

# The MarketGrader China A-Shares Size Indexes:

Tools for Strategic & Tactical Asset Allocation – Part 2

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## **Francis Gupta, Ph.D.**

Francis Gupta joined MarketGrader Capital in 2015 as Senior Advisor to lead intellectual property initiatives, identify applications of MarketGrader's company fundamentals-based Global Research for the benefit of the investment community and assist with development and commercialization of new MarketGrader Indexes. Prior, he was a Director with Dow Jones Indexes and served on the Index Oversight Committee. In this capacity, he built the firm's research group, was integral to new index development and lead landmark projects for institutional clients across equity, multi-asset class and other specialty indexes, such as income and hedge fund indexing. Francis also held strategic advisory positions in institutional investment management for Credit Suisse Asset Management and J.P. Morgan Investment Management. His work has been published in numerous journals including *The Journal of Portfolio Management*, *Journal of Indexes* and *The Journal of Investing*. He earned his B.Sc. in Mathematics from the University of Mumbai and his Ph.D. in Economics from New York University.

### **Francis Gupta, Ph.D.**

#### **Senior Advisor**

MarketGrader Capital, LLC

francis.gupta@marketgradercapital.com

+1. 917.364.4684

## Introduction

MarketGrader recently announced an expansion of its family of Mainland China Indexes by launching 12 new indexes.<sup>1</sup> As part of this launch, MarketGrader introduced two size-specific indexes covering the investment opportunity available by market capitalization in the A-shares equity markets of the Shanghai and Shenzhen stock exchanges. The indexes are named the MarketGrader China A-Shares Large Cap 80 Index (MG China A LC 80) and the MarketGrader China A-Shares Small Cap 120 Index (MG China A SC 120). Each of the indexes is designed to satisfy two key objectives. First, the indexes provide investors long-term strategic tools to participate in the size-specific capital appreciation opportunities inherent in the China-A shares equity market. Second, the indexes provide investors the ability to act on their beliefs regarding the relative performance of large capitalization companies versus small capitalization companies within the China-A shares equity market and empowers them to tactically shift the relative exposures of their portfolios to the two sub-asset classes.

As the names suggest, the MG China A LC 80 is composed of 80 components and the MG China A SC 120 is made up of 120 components. In addition to the methodology that MarketGrader uses to classify each company into a size category, the companies are selected to be components of the indexes using MarketGrader's proprietary stock ratings that are constructed based on a growth at a reasonable price (GARP) methodology that uses company fundamentals.<sup>2</sup> So while the indexes are selecting components from the China-A shares equity market to ensure that they provide exposure to the returns and risks inherent in the specific

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1. Prior to this launch, the MarketGrader Mainland China Indexes family consisted of the MarketGrader China A-Shares 100 Index and the MarketGrader China A-Shares 200 Index. MarketGrader started calculating these indexes in 2014 and introduced them to the marketplace in April 2015. Go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more on these indexes.

2. MarketGrader assigns the largest companies that make up 85% of the cumulative market capitalization of the Mainland China equity market that it covers as large cap stocks. The remaining are designated as small cap stocks. For more on the size methodology (frequency of reassignments, buffers, etc.) and MarketGrader's proprietary GARP-based stock rankings using company fundamentals, go to [Global.MarketGrader.com](http://Global.MarketGrader.com).

size category, they are concurrently focusing on the key investment objective of providing capital appreciation by selecting the best companies to be components of the index. Put simply, the MG China A LC 80 and the MG China A SC 120 indexes seek to provide investors with size-specific capital appreciation opportunities in the China-A shares equity markets, respectively.

The primary reason for MarketGrader's introduction of Mainland China size-specific indexes is to empower investors. The composition of the Mainland China equity market differs significantly in terms of size (large capitalization versus small capitalization stocks), style (growth versus value stocks) and the sector composition of the universe of companies that trade on the exchanges (Shanghai and Shenzhen). So even though the country-specific risk factors may be common to all the companies trading on the Mainland China equity market, the size, style and sector risk factors differ. In addition, given that the market capitalization of a company is one of the most significant drivers of its stock performance, indexes that target the risk factors inherent to large capitalization and small capitalization companies can be very empowering to investors as they provide them the tools to control the exposure to these size-specific risk factors in their portfolios.

