MSCI

Research Insight

China: Hard Landing or Gentle Descent?

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Executive Summary

Like other major economies, growth in China has remained well below its long-term average since the 2008 financial crisis erupted. Although post-crisis fiscal and monetary stimuli have maintained real growth at a healthy level, investors have remained wary that weakness in China's housing market and shadow banking sector might drag down real growth. Some investors worry that recent sharp declines in house prices, fast growth in credit supply and sluggishness in exports could be a recipe for a so-called "hard landing," with pervasive long-term effects on both Chinese and global equity returns.

In this paper, we define a "hard landing" as a sharp drop in Chinese real GDP growth of 5 percentage points or more per year. We apply the MSCI Macroeconomic and Asset Pricing Models to assess the likelihood of a hard landing, and the long-run implications of a hard landing on global equity returns. Our models suggest that:

- An imminent hard landing is unlikely.
- The long-term impact of sharp drop in GDP — if one occurs — on long-term global equity returns is likely to be muted.
- The observed premium in Chinese equities, including China A-Shares, could reflect compensation for the uncertainty about future economic growth.

In fact, our models indicate that the Chinese economy is likely to continue to grow at a healthy clip of about 7% over the next year, slightly below the official target, and that the chances of entering a recession over the next year are quite small. Furthermore, our models indicate that at present, Chinese real growth risk is a small contributor to long-run global equity risk. Even a large and persistent negative shock to Chinese growth is likely to have a negligible impact on long-term global equity returns.

Our main conclusion is that the size of the Chinese equity market[1] would need to increase significantly relative to the rest of the world for Chinese economic growth risk to matter for global equity risk and return. Our models suggest that such a large increase, even with both new issuance and a rise in Chinese equity returns relative to the rest of the world, is unlikely over the short- and medium terms. As both equity returns and new issuance depend on long-term Chinese economic growth, Chinese equities could embed a long-term premium. This premium can be viewed as compensation to long-term investors for bearing the risk of potential persistent shocks to Chinese economic growth.

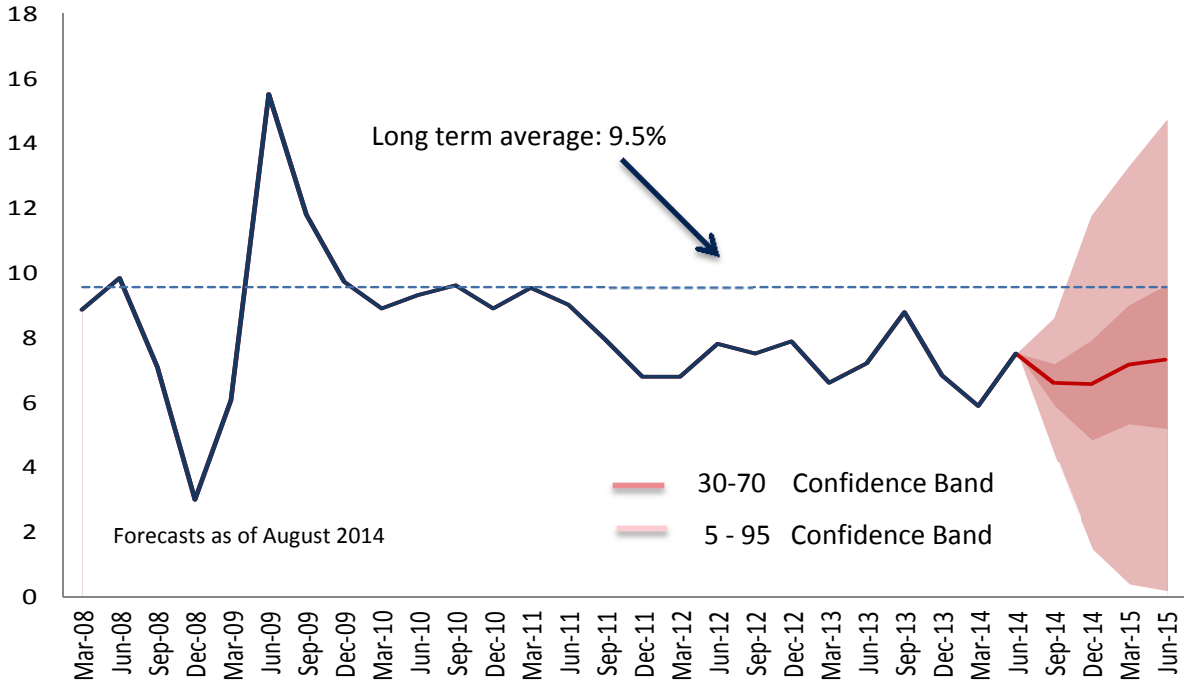
[1] Our companion paper "China A-Shares: Too Big to Ignore" proxies the Chinese equity market by combining the MSCI China and A-Shares indexes, providing a more accurate picture of the size of the market and its growth prospects.

