational improvements will become more important.

Real estate

10yr annualized nominal return assumptions

	USD	GBP	EUR	CHF	CAD	JPY
U.S.	5.1%	5.1%	4.7%	4.2%	4.9%	4.1%
UK	5.3%	5.3%	4.9%	4.4%	5.1%	4.2%
Europe ex UK	5.4%	5.4%	5.0%	4.5%	5.2%	4.3%
Canada	4.6%	4.6%	4.2%	3.7%	4.4%	3.6%

Source: Aon's Capital Market Assumptions. Please see appendix for more information.

For the third successive quarter, the uncertain Brexit backdrop (exacerbated by the more aggressive No-Deal stance taken by the new UK government) weighed on the UK property market with property values falling further while rental growth expectations continue to detract from our return estimates. Nonetheless, higher initial yields, driven by lower property values, translated to a 0.1% increase in our UK real estate return expectation to 5.3%. Similar to the UK, higher initial yields supported a 0.1% increase in our European real estate assumption to 5.0%. Lower inflation assumptions negatively impacted our expectations for U.S. and Canadian real estate. Both of which are 0.1% lower from last quarter as marginal rental/income growth was offset by lower initial yields.

Our assumptions here are based on a large fund that is capable of investing directly in real estate. The assumptions relate to the broad real estate market in each region rather than any particular market segment. Our analysis allows for the fact that real estate is an illiquid asset class and revaluations can be infrequent, leading to lags in valuations compared with trends in underlying market value. These assumptions do not include any allowance for active management alpha but do include an allowance for the unavoidable costs associated with investing in a real estate portfolio. These include real estate management costs, trading costs, and investment management expenses.

Hedge funds

Our fund of hedge funds return assumption return is 0.3% lower at 3.5% p.a. in U.S. dollar terms. Lower return assumptions across the board (equities, credit, government bonds and LIBOR) contributed to the decline in our return estimates. We formulate this by combining the return assumptions for a number of representative hedge fund strategies. This assumption includes allowances for manager skill and related fees (including the extra layer of fees at the fund of funds level), and this is for the average fund of funds in the hedge fund universe rather than for a high-performing manager. Dispersion in returns is high, and we expect top-quartile managers to deliver considerably better performance.

As explained in the lead article in Aon's 30 September 2015 *Capital Market Assumptions* publication, our analysis allows for the fact that hedge fund managers have been unable to deliver the high levels of "alpha" they did in the more distant past and that alpha generation is likely to remain challenging moving forward.

The individual hedge fund strategies we model as components of our fund of hedge funds' assumption are equity long/short, equity market neutral, fixed income arbitrage, event-driven, distressed debt, global macro, and managed futures.

Our modeling of these strategies includes an analysis of their underlying building blocks. For example, we consider the fact that equity long/short funds are sensitive to equity market movements. In practice, the sensitivity of equity long/short funds to equity markets can vary substantially by fund with some behaving almost like substitutes for long-only equity managers, while others retain far lower exposure. Our assumptions are based on our assessment of the average sensitivity across the entire universe of equity long/short managers.

Given the nature of the asset class, our hedge fund return assumptions are more stable than, for example, our U.S. equity return assumption. Nonetheless, the strategies are impacted by changes to the other asset class assumptions. For example, most hedge funds are "cash+" type investments to a greater or lesser extent, so changes in return expectations for cash will contribute to hedge fund assumptions. Similarly, changes to our equity and high yield return assumptions influence expected returns for those strategies that are related to these markets, such as equity long-short and distressed debt strategies.

Volatility

15yr Inflation-Linked Government Bonds	9.0%
15yr Fixed Income Government Bonds	11.0%
10yr Investment Grade Corporate Bonds	9.0%
Property/Real Estate	12.5%
U.S. High Yield	12.0%
Emerging Market Debt (USD denominated)	13.0%
UK Equities	19.0%
U.S. Equities	17.0%
Europe ex UK Equities	19.0%
Japan Equities	20.0%
Canada Equities	19.0%
Switzerland Equities	19.0%
Emerging Market Equities	27.0%
Global Private Equity	25.0%
Global Fund of Hedge Funds	9.0%

Source: Aon's Capital Market Assumptions.
Please see appendix for more information.