This paper is structured as follows: The next section of this paper presents the historical total return performance of the MG China A LC 80 and the MG China A SC 120 indexes and compares them to their benchmarks, the CSI 300 Index and CSI 500 Index, respectively. This is followed by a discussion of the historical small cap risk premium prevalent in the Mainland China equity market. The section following that provides an illustration of the MarketGrader size indexes in a tactical asset allocation (TAA) framework. This section introduces two index-of-indexes comprised of the MG China LC 80 and the MG China SC 120 - a market capitalization version and a proportionally weighted version. Both the index-of-indexes can be used as a benchmark for TAA strategies. Since the index-of-indexes essentially provides exposure to 200 components (MG China A 80 + MG China A 120), this section also includes a comparison of the performance of the two index-of-indexes TAA benchmarks

to the MarketGrader China A-Shares 200 Index (MG China A 200).<sup>3</sup> The final section compares the sector exposures of the MG China A LC 80, the MG China A SC 120 and the MG China A 200 indexes.

This paper is the second in a three-part series that introduces two of the 12 recently launched indexes by MarketGrader as an expansion of its existing China-A Shares Index family. Parts 1 and 3 of this series cover the MarketGrader Mainland China Exchange Indexes and the MarketGrader China A-Shares Sector Indexes, respectively.

3. The MarketGrader China A-Shares 200 Index was introduced in 2015 and is composed of the 200 companies trading on the Mainland China exchanges that have the highest MarketGrader proprietary, GARP-based, stock rankings. To ensure diversification and liquidity, the index methodology does apply constraints on minimum large-cap exposure, maximum sector exposure, minimum company market capitalization and trading volume. For more on the methodology of the MG China A 200, go to [Global.MarketGrader.com](http://Global.MarketGrader.com).

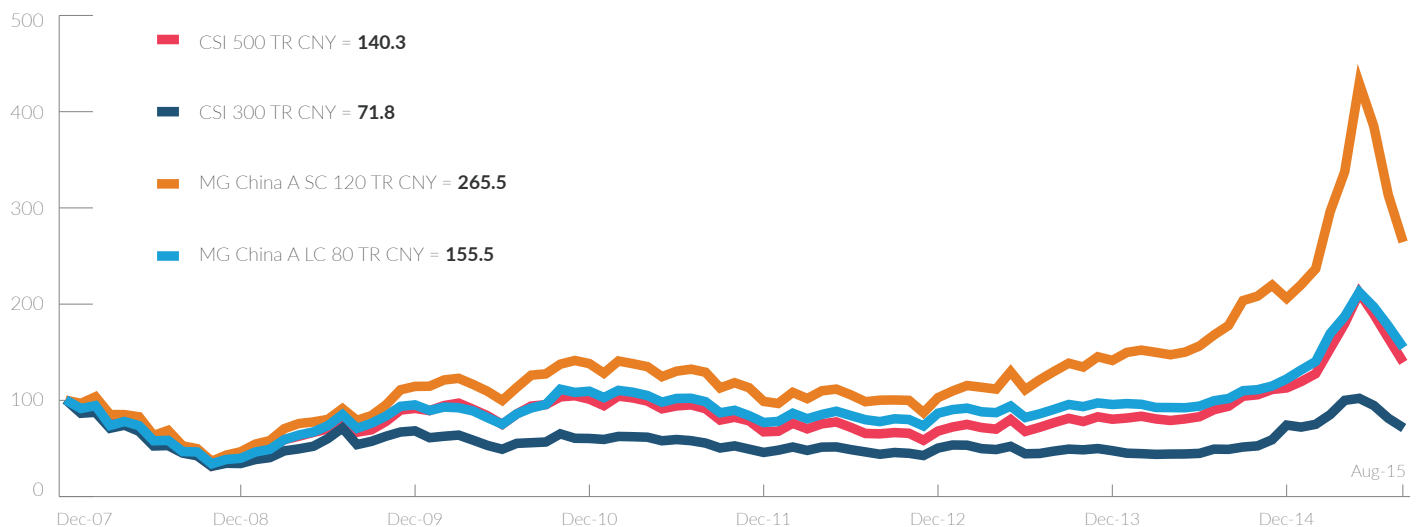
## Historical Total Return Performance

Figure 1 presents the historical total return performance of the MG China A LC 80 and the MG China A SC 120 and compares them to the performance of the CSI 300 and CSI 500, respectively. The CSI 300 serves as the benchmark for large cap stocks trading on the Mainland China exchanges, while the CSI 500 serves as the benchmark for small cap stocks.<sup>4</sup> The time period covered starts at the base date

4. The CSI 300 measures the performance of the largest 300 stocks trading on the Mainland China equity exchanges. The CSI 500 measures the performance of the next largest 500 stocks. For more on the methodology of the CSI 300 and the CSI 500, go to [www.csindex.com.cn](http://www.csindex.com.cn). In contrast, MarketGrader defines the largest companies that make up 85% of the cumulative market capitalization of the Mainland China equity market it covers as large cap stocks. The remaining are classified as small cap stocks. From the large cap universe, MarketGrader then selects the best 80 companies for the MG China A LC 80 index. Similarly, from the small cap universe, MarketGrader then selects the best 120 companies for the MG China A SC 120 index. For more on the methodology of the MG China A LC 80 and the MG China A SC 120, go to [Global.MarketGrader.com](http://Global.MarketGrader.com).