Hard Landing Is Unlikely

Economic growth in major global economies has remained sluggish and well below its long-term average since the financial crisis hit full bore in 2008. China is no exception. As can be seen in Figure 1, Chinese real GDP growth dipped from 11.8% in late 2007 to 3.2% in December 2008. Although the fiscal and monetary stimuli in 2009 and 2011 may have contributed to a temporary revival, trend growth has remained at lower levels compared to its average of 9.5% over the past 30 years. In the past twelve months, China's economic trend growth declined to 7%. [2]

Figure 1: China Hard Landing Is Unlikely

Quarterly Chinese Real GDP Growth (Annualized, Percentage)



After dropping sharply in early 2008, Chinese quarterly real GDP growth rate (blue line) spiked, only to decline gradually during the last four years. The MSCI Macroeconomic Model projects rates for the next four quarters ending June 2015 (red line), providing 30-70 and 5-95 confidence bands. All growth rates are annualized percentage rates.

Last year's decline in real growth, combined with recent sharp declines in residential property prices and housing starts and sluggish trends in exports have renewed investors' concern about an imminent hard landing. Because of the high correlation between real dividend growth and real economic growth, investors are naturally concerned about the long-term consequences for both global growth and global equity returns of a hard landing in China.

[2] Growth theory would suggest that steady state real growth in China is less than 9.5%.

The MSCI Macroeconomic Model suggests that such a precipitous decline is unlikely.[3] As shown in Figure 1, the model baseline forecast for real GDP growth for the next year is about 7%. This figure is slightly below the official growth rate of 7.5%, and consistent with the lethargic but resilient trends in industrial production and retail sales. Even at the lower boundary of the 5-95 confidence bands, the forecast is about 2% -above the current average growth rate in Developed Markets. The implied probability of a recession over the next one to three years is close to zero.

However, investors and analysts fear that a collapse in construction and residential real estate-related output and a meltdown of the shadow banking sector that supports the real estate industry could mimic how the financial crisis played out in the United States.

In our analysis, their fears are overblown. Even the worst-case scenario would have a much lower impact on growth in China than the damage wrought to the U.S. economy six years ago. Construction and real estate-related sectors amounted to about 16% of China GDP in 2013, according to the National Bureau of Statistics China. A substantial decline of, say, 25% in construction output[4] possibly spread over three years, could reduce GDP by 1.3% per year over that period. Although such a decline in growth is significant, it falls well short of the 10% quarterly annualized decline experienced in the United States in 2008.

Meanwhile, Yi Wen and Maria Arias, two researchers at the Federal Reserve Bank of St. Louis, estimate that a collapse of the Chinese shadow banking sector would reduce GDP at most by about 4.5%.[5] These simple back-of-the-envelope calculations are consistent with the model's projected lower bound for Chinese real GDP, and its low probability assessment of a hard landing.

The Long-Term Impact on Global Equities

Some investors are concerned that a hard landing in China could have dire effects on long-run global growth and global equity returns in the long run — they cite the contagion that occurred following the collapse in U.S. housing and financial markets in 2007-8. The previous section argued that imminent hard landing is unlikely. In this section, we apply the MSCI Asset Pricing Model to show that even if it were to occur, the long-term impact of a hard landing on global GDP and global equities is likely to be small.

China GDP Growth's Impact on Long-Term Global Equity Risk

Real economic growth is the main driver of long-run global equity volatility. Using the MSCI Asset Pricing Model combined with the MSCI Macroeconomic Model, the volatility of global equities[6] is estimated to be 13.3%. As can be seen in Figure 2, the principal source of macroeconomic risk in global equities is the U.S. real economy – shocks to the U.S. economy contribute half the risk of global equities. In contrast, exposure to the Chinese economy contributes a modest 7% to global equity volatility.

[3] The MSCI Macroeconomic Model is a state-of-the-art and innovative mixed frequency Bayesian Vector Autoregression. The model currently covers 14 economies and is globally integrated.

[4] About the required correction in housing starts needed to match current demand.

