In recognition of improved global accessibility to China’s onshore equity market, MSCI included China A-shares in its Emerging Markets Index as of 1 June. MSCI estimates about $1.6 trillion of active and passive investment assets are benchmarked against this index. The inclusion will not only require passively constructed investments tracking the benchmark to acquire A-share securities, it could also compel active investors with no allocation to A-shares to consider adding them to their portfolios. We discuss the downstream implications of the A-share inclusion and courses of action it could prompt.
On 1 June MSCI incorporated into its MSCI Emerging Markets Index (MSCI EM Index) 226 large-cap stocks of the more than 3,000 securities listed on China’s onshore A-share market. At 30.5% of the index’s total cap weight, China already accounted for the largest share of the index before the inclusion.1 As such, the China A-shares’ inclusion creates the potential to transform China from index heavyweight to index mammoth.

The immediate impact of the A-shares addition should not be substantial. The inclusion added about 0.8% to China’s weight in the index. The future inclusion scope could increase, however, should MSCI decide to add 100% of the float-adjusted market cap of the selected stocks (as opposed to the current 5%), or extend coverage farther down the cap weight scale, or both. While we cannot predict the path and speed of inclusion, as it will depend on MSCI’s ongoing consultation with investors, these changes could boost China’s weight to 40% or more of the index (Exhibit 1).

The Cap-Weight Quandary

As we see it, the mechanics of the change call to mind two risks: country concentration and market cap effects. Country concentration is not a new phenomenon in MSCI’s Emerging Markets Index. Korea, for example, amounted to 22% of the index in 2002. Nevertheless, the potential magnitude of China’s concentration and lack of apparent “rivals” to counterbalance its dominance deserve careful attention. China has had a disproportionate effect on index volatility as its index weight has grown (Exhibit 2). Back in 2001, China represented about 6% of the index and contributed roughly 7% to its volatility. By 2017, China’s average weight had risen to about 28%, yet it generated 35% of the index’s volatility. The 2017 numbers recall two earlier volatility spikes: during the global financial crisis of 2007–2008 and the Chinese market sell-off and yuan devaluation in 2015.

Exhibit 1
Longer Term, China’s Potential Index Representation Could Balloon
Market cap risk is implicit in the index’s construction. The weights of securities in capitalization-weighted indices, such as the MSCI EM Index, are determined by the individual security’s market value. The more expensive a stock becomes, the more of it a cap-weighted index will automatically hold. This can lead to an unintended and excessive exposure to high momentum stocks and market bubbles. Japanese stocks in the late 1980s and early 1990s provide a cautionary example. Passive cap-weighted investors who entered the market in the years after Japan’s index cap weight had doubled in the 1980s would have seen three-quarters of their country exposure evaporate in the ensuing decade.

“Right-Sizing” China

How could investors accommodate the increased concentration of Chinese equities in the emerging markets universe? Should they “passively” accept it or should they attempt to mitigate the risk? The decision depends, of course, on each investor’s circumstances and objectives. We outline a base case scenario where no action is taken. We then share three possible courses of action and contrast their advantages and drawbacks. We use three indices with data as of 31 March 2018 for our analysis:

- The MSCI EM Index
- The MSCI China A Large Cap Provisional Index (China A Inclusion)
- A hypothetical emerging markets index with 100% foreign inclusion factor of eligible China A-shares (MSCI EM + China A)

Base Case: Do Nothing

Potential Advantages

- Accurately reflects the investable opportunity set represented by the MSCI EM Index
- Does not require benchmark customization
- Moderately reduces MSCI EM Index sector concentration

Potential Drawback

- Sharply increases country concentration, so that Chinese market performance and risk characteristics overly influence index returns

MSCI’s market classification approach aims to strike a balance between a country’s economic development and investor accessibility to its equity market. Hence it is not surprising that China dominates the investable emerging markets universe. It alone accounts for more than 40% of emerging markets GDP, and programs such as Stock Connect have increased the country’s market accessibility for international investors. It will take time to integrate A-shares into “mainstream” indices at 100% float, but if China A-shares were to be added to the MSCI EM Index at a full foreign inclusion factor, not today’s 5%, China’s index weight would rise to 42.8%.