■ Figure 1. The MarketGrader China A-Shares Size Indexes: Growth of 100 in CNY - December 31, 2007 Through August 31, 2015

	MG China A LC 80	MG China A SC 120	CSI 300	CSI 500
Annualized Return (Ret)	5.9%	13.6%	-4.2%	4.5%
Cumulative Return	55.5%	165.5%	-28.2%	40.3%
Standard Deviation (SD)	31.6%	35.8%	32.4%	34.9%
Ret/SD	0.19	0.38	-0.13	0.13



Source: MarketGrader Research. Go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more on these indexes, including methodology, exposure by sector and size, and fundamental characteristics. Chart uses monthly total return data. The monthly total return data for the CSI indexes is from CSI. See Figure A1 in the Appendix for index and benchmark correlations.

of the MG China indexes of December 31, 2007 and goes through August 31, 2015 – a span of 92 months, or seven years and eight months.

All of the indexes followed a similar trend, which can be broadly recognized as the trend of the Chinese equity market. But the magnitudes of the trend are quite different when comparing the MarketGrader indexes to their benchmarks. First, it is important to note that this was a time period during which small cap stocks outperformed large cap stocks. The MG China A SC 120 is clearly the consistent leader throughout the entire time period. At the end of the period, it had more than doubled with a total gain of 165.5%. Meanwhile, its benchmark, the CSI 500, was up only 40.3% – a difference of 125.2 percentage points on a cumulative basis. Over the same time period, the MG China A LC 80 gained 55.5%. However, its benchmark, the CSI 300, was down -28.2% – a difference of 83.7 percentage points on a cumulative basis.

Second, notice that the implied small cap risk premium, though not identical, is similar for both the MarketGrader indexes and the CSI indexes. The annualized MG small cap risk premium – measured as the difference between the annualized total return of the MG China A SC 120 and the MG China A LC 80 – is 770 basis points (13.6% less 5.9%). The annualized CSI small cap risk premium – measured as the difference between the annualized total return of the CSI 500 and the CSI 300 – is 970 basis points (4.5% less -4.2%). This is 200 basis points more annually than the MG estimate (970 basis points versus 770 basis points). There could be many reasons for this difference. However, the most likely explanation for this disparity is that the index methodology used to define the size categories for the Mainland China equity market differs by index provider.<sup>5</sup>

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5. As mentioned earlier in footnote 4, the CSI 300 measures the performance of the largest 300 stocks trading on the Mainland China equity exchanges, while CSI 500 measures the performance of the next 500 largest stocks. For more on the methodology of the CSI 300 and the CSI 500, go to [www.csindex.com.cn](http://www.csindex.com.cn). In contrast, MarketGrader defines the largest companies that make up 85% of the cumulative market capitalization of the Mainland China equity market it covers as large cap stocks. The remaining are categorized as small cap stocks. This difference is critical. MarketGrader believes that as the Mainland China equity market is evolving and growing, this methodology, not only provides a better estimate for

The next section of this paper will drill down deeper into the historical small cap risk premium of the China A equity market.

The third point to note from Figure 1 is that even though the historical small cap risk premium as estimated by both MarketGrader and CSI are similar, the “origin” from where the differences are measured for the performance of small cap stocks and large cap stocks is very different. MarketGrader estimates the annualized total return performance of small cap stocks as 13.6%, whereas, CSI’s estimate of the same is 4.5%. On the same note, whereas MarketGrader estimates the annualized total return performance of large cap stocks as 5.9% (greater than CSI’s small cap stock return), CSI’s estimate of the same is -4.2%. The key to this difference is in the rules-based stock selection performed by MarketGrader while selecting components for the indexes. Having identified the universe of large cap stocks and small cap stocks, MarketGrader applies its proprietary stock rankings based on a GARP methodology that uses company fundamentals to select the 80 best companies from the large cap universe for the MG China A LC 80 index and the 120 best companies from the small cap universe for the MG China A SC 120 index. This stock selection is performed to stay true to the dual objective of the indexes, namely, to provide investors with size-specific capital appreciation opportunities in the China A-share equity markets. The historical total return outperformance of the MarketGrader indexes, together with the implied small cap risk premium suggests that the MarketGrader China A-Shares Size Indexes have been successful in satisfying their stated objective.