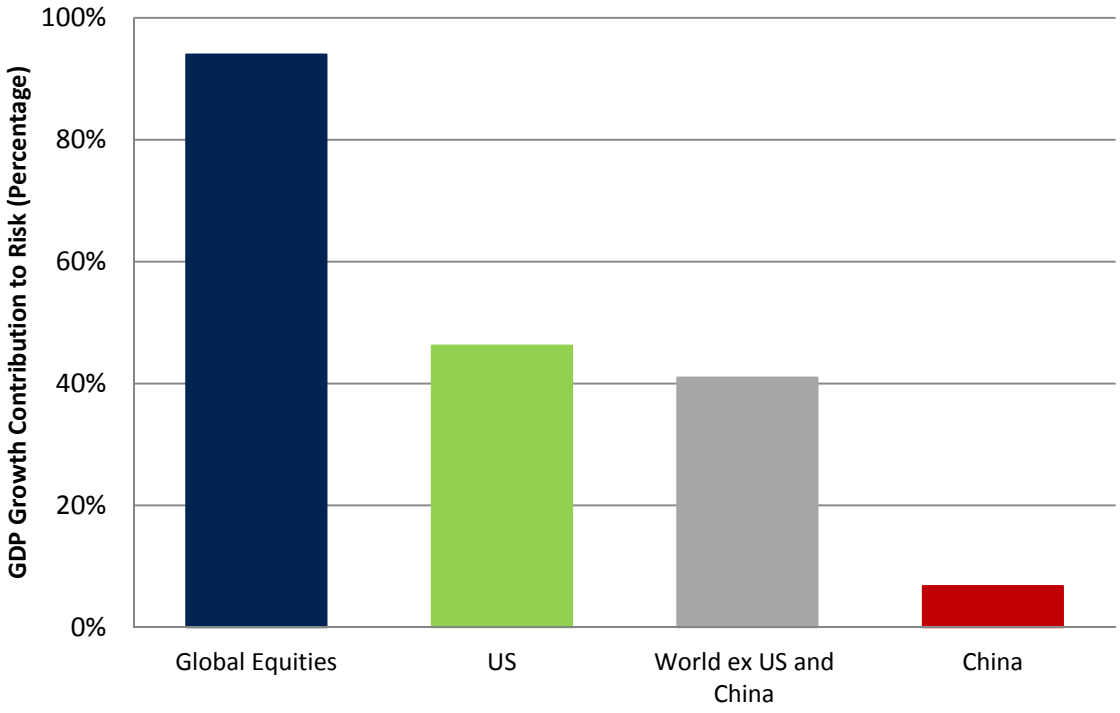
[5] They estimate that the Chinese shadow banking sector of is less than one half that of the United States. See "How Risky Is China's Shadow Banking System" (http://www.stlouisfed.org/on-the-economy/how-risky-is-chinas-shadow-banking-system).

[6] We combine the MSCI China index with the MSCI China A index to capture the investable Chinese equity universe. Similarly, the global equity universe is captured by combining the MSCI ACWI index with the MSCI China A index. For further information on the true size of the Chinese equity market, please see "China A-Shares: Too Big to Ignore."

While such a small risk contribution from China might be surprising at first blush, it follows from the usual risk attribution arithmetic. In the MSCI Asset Pricing Model, China's growth-risk contribution to the long-term risk of global equities depends on:

- China's market cap weight (including both MSCI China and China A indexes) in global equities
- The impact of Chinese growth on global growth
- The long-run correlation between Chinese and global equities

Figure 2: Chinese Economic Growth Risk Is a Small Contributor to Long-Run Global Equity Risk



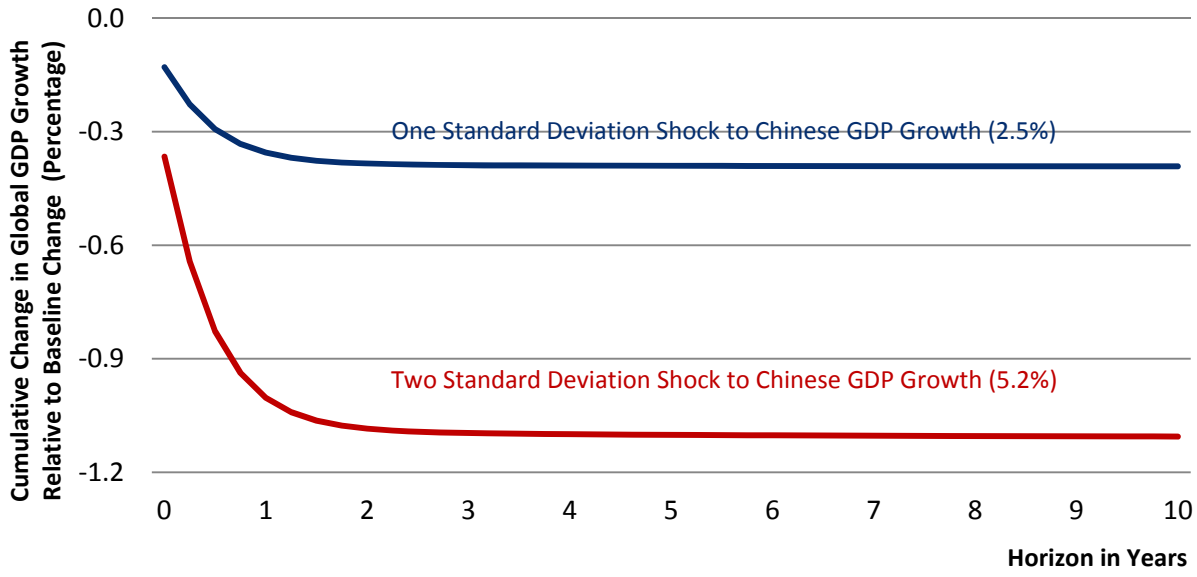
The United States accounts for roughly half the long-term risk of global equities. China is a relatively small contributor, even after combining the MSCI China index and the MSCI China A index to capture the investable Chinese equity universe. All risk contributions are as of March 2014 and based on the MSCI Macroeconomic and the MSCI Asset Pricing Models.

Let's look at these in turn.