China A Inclusion differs markedly from the MSCI China Index (Exhibit 3A). Technology makes up less than 10% of the former index but more than 40% of the latter. China A Inclusion, by contrast, has correspondingly more exposure to financials, industrials, and consumer staples. This discrepancy means that combining China A Inclusion at 100% float with the MSCI EM...
Index would moderately decrease sector concentration in the index itself. The technology sector would be the most impacted, falling from 28% to about 25% (Exhibit 3B).

While modest sector diversification is attractive, doing nothing exacerbates country concentration. Extensive local trade-halting practices, as underscored by the market crash of 2015 when almost half the A-share market halted trading, could heighten the country risk. Even though regulators subsequently put in place additional safeguards against arbitrary trading suspensions, they remain orders of magnitude greater than in other national markets. By way of example, trading was halted on shares valued at $457 billion as recently as 12 March 2018, according to Bloomberg. The next largest trading halt that day, totaling $48 billion, occurred on the Hong Kong exchange. By contrast, the combined trade suspensions of the developed markets in the United States, the United Kingdom, France, and Germany amounted to $3 billion.

**Solution 1 – Cap-based China Light**

**Limit China weight to a fixed level**

One of the most straightforward solutions restricts country concentration to no more than an investor’s acceptable weight based on market capitalization.

**Potential Advantages**

- Straightforward and easy to implement
- Reduces weight concentration in one country

**Potential Drawbacks**

- May not effectively address stock-specific concentration
- May not adequately control risk contribution to the overall MSCI EM Index or the investor’s portfolio

We examine a hypothetical example that caps China’s weight at 30% of the MSCI EM + China A Index (Exhibit 4). We re-weight stock positions within China on a prorated basis to sum up to 30%, and gross up weights for the rest of the stocks to sum up to 70%, which gives greater prominence to other markets, such as Korea, Taiwan, and India.

Although the sector allocation has not changed substantially (Exhibit 5), capping China’s weight in the index somewhat changes its characteristics. The Cap-based China Light index concentration, as gauged by the Herfindahl-Hirschman Index, a measure of index concentration, declines marginally from 78.3 to 72.8, along with a modest reduction in the over-$50 billion market capitalization category from 21.3% to 19.5% (Exhibit 6).
Even so, the market cap distribution remains mega-cap heavy, and since seven out of ten stocks with a market capitalization over $50 billion are Chinese companies (Exhibit 7), capping China’s weight does not substantially reduce stock-specific concentration.

Solution 2 – Risk-Based China Light

Limit China weight based on risk contribution

To address the possible risk-control shortcomings in Solution 1, we might cap China’s index weight based on its risk contribution. As Exhibit 2 shows, at times China’s volatility contribution has deviated widely from its market-cap-derived index weight. Adopting a risk-based framework addresses this issue.

Potential Advantages

• Takes into account China’s risk characteristics
• Reduces index’s China concentration

Potential Drawbacks

• Complexity of implementation
• Risk-based limit must be reassessed periodically
• May not effectively address stock-specific concentration

This solution requires predicting China’s future volatility contribution. If the projected volatility rises above the investor’s set limit, China’s market cap weight should adjust down. Otherwise, the current country weight would not change. The mechanics of re-weighting the stocks would be the same as those described in Solution 1 (re-weight stock positions within China on a prorated basis to sum up to the applicable weight and gross up weights for the rest of the stocks to sum up to the remainder), the difference being that China’s weight limit is not only determined by cap size but also by the volatility of the country’s market in the context of the overall MSCI EM + China A Index.

This solution does little to curb stock-specific concentration, but in our view its principal disadvantage is its complexity. An investor would have to establish a framework for estimating volatility contributions. And since volatilities and correlations change constantly, this solution demands ongoing monitoring and index re-balancing.
Solution 3 – Indirect China Light

Limit mega-cap stocks in the benchmark

This solution targets the stock-specific concentration within the benchmark arising from the very top-heavy composition of the current market-cap-weight approach. It does not directly limit China’s weight in the index but rather the index’s exposure to Chinese mega-cap names like Tencent and Alibaba.