Lastly, note that even though the small cap premium is significant, it doesn’t come at a significant cost in terms of additional volatility. The volatility of both the MG and CSI

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the small cap risk premium, but also is more in line with the methodology applied to developed equity markets. To illustrate how the methodology makes a significant difference, in the most recent size assignment (performed in March, 2015) MarketGrader classified the largest 1,172 companies into the large cap universe. This is significantly more than the 300, or even the 800, that CSI uses to measure the performance of large cap and small cap stocks. For more on the methodology of the MG China A LC 80 and the MG China A SC 120, go to [Global.MarketGrader.com](http://Global.MarketGrader.com).

small cap indexes is only slightly higher than their large cap counterparts. Clearly, all of the risks borne by small cap companies (such as bankruptcy risk, illiquidity risk, etc.) are not apparent in the realized volatility of the indexes, which by definition are made up of companies that are still trading.<sup>6</sup>

## The MarketGrader Historical Small Capitalization Risk Premium

Any TAA strategy based on the performance of market capitalization-based indexes will depend on the magnitude and

persistence of the small cap risk premium. Consequently, this section presents an in-depth discussion of the same.

Figure 2 presents the total returns by calendar year of the MarketGrader and CSI indexes respectively. It also presents the difference in the performance of the small cap index and the large cap index for the MarketGrader and CSI size indexes, respectively. This difference can be thought of as the calendar year small cap risk premium that the Mainland China equity market paid out to investors that chose to invest in small cap stocks instead of large cap stocks.

The differences between the MarketGrader and CSI indexes are significant. Besides the fact that the average MarketGrader small cap premium is lower than the average CSI premium (as covered in the discussion of total performance in the previous section), the number of calendar years, and

6. This is another significant difference between developed and emerging equity markets. In developed markets, the risk of bankruptcy of a small company, for instance, will show up in the realized price volatility of a small cap index. In an emerging market, such risks permeate the entire equity market, thereby increasing the volatility of the entire universe, and do not just reveal themselves in the realized volatility of the specific size segment of the market.

Figure 2. The MarketGrader China A-Shares Size Indexes: Total Return Performance by Calendar Year in CNY - 2008 Through August 2015

Calendar Year	Large Cap (LC)	Small Cap (SC)	Difference = SC - LC	Small Cap Premium
MarketGrader:	%	%	%	
2008	-60.2	-53.4	6.8	Yes
2009	139.5	145.8	6.3	Yes
2010	14.9	20.7	5.8	Yes
2011	-29.7	-28.4	1.3	Maybe
2012	12.4	3.9	-8.5	No
2013	10.6	37.7	27.1	Yes
2014	27.6	45.6	18.0	Yes
2015 YTD	27.2	28.9	1.7	Maybe
Average	17.8	25.1	7.3	
CSI:	%	%	%	
2008	-65.6	-60.6	5.0	Yes
2009	98.6	132.4	33.8	Yes
2010	-11.6	10.5	22.1	Yes
2011	-24.0	-33.5	-9.4	No
2012	9.8	1.2	-8.6	No
2013	-5.3	18.1	23.4	Yes
2014	55.8	40.5	-15.4	No
2015 YTD	-3.3	24.2	27.6	Yes
Average	6.8	16.6	9.8	

Source: MarketGrader Research. For MarketGrader, the MG China A LC 80 and the MG China SC 120 correspond to "Large Cap" and "Small Cap", respectively. Go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more information on these indexes, including methodology, exposure by sector and size, and fundamental characteristics. For CSI, the CSI 300 and the CSI 500 correspond to "Large Cap" and "Small Cap", respectively. The total return data for these indexes is from CSI.

the years, in which the market awarded a premium varies.

For the MarketGrader indexes, the small cap premium was positive and significant in five of the eight years (2008, 2009, 2010, 2013 and 2014). In 2012, the premium was negative and significant, meaning that large cap stocks outperformed small cap stocks. In two years (2011 and 2015 YTD), the premium is positive, but insignificant (keeping in mind that transaction costs for trading small cap stocks is generally higher than trading large cap stocks, likely eroding some of the returns). So in these two years the two size categories performed similarly.

For the CSI indexes, the small cap premium was also positive and significant in five of the eight years (2008, 2009, 2010, 2013 and 2015 YTD). In three of the eight years (2011, 2012 and 2014) the premium was negative and significant, meaning that large cap stocks outperformed small cap stocks. Because there is more disparity in the annual differences in the size returns, there is no year in which the two indexes performed similarly.

To summarize, in four of the years (2008, 2009, 2010 and 2013), both the MarketGrader and CSI indexes agree that small cap stocks outperformed large cap stocks. In 2012, both agree that the opposite occurred when large cap stocks outperformed small cap stocks. Therefore, in five of the eight years, either of the index families would suggest that there is an unambiguous role for tactical asset allocation strategies using size indexes.