- The main factor explaining the low contribution of China's growth to total portfolio risk is the small market cap weight of China (including *both* MSCI China and China A-Shares indexes) in global equities. As of year-end 2013, the weight of the combined MSCI China Index and the MSCI China A index relative to the global equity universe was 4.6%.
- Negative shocks to real growth in China, as an unquestionably important part of the global macroeconomy, will dampen global real output. However, as shown in Figure 3, the impact of

such shocks is relatively small. Declines of 2.5% and 5% in Chinese growth[7] result in relatively small drops in global growth in the long run, as derived from the MSCI Macroeconomic Model. According to the figure, global growth could decline from the model baseline growth forecast of 2.6% to 2.2% on average over three years, given a 2.5% negative shock to Chinese growth.

Figure 3: A Negative Shock to Chinese Growth Likely to Have Small Impact on Global Growth



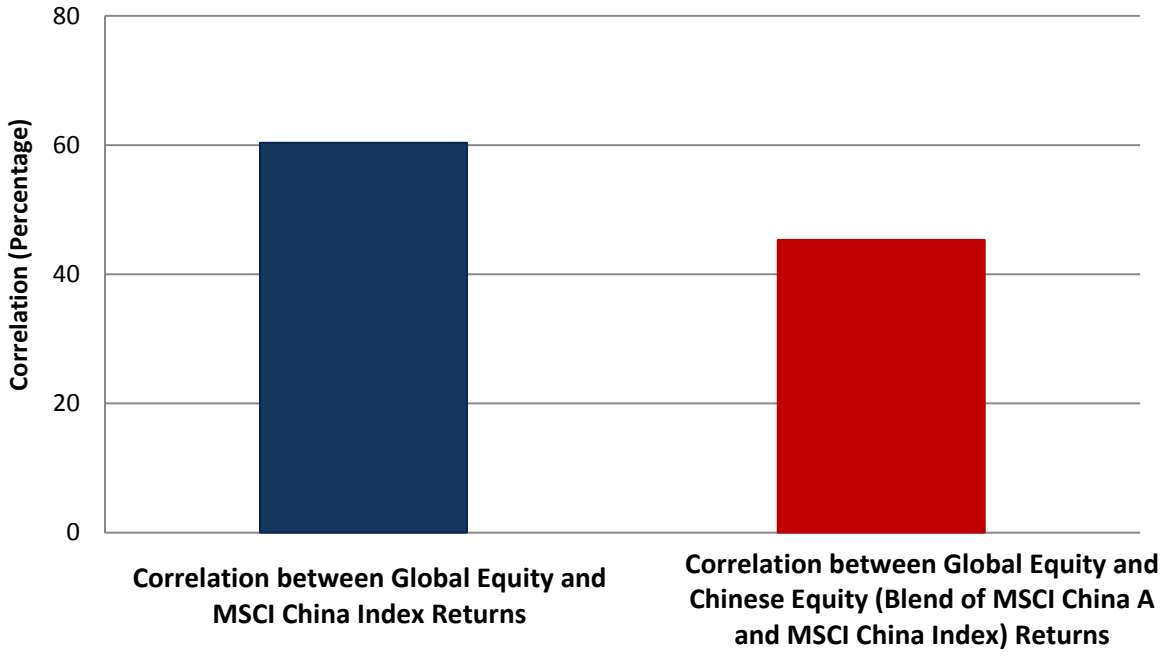
The cumulative change in the global real GDP growth in response to a one standard deviation (blue line) and two standard deviation shock (red line) to Chinese real GDP growth is relatively small. The cumulative changes are relative to the baseline projections of the MSCI Macroeconomic Model.

- Finally, the correlation between Chinese and global equities has been historically low and even negative. Recently, the correlation between Chinese equity and the rest of the world has increased, although it still remains subdued at about 0.45, as can be observed in Figure 4. This observation is consistent with the MSCI Asset Pricing Model implied and the relatively low degree of economic integration with the rest of the world. [8]

[7] These magnitudes represent one- and two- standard deviations.

[8] The correlations shown on Figure 4 were estimated using returns data from January 2000 to June 2014. In a companion Research Insight, "China A-Shares: Too Big To Ignore," we show that these correlations estimated over a more recent period (December 2004 to June 2014) could be higher. In particular, over the last 10 years, the correlation between the MSCI China A index and MSCI ACWI index returns was 0.4, and the correlation between the MSCI China and MSCI ACWI index returns was 0.75. The models' main conclusion is that Chinese economic growth risk is a small contributor to global equity risk; mainly Chinese equities comprise a small percentage of total global equities. This finding would still hold (if everything else were equal) if the degree of economic integration and equity return correlation were higher than what is implied by our model.