Potential Advantages

• Reduces stock-specific concentration
• Reduces China weight
• Reduces top-heavy index skew
• Simple and easy to implement

Potential Drawbacks

• Does not directly target reduction of China weight
• Efficiency can vary over time

We chose a float-adjusted market cap limit of $50 billion for constituents of MSCI EM + China A. Seven security listings have a market cap above $50 billion and 11 companies when counting in all share classes (Exhibit 8).

Concentration, measured again by the Herfindahl-Hirschman index, in the Indirect China Light version falls dramatically from 78/85 (largest share class/all-share) to 29/31, minimizing heavy clustering in a few securities (Exhibit 9A). The cap-weight distribution becomes less top-heavy (Exhibit 9B), with mega-cap weighting falling from 22.4% to 9.5%, while representation of large-cap stocks ($5 billion–$10 billion market cap) increases by 5.5% to 39.0%. Representation of mid- and small-cap stocks also increases, introducing a small-cap tilt relative to the original index version. And since most mega-cap stocks are Chinese, capping them at $50 billion indirectly results in reducing China weight from about 40% to 37% (Exhibit 9C).

Exhibit 8
Indirect China Light Substantially Reduces Mega-Cap Tilt

<table>
<thead>
<tr>
<th>Security Level</th>
<th>Issuer Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Country</td>
</tr>
<tr>
<td>Tencent</td>
<td>China</td>
</tr>
<tr>
<td>Samsung Electronics</td>
<td>Korea</td>
</tr>
<tr>
<td>Alibaba</td>
<td>China</td>
</tr>
<tr>
<td>Taiwan Semiconductor</td>
<td>Taiwan</td>
</tr>
<tr>
<td>Naspers</td>
<td>South Africa</td>
</tr>
<tr>
<td>China Construction Bank</td>
<td>China</td>
</tr>
<tr>
<td>Industrial and Commercial Bank of China</td>
<td>China</td>
</tr>
<tr>
<td>Baidu</td>
<td>China</td>
</tr>
<tr>
<td>China Mobile</td>
<td>China</td>
</tr>
<tr>
<td>Ping An Insurance</td>
<td>China</td>
</tr>
<tr>
<td>Bank of China</td>
<td>China</td>
</tr>
</tbody>
</table>

As of 31 March 2018
For illustrative purposes only.
Source: Lazard, MSCI
Beyond weighting considerations, this method could greatly alter the sector distribution. In our example, the technology sector is most impacted since it contains five mega-cap names. The sector loses 9.8% in weight from around 25% to 15%, and financials become the largest gainer, increasing from 25% to 28% (Exhibit 9D). While neither positive nor negative in itself, the shift in sector concentration could have a large impact on the index’s risk/return characteristics.

Additionally, the efficiency of the Indirect China Light solution may be limited and change over time. If the mega-cap profile of the future MSCI EM Index will be dominated by non-Chinese companies, the indirect solution will not make the overall index less China-centric. In our example, the magnitude of China weight reduction was modest and may not be sufficient to curb overall country exposure. Over the long term, if the inclusion scope extends to a lower cap segment of the full China A universe, the top-heavy nature of the China weight would dissipate, making this solution less effective in curbing country risk.

Changing individual stock weights also alters the stock-specific risk profile of the Indirect China Light solution relative to the base case. If mega caps rally, having a restricted weight will result in lagged performance in Indirect China Light versus the

---

**Exhibit 9**

**By Restricting Mega-cap Inclusion, Indirect China Light Alters Index Sector Weight**

**A**

Herfindahl-Hirschman Index Concentration (%)

**B**

Capitalization Weights (%)

**C**

Country Weights (%)

**D**

Sector Weights (%)

As of 31 March 2018
For illustrative purposes only.
Source: Lazard, MSCI
MSCI EM + China A Index, all else equal. Additionally, the solution extends to all index mega caps, which further contributes to changes in stock-specific risk. We could cap only Chinese companies, but that would not resolve the issue of idiosyncratic risk distortion.

As market dynamics are constantly changing, the cap limit would need to be periodically re-evaluated to reset the cap limit to a suitable level in the context of the changing market conditions. Between January 1998 and March 2018, the total market value of the MSCI EM Index fluctuated from a low of $526 billion in 2002 to a high of $5.5 trillion at the end of March 2018 (Exhibit 10). The float-adjusted market value of the largest company in the index at the end of 2002, Samsung Electronics, stood at $34 billion, while the largest constituent as of 31 March 2018, Tencent, had a float-adjusted market value of $297 billion.