However, in 2011 and 2015 YTD, the MarketGrader size indexes show no significant difference in performance by market capitalization, whereas the CSI indexes show large cap stocks outperforming small cap stocks in 2011, and vice versa in 2015 YTD. And finally, in 2014, the MarketGrader and CSI results are contradictory: the MarketGrader size indexes show small cap stocks outperforming large cap stocks and the CSI indexes show the opposite to be true, namely large cap stocks outperforming small cap stocks.

There could be two explanations for the different outcomes in three of the eight years. First, the methodology used to

define large and small cap stocks differs by index provider. Whereas the large cap universe is limited to the largest 300 stocks in the CSI methodology, MarketGrader's large cap universe is composed of the largest stocks comprising the 85% of A-Shares market capitalization. Consequently, since 2010, the MarketGrader large cap universe has grown significantly. Second, and perhaps more importantly, is the stock selection component inherent in the MarketGrader indexes. This can have an enormous impact on which size category is the winner over a specific period. For instance, even though 2015 YTD may be a winning year for small cap stocks (as measured by the CSI indexes), if MarketGrader's stock selection effect within the MG China LC 80 is greater than or equal to the sum of the size effect and the stock selection effect within the MG China LC 120, then the performance of the two indexes will not be significantly different.

This in itself is a desirable attribute of the MarketGrader size indexes as far as investors are concerned. The stock selection effect not only shifts the origin of both the MarketGrader size indexes (thereby, improving the absolute performance of both the indexes relative to the CSI indexes), but also tends to reduce the difference between the two MarketGrader size indexes (thereby, reducing the relative difference between the two).<sup>7</sup>

An advantage of performing the small cap risk premium calculations on an annual basis (in this case, a calendar year basis) is that it helps keeps the analysis, and interpretation of the findings, tractable. A considerable disadvantage of performing the analysis on an annual basis, especially when the time period doesn't cover a substantial number of decades, is that it results in too few data points.

Since investors (institutions or individuals) can choose to implement TAA strategies using any timeframe as long as (a) they are able to form reasonable expectations as to the performance of the size categories over the specific time

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7. The MarketGrader Shanghai 80 and the MarketGrader Shenzhen 80 Indexes manifested similar attributes. Refer to, "MarketGrader Exchange Indexes: Tools for Strategic and Tactical Asset Allocation - Part 1," published by MarketGrader in October 2015, for more on the performance of these Mainland China exchange-specific indexes.

period, and (b) the expected gains from the TAA strategy cover the transaction costs of implementation, Figure 3 presents the historical small cap risk premium analysis using a monthly and quarterly time frame.

Even though implementing a TAA strategy on a monthly basis might be too short a time frame, nonetheless, the analysis is insightful. As was the case for the annual analysis, the MarketGrader indexes result in a smaller average monthly small cap premium than the average monthly small cap premium of the CSI indexes. The MarketGrader historical monthly small cap premium is 70 basis points versus the CSI historical monthly small cap premium of 80 basis points.

However, more importantly, notice that the standard deviation of 3.8% for the monthly small cap premiums of the MarketGrader indexes is much smaller than the standard deviation of 5.3% for the monthly small cap premiums of the CSI indexes.

This means that the MarketGrader's measure of the month-

ly small cap premium has a better signal (and less noise) than the CSI's measure of the monthly small cap premium.<sup>8</sup> This is also evident from the range of the monthly small cap premiums (defined as the maximum premium less the minimum premium), which is much smaller for the MarketGrader (26.3%) than the CSI (41%).

Finally, the proportion of months a positive small cap premium exists is greater for the MarketGrader indexes (61%) than for the CSI indexes (55%). All of these statistics together suggest that the average small cap premium exhibited by the CSI indexes is greater because the monthly premium outcomes are more extreme – as suggested by the higher standard deviation and the wider range. The analysis performed using calendar year quarters yields very similar results and is left for the reader to interpret.

In conclusion, this in-depth analysis has three important

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8. Put another way, the estimate of MarketGrader's small cap premium has a higher precision than the CSI's estimate.