Figure 4: Chinese Equities Still Exhibit Low Correlation with Global Equities



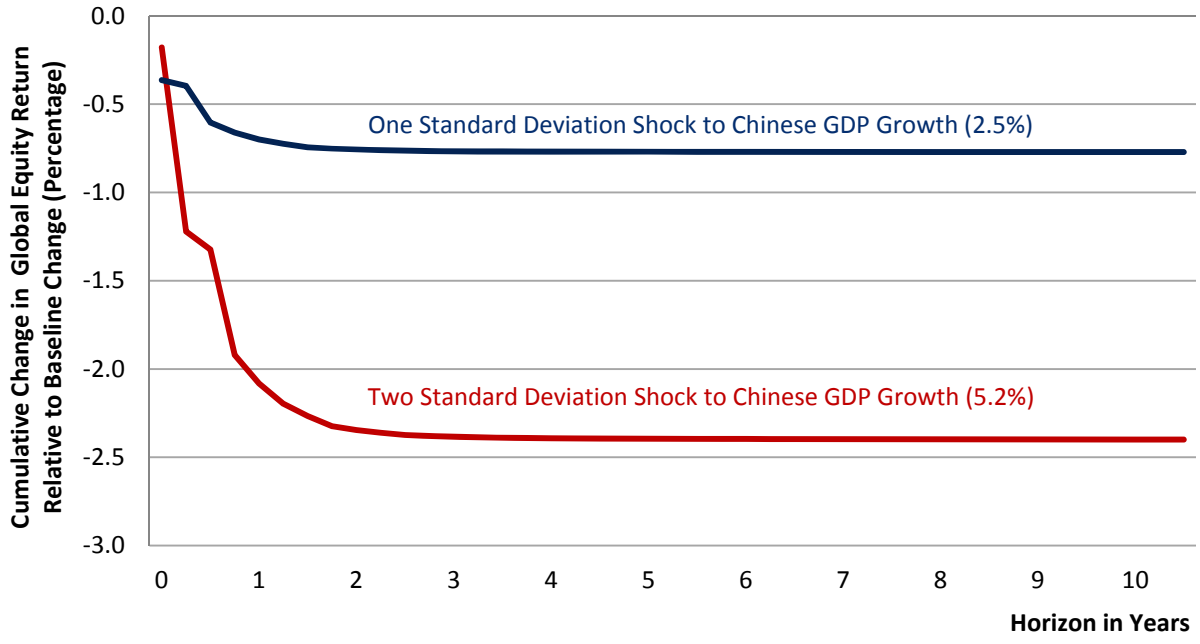
The historic correlation between Chinese equity (combination of the MSCI China index and the MSCI China A index) and global equity (combination of the MSCI ACWI index and the MSCI China A index) has been low. Recently, the correlation between Chinese equity and the rest of the world has increased, although it still remains subdued at about 0.45. Returns are from January 2000 to June 2014.

The Effect on Long-Term Global Equity Returns

Even if a hard landing (represented by a reduction in real GDP growth of 5%) were to occur, global equity returns would shrink only by 2.4% over the next three years, according to the MSCI Asset Pricing Model, as shown in Figure 5. The same factors as the risk decomposition drive this result: the relatively low level of global integration, the low correlation between Chinese and global equity returns and the small market capitalization of China relative to the global equity market.

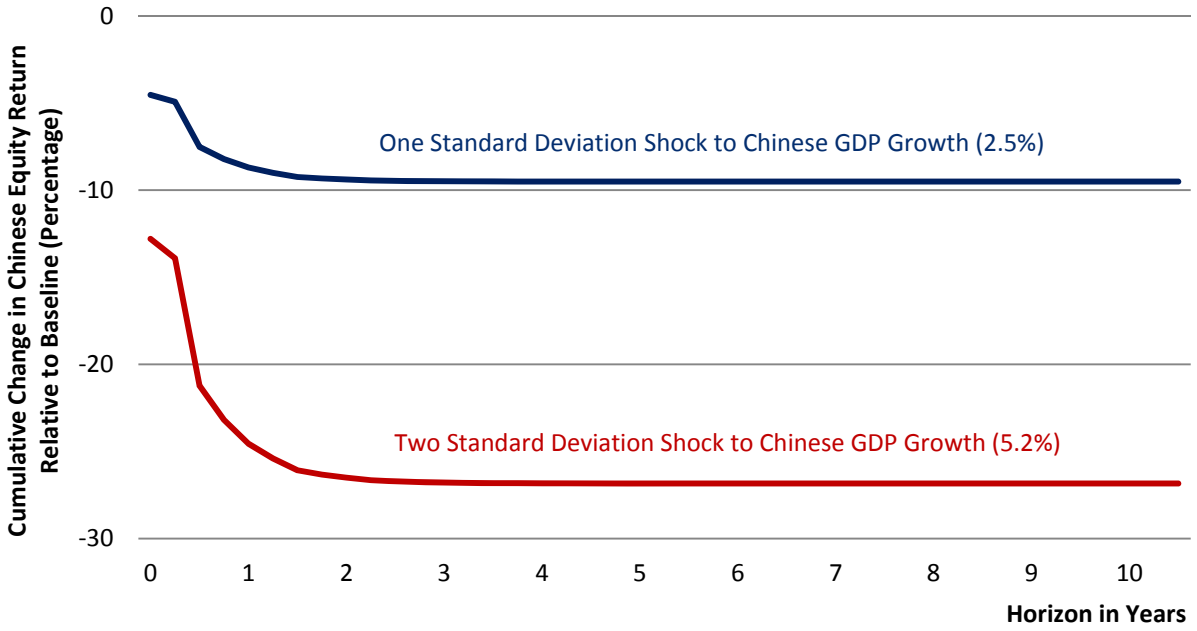
Although our models suggest that a hard landing is likely to have a small impact on global equities, the same is not the case for domestic (Chinese) equities. As shown in Figure 6, a 5% fall in GDP over a year could induce a 26% decline in Chinese equity values. This effect is diversified away for global investors who hold the market cap-weighted global equity portfolio.