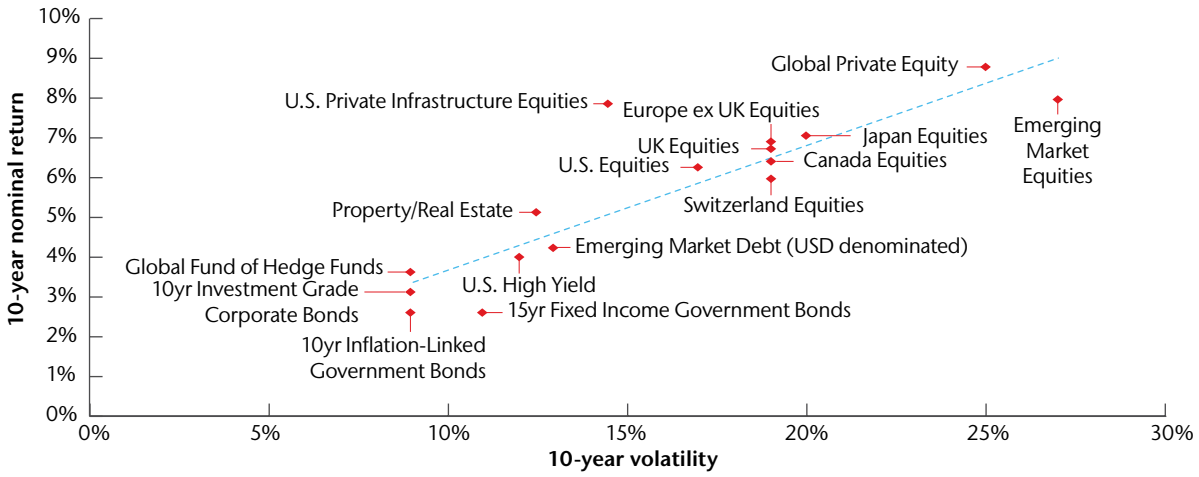
Historically, forward-looking indicators and our view on the economic cycle all play a role in our volatility assumption-setting process, and the volatilities in the table above are representative of each asset class over the next 10 years overall. For illiquid asset classes, such as real estate, de-smoothing techniques are employed. All volatilities shown above are in local currency terms. For emerging market equities, global private equity, and global fund of hedge funds, the local currency is taken to be USD.

Please note that due to the level of yields and shapes of the yield curves in Japan and Switzerland, lower volatility assumptions apply to bond investments in these markets. This is because as yields fall toward 0% (or even below), the potential for further significant declines becomes more limited and this limits volatility—although clearly the risk of upward moves remains high.

Risk and return

The chart below plots our risk and return assumptions for a selection of asset classes that are covered as part of our Capital Market Assumptions. These asset classes are shown from a U.S. perspective and as such, all returns are quoted in U.S. dollar terms.

Risk–return based on Q3 2019 Capital Market Assumptions



Source: Aon's Capital Market Assumptions as of June 30 2019. Please see the appendix for more information.

Correlations

	IL	FI	CB	RE	UK Eq	U.S. Eq	Eur Eq	Jap Eq	Can Eq	CHF Eq	EM Eq	Gbl PE	Gbl FoHF
IL	1	0.5	0.4	0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1
FI		1	0.8	0.1	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	0	-0.2
CB			1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0.1
RE				1	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3
UK Eq					1	0.85	0.85	0.7	0.85	0.85	0.8	0.6	0.7
U.S. Eq						1	0.85	0.7	0.85	0.85	0.8	0.7	0.8
Eur Eq							1	0.7	0.85	0.85	0.8	0.6	0.7
Jap Eq								1	0.7	0.7	0.6	0.4	0.5
Can Eq									1	0.8	0.8	0.6	0.7
CHF Eq										1	0.8	0.6	0.7
EM Eq											1	0.6	0.7
Gbl PE												1	0.5
Gbl FoHF													1

- Domestic Inflation-Linked Government Bonds
- Domestic Fixed Income Government Bonds
- Domestic Investment Grade Corporate Bonds
- Domestic Real Estate / Property
- UK Equities
- U.S. Equities
- Europe ex UK Equities
- Japan Equities
- Canada Equities
- Switzerland Equities
- Emerging Market Equities
- Global Private Equity
- Global Fund of Hedge Funds

Source: Aon's Capital Market Assumptions. Please see appendix for more information.

The matrix above sets out representative correlations assumed in our modelling work, shown on a rounded basis. All correlations shown above are in local currency terms and can be used by UK, U.S., European, Canadian, and Swiss investors for the asset classes where return and volatility assumptions exist (e.g., Swiss real estate is not modeled). A different set of correlations apply for Japanese investors.

Correlations are highly unstable and vary greatly over time. This feature is captured in our modeling, where we employ a more complex set of correlations involving different scenarios.

Our correlations are forward-looking and not just historical averages. In particular, we think that in many ways the experience of this millennium has been quite different from the previous 20 years, being more cyclical in nature with less strong secular trends. This has many implications. For example, the equity/government bond correlation in the table above is negative, which also incorporates the feature that this correlation is negative in stressed environments. The lead article in Aon's 30 June 2014 *Capital Market Assumptions* publication included further detail on the drivers of the equity/government bond correlation.