■ Figure 3. The Mainland China A-Shares Small Capitalization Risk Premium in CNY - January 2007 Through August 2015

Time Period	MarketGrader Size Indexes	CSI Size Indexes
Monthly:		
Total Number of Months	92	92
Average Small Cap Premium	0.7%	0.8%
Standard Deviation	3.8%	5.3%
Minimum	-12.6%	-24.3%
Maximum	13.7%	15.7%
Number of Months Small Cap Premium > 0	56	51
% of Months Small Cap Premium > 0	61%	55%
Quarterly:		
Total Number of Quarters (including partial 3Q2015)	31	31
Average Small Cap Premium	2.1%	2.4%
Standard Deviation	6.7%	10.2%
Minimum	-11.0%	-35.9%
Maximum	13.7%	21.6%
Number of Quarters Small Cap Premium > 0	19	18
% of Quarters Small Cap Premium > 0	61%	58%

Source: MarketGrader Research. For MarketGrader, the "Average Small Cap Premium" is the average monthly difference between the total return of the MG China A SC 120 index and the MG China A LC 80 index. Go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more on these indexes, including methodology, exposure by sector and size, and fundamental characteristics. For CSI, the "Average Small Cap Premium" is the average monthly difference between the total return of the CSI 500 index and the CSI 300 index. The total return data for these indexes is from CSI.



consequences for investors implementing TAA strategies in China A-Shares using size indexes:

1. The successful implementation of a TAA strategy in China A-Shares using size indexes depend on the size indexes used to estimate the expected performance of the size category and therefore the estimate of the small cap risk premium.
2. The less volatile and consistent the size premium the more certainty investors can place in their TAA strategy.
3. Size indexes that can successfully implement stock selection, thereby improving on the performance of the size effect, might be preferable for implementing a TAA strategy (since a positive stock selection effect could hedge a decline in performance due to an inadvertent TAA call).

## The MarketGrader Size Composites – Portfolios of the Size Indexes

This section defines and constructs two MarketGrader Size Composites that can be used as benchmarks for TAA portfolios using size indexes. The performance of these Composites is also compared to an analogous composite constructed using the CSI size indexes, and to the MarketGrader China A-Shares 200 Index (MG China A 200).<sup>9</sup>

The first of the two MarketGrader Size Composites, labeled the MG MC Size Composite, is a portfolio of the MG China A LC 80 and the MG China A SC 120 weighted by the market capitalizations of the large and small universes, respectively. Since MarketGrader assigns the largest stocks that make up 85% of the total market capitalization of all the companies traded on the Mainland China exchanges

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9. The MG China A 200 index is a core portfolio composed of 200 of the top-ranking companies trading on the Mainland China equity exchanges selected based on MarketGrader's proprietary GARP-based ratings using company fundamentals. For more on the methodology of the MG China A 200 Index, go to [Global.MarketGrader.com](http://Global.MarketGrader.com). Also see, "The MarketGrader China A-Shares 200 Index: An eGARP Lens to the Mainland Equity Markets of the World's Largest Economy," published by MarketGrader Capital in July 2015.

that are covered by MarketGrader as large cap stocks, this composite assigns a weight of 85% to the MG China A LC 80 index and a weight of 15% to the MG China A SC 120 index. The portfolio is rebalanced to those weights annually.

The second MarketGrader Size Composite, labeled the MG PW Size Composite, is a portfolio of the MG China A LC 80 and the MG China A SC 120 weighted proportionally to reflect the relative number of stocks in the two indexes. Since the combined portfolio is made up of 200 stocks (80 + 120), the MC China A LC 80 is assigned a 40% weight (80/200) and the MC China A SC 120 is assigned a 60% weight (120/200). An outcome of this weighting scheme is that the relative weights of the components in the two underlying indexes are carried forward into the composite portfolios. So if the components are equally weighted in their respective indexes (which they are in the MG China A LC 80 and MG China A SC 120), they will also be equally weighted in the resulting portfolio.