Figure 5: China Hard Landing Likely to Have a Muted Impact on Global Equities…



Global equity valuations (a combination of the MSCI ACWI and MSCI China A index) likely would decline modestly in response to one standard deviation and two standard deviation shocks to Chinese real GDP growth. The cumulative changes are relative to the baseline projections of the MSCI Macroeconomic and MSCI Asset Pricing Models.

Figure 6: …But Chinese Equities Could Be Hard Hit



A one-deviation shock to Chinese real GDP growth could result in a nearly 10% decline in the cumulative value of Chinese equities, while a two-standard deviation shock could drop prices by close to 30%. The cumulative changes are relative to the baseline projections of the MSCI Macroeconomic and MSCI Asset Pricing Models.

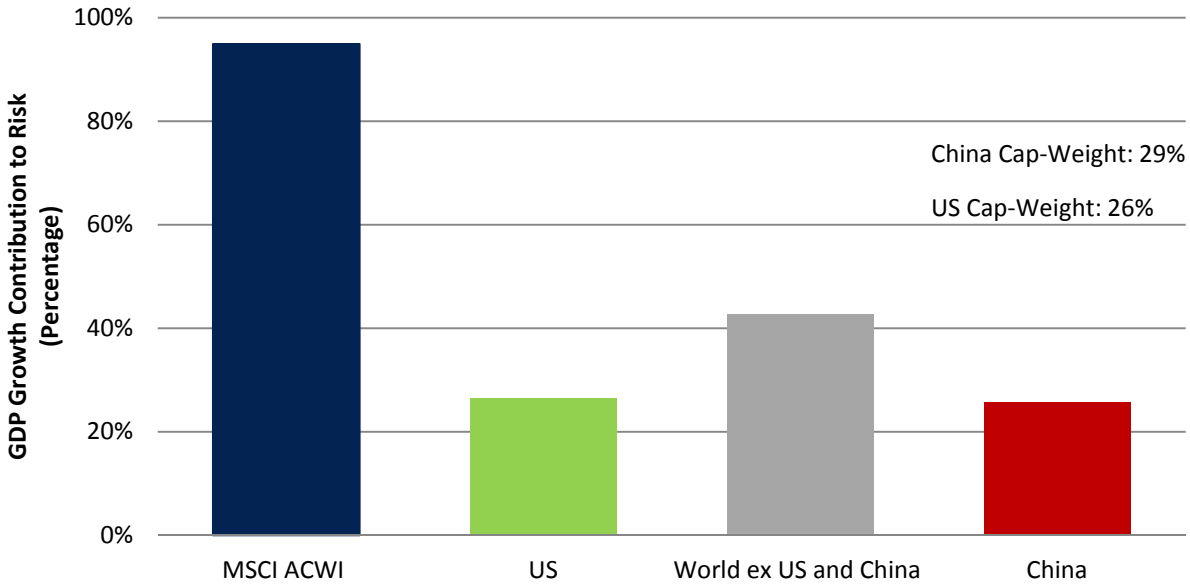
What Premium Is Embedded in Chinese Equities?

For risks to Chinese economic growth to seriously threaten long-term global growth and global equity returns, both the Chinese equity market cap and China's level of global economic integration would need to increase substantially. China's market cap would be the primary driver, as suggested by the previous section.[9] Simply put, it would take years. Thus, investors are being paid a *long-term* premium embedded in Chinese equities to compensate them for the risk of bearing potential persistent negative shocks to Chinese economic growth.

Here's a simple thought experiment: For China to have the equivalent impact on global economic growth and worldwide stock prices as the United States, we find that the Chinese equity market would have to increase by about six times from its current share of the global equity market while the U.S. stock market would need to nearly halve. Specifically, the Chinese stock market would need to grow from the current 4.6% level to about 29%, while the U.S. market cap weight would shrink from 49% to 26% (assuming no changes to all other countries' market cap). As shown in Figure 6, under this scenario, both China and U.S. GDP contributions to global equity long-term risk would be about 23%.

[9] We assume that the long-term correlation between the Chinese economy and the global economy is fixed at the levels of Figure 3.