Other Options

The three solutions we reviewed rely on the country classification tied to a company’s country of incorporation and its securities’ primary listing. Companies frequently derive their revenues from multiple regions, however, so the revenue-based exposures of an index might provide a more comprehensive picture of its sensitivities. This approach would limit China’s weight based on the aggregate sources of revenue of the underlying securities. The approach might also have a provocative and possibly unintended consequence.

Companies listed in the developed world with high emerging markets revenue exposure (say with more than half their revenue derived from emerging markets) could be considered an eligible addition to the emerging markets universe. This may increase the breadth of the universe and partially diversify away from China exposure, but such a solution would be extremely resource-intensive to implement and scale in our view.

Managing the Risk Embedded in New Opportunities

The inclusion of China A-shares expands MSCI EM Index coverage of an investment universe accessible to international investors. Based on the experience of the last two decades, however, a growing China weight also has the potential to alter the drivers of the index’s volatility. Over the long run China’s dynamism could well compensate for any increase in volatility, but passive and active investors alike may want to smooth the ride. We on Lazard’s Multi-Asset team, in partnership with our colleagues on the Equity Advantage team, have identified three potential solutions that could allow investors to benefit from China’s growth prospects while mitigating concentration risks.

In working alongside our clients to develop multi-asset portfolio solutions, we believe that a clear analysis of trade-offs is key to a sound solution. Each of the three approaches we have shared involves trade-offs that will be viewed differently depending on an investor’s individual circumstances, but each can afford access to the enlarged opportunity set in China while curbing excessive exposure to a single country.
Index. The index is unmanaged and has no fees. One cannot invest directly in an index.

The MSCI China A Large Cap Provisional Index is a free-float adjusted market capitalization index designed to measure performance of A-shares marked for inclusion in the MSCI China Large Cap Index.

Markets Index consists of 24 emerging markets country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.

The MSCI Emerging Markets Index is a free-float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 As of 1 March 2018</td>
</tr>
<tr>
<td>2 Using country constituents of the MSCI EM Index. Nominal GDP numbers for 2016–2017 are sourced from FactSet standardized economics database.</td>
</tr>
<tr>
<td>3 Based on 1 March 2018 estimates from MSCI.</td>
</tr>
<tr>
<td>4 The higher the Herfindahl-Hirschman Index, the more concentrated the index.</td>
</tr>
<tr>
<td>5 Float-adjusted market cap.</td>
</tr>
<tr>
<td>6 In this example we are not merging H- and A-shares of dual-listed securities into one line, so the market capitalization is representative of the respective share class.</td>
</tr>
<tr>
<td>7 For the purposes of this discussion, we have defined mega caps as stocks with a float-adjust market capitalization of $50 billion or more.</td>
</tr>
<tr>
<td>8 One of the implementation techniques could be a decile-based determination of the acceptable market cap cutoff. Securities in the index could be grouped in deciles based on their market cap and the rounded top decile’s market cap cutoff could be classified as a mega cap.</td>
</tr>
<tr>
<td>9 Based on MSCI country classification of securities.</td>
</tr>
</tbody>
</table>

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The Lazard Multi-Asset team manages portfolios that allocate investments across equities, fixed income, currencies, real assets, and other diversifying asset classes. The team bases its allocation decisions on its proprietary forecast of market conditions over the next 6–12 months. Bottom-up security selection is conducted by Lazard’s specialist investment teams. The Multi-Asset team is led by Jai Jacob and draws upon Lazard’s extensive network of investment professionals.

The Lazard Equity Advantage team uses a proprietary investment process to select companies that it believes offer attractive fundamentals and high-quality financial characteristics. The team joined Lazard in 2008, and today it manages a range of benchmark-aware global and regional systematic equity strategies and low-risk global equity strategies. The team consists of nine investment professionals with 21 years of industry experience, on average. As part of their process, they draw upon Lazard’s global research platform and they benefit from the firm’s infrastructure, which includes risk management and operations support.

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