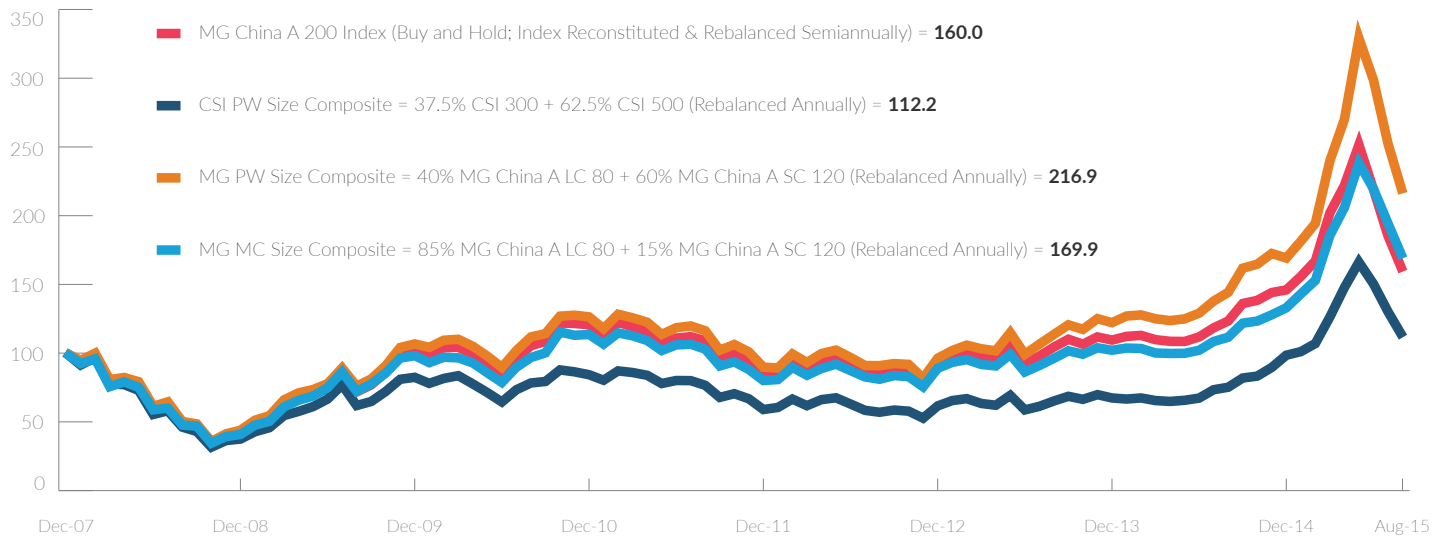
These two portfolios are benchmarked against a proportionally weighted composite of the CSI 300 and the CSI 500, referred to as the CSI PW Size Composite. This portfolio assigns a 37.5% weight (300/800) to the CSI 300 and a 62.5% weight (500/800) to the CSI 500. As mentioned earlier, the weighting scheme of the components within the two underlying indexes will be reflected in the resulting proportionally weighted composite portfolio. Like the two MG size composites, the CSI PW Size Composite is also rebalanced annually.

The final comparison is to the MG China A 200. Since each of the MG size composites are made up of 200 stocks (80 LC + 120 SC), the core MG China A 200 index for the Mainland China equity market serves as a natural benchmark for the Composites. As per the MarketGrader index methodology, the MG China A 200 is reconstituted and rebalanced (equally-weighted) in March and September every year.

Figure 4 presents the performance of the three size composites and the core MG China A 200 index. The outperformance of the MarketGrader size composites over the CSI

Figure 4. The MarketGrader Size Composites: Total Return Performance in CNY - December 31, 2007 Through August 31, 2015

	1. MG MC Size Composite	2. MG PW Size Composite	3. CSI PW Size Composite	4. MG China A 200 Index
Annualized Return (Ret)	7.1%	10.6%	1.5%	6.3%
Cumulative Return	69.6%	116.9%	12.2%	60.0%
Standard Deviation (SD)	31.9%	33.6%	32.9%	32.5%
Ret/SD	0.22	0.32	0.05	0.19



Source: MarketGrader Research. For more on the MG China A LC 80, MG China A 120 and the MG China A 200, go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more on these indexes, including methodology, exposure by sector and size, and fundamental characteristics. The total return data for the CSI 300 and the CSI 500 is from CSI.

PW size composite is clear. However, it is worth pointing out that both of the MarketGrader size composites outperform the MG China A 200 index. The main reason for this is as follows: The MarketGrader size composites reflect two sources of returns – the weighted sum of the stock selection effects that are controlled for size (from each of the size indexes) and the weighted size effect (small cap premium). The core MG China A 200 index reflects a single source of return – the stock selection effect. It so happens that over this time period, the sum of the two sources of return reflected in the MG size composites is greater than just the stock selection effect reflected in the core MG China A 200 index. However, if during this period, large cap stocks were in favor, i.e., the small cap premium was much smaller, or actually turned negative, and/or if the stock selection effects were equal across size categories, then perhaps one might have seen the core MG China A 200 index outperform, or equalize the performance of the size composites.

This is the reason why investors with beliefs on the prospects for the size segments of the Mainland China equity market desire both size and core indexes. The availability of both size and core indexes gives them the tools and flexibility needed to adequately gain exposure to the Mainland China equity market according to their beliefs.

To illustrate this point, consider an investor who believes that the small cap premium is a tactical – rather than a strategic – play. For such an investor, exposure to a core portfolio (such as the MG China A 200) becomes a key policy component of the strategy. Depending on the investor's short-run beliefs regarding the performance of the small cap premium, this investor could then use the size indexes as an overlay to the core index.

## MarketGrader Size Indexes: Sector Exposures

The sector (and size) makeup of a portfolio can provide considerable insight into the behavior of the portfolio with respect to performance. In that vein, Figure 5 presents the sector exposures of the MG China A LC 80, the MG China A SC 120 and the MG China A 200. Further, the sector exposure of the core MG China A 200 index is broken up by size.