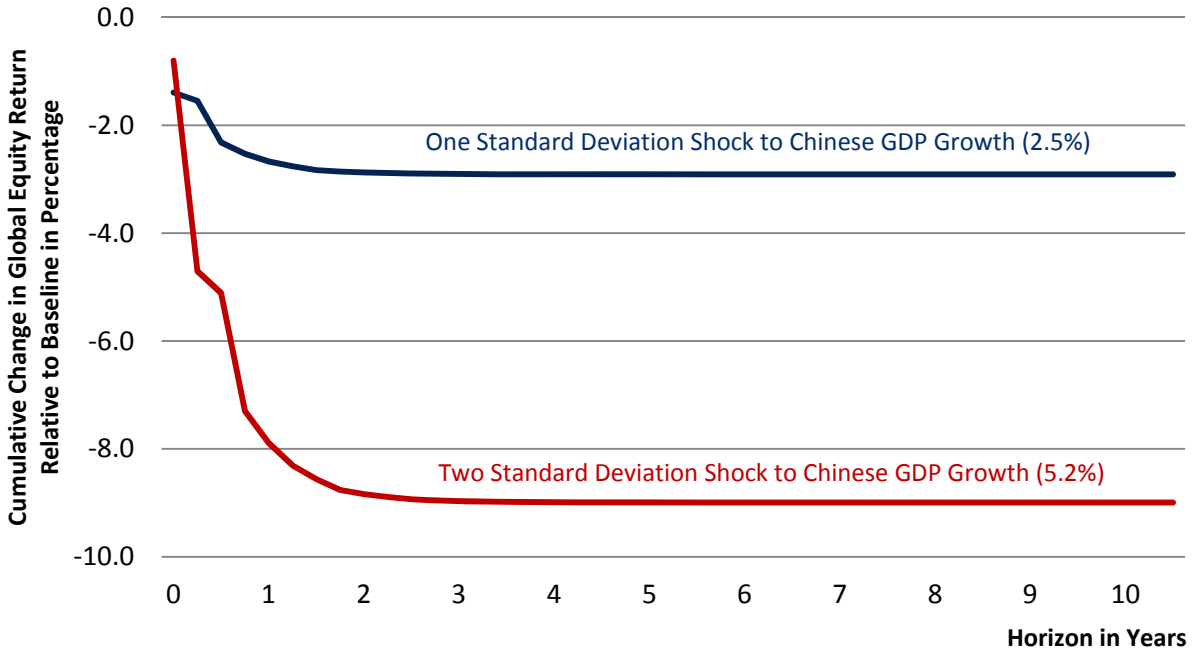
Figure 6: As China Equity Market Grows, Its on Effect Long-Term Global Equity Risk Will Rise



The China equity market will need to increase to 29% of global stock market cap while the U.S. equity market would need to shrink to 23% for them to have equivalent impact on global equity risk. All risk contributions are as of March 2014 and based on the MSCI Macroeconomic and the MSCI Asset Pricing Models.

Not surprisingly, our model indicates that a China hard landing based on a much larger domestic market cap would now have a much larger long-run impact on global equities. Figure 7 shows that the same 5% fall in Chinese GDP over a year now would result in a 9% decline in global equity returns over three years.

Figure 7: Higher Chinese Equity Market Cap Could Impair Long-Term Global Equity Returns



With Chinese equities constituting 29% of the global equity universe, a China hard landing would have a much bigger impact on long-term global equity returns. The cumulative changes are relative to the baseline projections of the MSCI Macroeconomic and MSCI Asset Pricing Models.

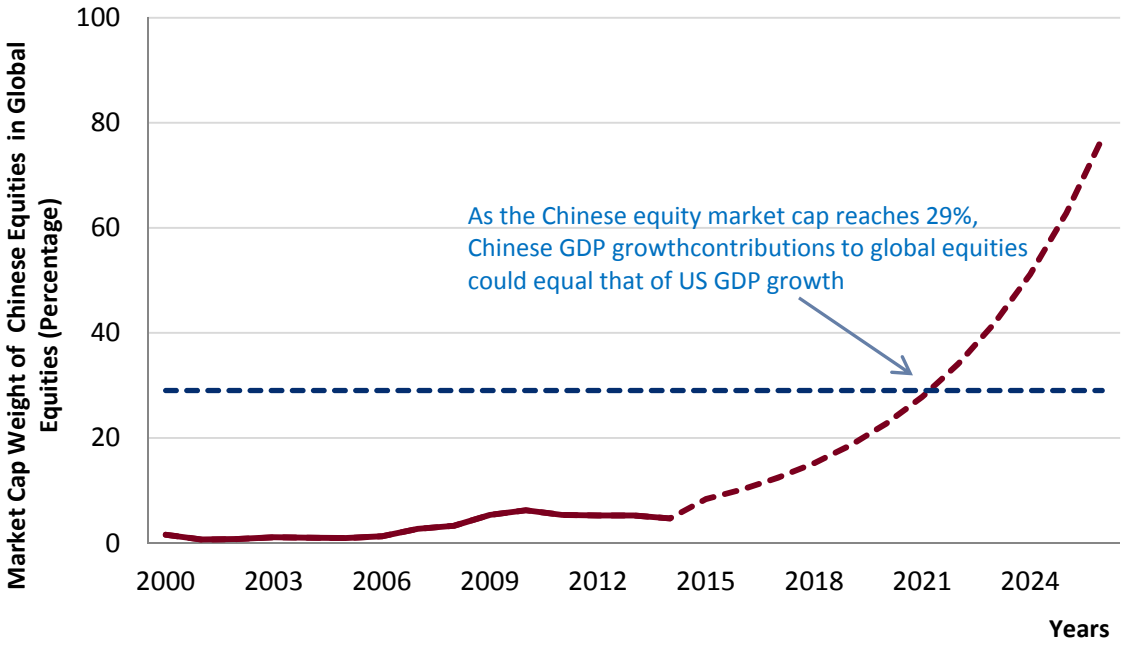
Taking our thought experiment one step further, how long could it take for the Chinese equity markets to achieve a 29% share of the global equity market?