Appendix: Capital Market Assumptions methodology

Overview

Aon's Capital Market Assumptions are our asset class return, volatility, and correlation assumptions. The return assumptions are "best estimates" of annualized returns. By this, we mean median annualized returns—that is, there is a 50/50 chance that actual returns will be above or below the assumptions. The assumptions were developed by Aon's Global Asset Allocation Team and represent the long-term capital market outlook (i.e., 10 years) based on data at the end of the second quarter of 2019. CMAs contain projections about future returns on asset classes. These do not assume additional alpha for active management strategies within these asset classes, and are modeled to represent a low nominal fee passive index, with the exception of hedge funds, real estate and private equity, where traditional passive investments are not available. Therefore, the model assumptions for theses asset classes include a higher model fee impact. You cannot invest in an asset class directly, or within the model asset classes assumed within the CMAs. Expected returns are geometric (long-term compounded; rounded to the nearest decimal). Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. Should you have any queries regarding the methodology behind our assumptions, please direct them to one of our specialists. Please consult the Contacts page towards the end of this document for their contact information.

Material uncertainty

Given that the future is uncertain, there is material uncertainty in all aspects of the Capital Market Assumptions, and the use of judgment is required at all stages in both their formulation and application.

Allowance for active management

The asset class assumptions are assumptions for market returns—that is, we make no allowance for managers outperforming the market. The exceptions to this are the private equity and hedge fund assumptions where, due to the nature of the asset classes, manager performance needs to be incorporated in our Capital Market Assumptions. In the case of hedge funds, we assume average manager performance; for private equity, we assume a high-performing manager.

Inflation

When formulating assumptions for inflation, we consider consensus forecasts, as well as the inflation risk premium implied by market break-even inflation rates.

Fixed income government bonds

The government bond assumptions are for portfolios of bonds that are annually rebalanced (to maintain constant duration). This is formulated by stochastic modeling of future yield curves.

Inflation-linked government bonds

We follow a process similar to that for nominal government bonds, but with projected real (after inflation) yields. We incorporate our inflation profiles to construct nominal returns for inflation-linked government bonds.

Corporate bonds

Corporate bonds are modeled in a manner similar to government bonds but with additional modeling of credit spreads and projected losses from defaults and downgrades.

Other fixed income

Emerging market debt and high yield debt are modeled in a manner similar corporate bonds by considering expected returns after allowing for losses from defaults and downgrades.

Equities

Equity return assumptions are built using a discounted cashflow analysis. Forecast real (after inflation) cashflows payable to investors are discounted, and their aggregated value is equated to the current level of each equity market to give forecast real (after inflation) returns. These returns are then converted to nominal returns using our 10-year inflation assumptions.

Private equity

We model a diversified private equity portfolio with allocations to leveraged buyouts and venture capital, as well as mezzanine and distressed investments. Return assumptions are formulated for each strategy based on an analysis of the exposure of each strategy to various market factors with associated risk premia.

Real estate / property

Real estate returns are constructed using a discounted cashflow analysis similar to that used for equities but allowing for the specific features of these investments, such as rental growth.

Hedge funds

We construct assumptions for a range of hedge fund strategies (e.g., equity long/short, equity market neutral, fixed income arbitrage, event-driven, distressed debt, global macro, managed futures) based on an analysis of the underlying building blocks of these strategies.

We use these individual strategies to formulate a fund of hedge funds assumption that is quoted in the Capital Market Assumptions.

Currency movements

Assumptions regarding currency movements are related to inflation differentials.

Volatility

Assumed volatilities are formulated with reference to implied volatilities priced into option contracts of various terms, historical volatility levels, and expected volatility trends in future.

Correlations

Our correlation assumptions are forward-looking and result from in-house research that looks at historical correlations over different time periods and during differing economic/investment conditions, including periods of market stress. Correlations are highly unstable, varying greatly over time. This feature is captured in our modelling.

Appendix: Index definitions

MSCI AC World Index — MSCI All Country World Index

A capitalization-weighted index of stocks representing 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

MSCI China A-Shares index

The MSCI China A Index measures large and mid-cap representation across China securities listed on the Shanghai and Shenzhen exchanges. The index covers only those securities that are accessible through "Stock Connect". The index is designed for international investors and is calculated using China A Stock Connect listings based on the offshore RMB exchange rate (CNH).

MSCI Emerging Market (EM) Index — MSCI Emerging Markets Index

A capitalization-weighted index of stocks representing 23 Emerging Markets. With 836 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

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