These exposures partially explain why the MG size composites presented in the previous section were able to outperform the core MG China A 200 index. While all of the MG indexes apply constraints to sector exposures so as to ensure sector diversification, they are realized differently for the size indexes versus the core index. This difference allowed for the stock selection effect and the size effect prevalent during this time period to fully manifest itself in the size composites, therefore allowing them to outperform the core MG China A 200 index.

For example, take the Industrials sector, one of the best-performing sectors within Mainland China over this time period. As of the September 2015 reconstitution, Industrials were contributing the maximum count allowed

to both the size and the core indexes – the methodology rules for all three indexes dictates that any given sector can contribute no more than 20% of an index's components. Therefore, Industrials contributed 16 components (20% of 80) to the MG China A LC 80, and 24 components (20% of 120) to the MG China A SC 120. Likewise, Industrials contributed 40 components (31 + 9), or 20% of 200 components, to the MG China A 200 index.

However, when the size indexes are combined to create a composite portfolio, the composite portfolio has exposure to 16 large cap Industrial stocks (from the MG China A LC 80) and to 24 small cap Industrial stocks (from the MG China A SC 120). But the core MG China A 200 has exposure to 31 large cap Industrial stocks and to nine small cap Industrial stocks. So, to reiterate, while the MG China A 200 is maximizing the stock selection effect, the size composite portfolios are maximizing both the stock section effect and the size effect. And since, over this period, the size effect is significant, the size composites outperformed the core portfolio.

■ Figure 5. The MarketGrader China A-Shares Size Indexes: Sector Composition September 2015 Reconstitution

Sector	MG China A LC 80	MG China A SC 120	MG China A 200	
			Large	Small
Consumer Discretionary	10	18	17	4
Consumer Staples	6	7	12	1
Energy	-	-	1	-
Financials	15	7	37	2
Health Care	14	19	24	3
Industrials	16	24	31	9
Materials	7	14	14	4
Technology	8	24	19	10
Telecommunications	1	2	2	-
Utilities	2	5	5	4
Miscellaneous	1	-	1	-
Totals	80	120	163	37

Source: MarketGrader Research. Go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more on these indexes, including historical counts by sector and size, and fundamental characteristics.

## Other notable sector differences across the indexes are:

Financials contributed 15 components to the MG China A LC 80 and seven components to the MG China A SC 120. Therefore, a portfolio-of-indexes constructed from the two would have exposure to a total of 22 Financials. Meanwhile, Financials contributed 39 components to the core MG China A 200 index, 37 of which are large cap companies.

Healthcare – another high-flying sector over this time period – contributed 14 components to the MG China A LC 80 and 19 components to the MG China A 120 for a total of 33 components to a hypothetical portfolio constructed using the two size indexes. The core MG China A 200 index has exposure to 27 Healthcare companies of which 24 are large cap stocks.

Materials, with 14 large cap stocks and four small cap stocks in the core MG China A 200 index, is very interesting. With seven large cap and 12 small cap stocks, the size exposure to Materials within a portfolio created from the size indexes would be roughly reversed.

And finally, Technology; The sector contributed eight components to the MG China A LC 80 and 24 components (the maximum) to the MG China A SC 120 for a total of 32 components to a portfolio constructed using the two size indexes. The core MG China A 200 index has exposure to 29 Technology companies, of which 19 are large cap stocks and only 10 are small cap stocks.

In summary, any size composite constructed as a weighted portfolio of the size indexes will have a significant exposure to small cap stocks across all the sectors (except Energy which has very few companies). Relative to such a size composite, the MG China A 200, which is a core Mainland China portfolio, will most likely be biased toward large cap companies. The relative performance of the two portfolios will depend on whether there is a significant small cap premium present during the time period under consideration.

# Appendix

■ Figure A1. The MarketGrader Size Indexes: Correlations December 31, 2007 Through August 31, 2015

Index	MG China A LC 80	MG China A SC 120	CSI 300	CSI 500
MG China A LC 80	1.00	0.93	0.91	0.96
MG China A LC 120		1.00	0.78	0.98
CSI 300			1.00	0.85
CSI 500				1.00

Source: MarketGrader Research. Go to [Global.MarketGrader.com](http://Global.MarketGrader.com) for more on these indexes, including methodology, exposure by sector and size, and fundamental characteristics. Correlations are calculated using monthly total return data. The monthly total return data for the CSI indexes is from CSI. See Figure 1 in the paper for index and benchmark performance.

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**p** | +1.888.529.1767

**e** | [research@marketgradercapital.com](mailto:research@marketgradercapital.com)

**w** | [marketgradercapital.com](http://marketgradercapital.com)