From 2000 to 2006, the Chinese equity market cap weight remained fairly stable, growing about 1.3% per year, as can be seen in Figure 9. From 2006 to 2010, however, the market cap soared at a 25% annual clip, mainly driven by an increase in returns relative to the rest of the world.[10] Since 2010 however, Figure 9 and Table 1 show that both the market cap and equity returns have remained fairly flat. If the Chinese equity market could resume its stratospheric growth rate of 25% a year, *it would still take eight years for its market cap to reach the 29% level*. Such rapid growth seems unlikely, raising the question: How should we frame thinking about such a growth rate?

One frame of reference would be the pace of economic growth, as higher cap weights could depend on the long-term prospects for economic growth. The baseline forecasts from the MSCI Macroeconomic Model suggest that it will take about 10 years for the Chinese economy to be the same size as the U.S. economy. Thus, the question is whether there is a disconnect between the projected levels of economic growth and the growth rate of Chinese market capitalization, and whether this disconnect implies a premium for long-term investors.

[10] New share issuance was a relatively minor factor in the market's growth.

Figure 9: The 10-Year Scenario: Chinese Equity Market Cap as a Percentage of Global Equity Market Cap



The Chinese equity market would have to equal its 25% growth rate from January 2000 to June 2014 for the market to reach 29% of global equities capitalization, making its risk contribution to global equities equal that of U.S. real GDP growth.

Higher cap weights could depend on the combination of higher share prices and new share issuance. Table 1 reveals that Chinese equities have enjoyed a premium of 3.3% relative to global equities over the past 10 years. This premium was largely driven by the performance of the China A market. If this premium persists for the next 10 years, we can decompose the ending market capitalization weight into its components: only 18% of the increase in capitalization weight would be attributable to returns (and the return premium) while 82% would be attributable to new issuance.

This analysis suggests that the required increase in both Chinese equity returns and new share issuance for Chinese growth risk to substantially impact global equity long run risk and returns is too large to occur over short horizons (e.g., three years). In addition, the analysis implies that an explanation for the observed premium for Chinese equities is compensation for long-term risk to Chinese economic growth. Persistent negative shocks to Chinese economic growth would have direct effects on Chinese equity returns, and (potentially) influence the path of new issuance. This premium, should it continue, could benefit long-term institutional investors with greater tolerance for long-term trend growth uncertainty.

Table 1: Chinese and Global Equity Historical Average Returns

As of June 30th, 2014	Historical Average Returns (Annualized, Percentage) MSCI China A Index	MSCI China A Index and MSCI China Index Cap-Weighted Average	MSCI ACWI Index
Past Year	2.9	9.7	21.8
Last 5 Years	0.3	-0.1	15.1
Last 10 Years	17.0	12.4	9.1

The MSCI ACWI Index dramatically outperformed Chinese equities from July 2013 to June 2014 but Chinese stock, and the China A-Shares market in particular, surpassed global equities by a wide margin over the last 10 years.

Conclusion

Investors have expressed concerns about an imminent hard landing in China. And they've also expressed the concern that such a hard landing would have pervasive long-term effects on both global growth and global equity returns.

In this paper, we apply the MSCI Macroeconomic and Asset Pricing Models to assess the likelihood of a hard landing, and the long-term implications of such a precipitous decline on global equity returns. The MSCI Macroeconomic Model forecasts indicate that an imminent hard landing is unlikely: GDP growth in China could meet the official target of 7.5% by the end of the year. Moreover, the MSCI Asset Pricing Model indicates that Chinese real growth risk is a small contributor to long-term global equity risk. This is mainly the result of Chinese equity market capitalization (based on combining the MSCI China and China A indexes) still being a small fraction of the global market capitalization as well as the relatively low level of integration of China into the global economy. Even if a hard landing occurs, the long-term impact of hard landing on global equity returns is likely to be muted.

Over the past 10 years, the broad Chinese equity market captured by the MSCI China and MSCI China A indexes has earned a premium over global equity markets. This premium was largely driven by the performance of the China A market. A simple thought experiment suggests that the Chinese market cap weight would need to increase significantly for Chinese economic growth risk to matter for long-run global equity risk and return. Such a large increase, even taking into account both new issuance and a rise in Chinese equity returns relative to the rest of the world seems unlikely over the short term and the medium term. Also, such a large increase in market capitalization would be heavily dependent upon long-term economic growth. Consequently, our models indicate that Chinese equities carry a long-term premium to compensate investors for bearing the risk of disruptions in Chinese economic growth.

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[1]As of March 31, 2014, as reported on June 25, 2014, by eVestment, Lipper and Bloomberg *July 2014*