Balancing Chinese Assets Offers a Rare Opportunity for Investors

APRIL 23, 2019

GREG JENSEN

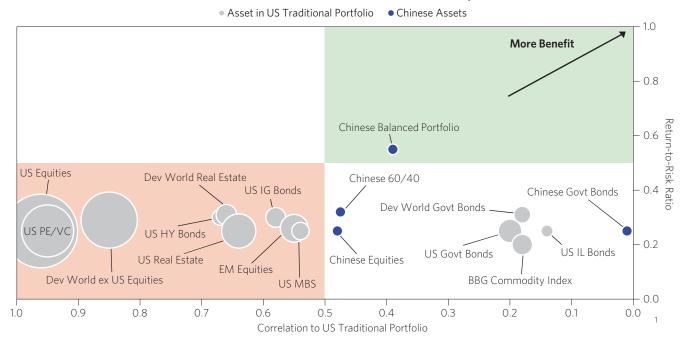


The have discussed in many reports the opening up of financial markets in China, the size and importance of these markets and the Chinese economy, and how most foreign investors are underweight Chinese assets relative to their liquidity and importance. Having spoken with many major investors, there is a lot of agreement on these topics and the need to formulate a plan to determine how to deal with them. Those who already have investments in China have largely focused on equities, private equity, and to some extent equity alpha.

Due to these investments, as well as investments in global equities that do business in China, many investors have exposure to Chinese growth. But few investors are efficiently accessing risk premiums and discount rates in China while hedging their exposure to Chinese growth. Because China has an independent monetary policy and because its savings patterns are quite different from those in much of the developed world, risk premiums and discount rates are quite different in China, and by balancing assets, investors can access these sources of return without exposure to Chinese growth. Accessing this diversifying return stream can have a large impact on portfolios.

The chart below sheds some light on the value of a diversified portfolio of Chinese assets to a typical portfolio. Each gray bubble represents an asset holding in a traditional US institutional portfolio, with the size of the bubble reflecting risk contribution to the portfolio. We've plotted each investment in terms of its correlation to the portfolio (the horizontal axis) and its "goodness," or return-to-risk ratio (the vertical axis). As you move up and to the right, the more valuable an investment becomes to the portfolio—the more diversifying and/or higher returning for the risk taken. As shown, a balanced portfolio of Chinese assets is unique in being both diversifying to the portfolio and a high-quality stand-alone investment.

Benefits of Different Assets to US Traditional Portfolio (Expected)



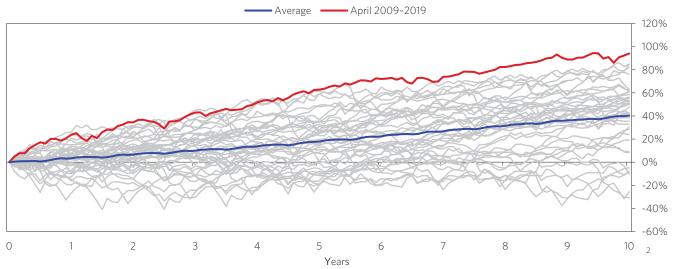
¹ Additional information about the Chinese Balanced Portfolio and the US Traditional Portfolio, both of which are simulated, is included in the Important Disclosures at the end of the research paper. There are no guarantees that expected returns can or will be achieved.

The chart on the previous page just illustrates the portfolio math perspective. What it fails to capture are the situations in which diversification can be a lifesaver. If we transition from a period of cooperative global arrangements to competitive global arrangements, de-globalization, and increasing conflict (both internal and external), diversification will be even more valuable going forward than it has been. We would be wary of relying on one's ability to pick winners and losers, and would spread our bets as much as possible.

For the Most Part, Nobody Is Talking about Diversification Because Concentrated US Equity Portfolios Have Done So Well

The need for and value of geographic diversification has been obscured by the fact that recently it hasn't paid off. Over the past decade, the concentration of many portfolios in US assets, particularly US equities, has been a massive tailwind. Below we show the returns of a US 60/40 portfolio over every 10-year period since 1970, with the most recent decade shown in red. As shown, the past decade has been one of the best periods for such a portfolio in the past 50 years.

US 60/40 Portfolio Cumulative Excess Returns, All 10-Year Periods since 1970 (In)



² Analysis through March 2019. The 60/40 represents 60% capital weight in equities and 40% capital weight in nominal bonds.

Country Outperformance Should Not Be Extrapolated

We would be nervous about extrapolating US outperformance, and if anything the reverse appears more likely to us going forward given current pricing. The table below ranks different countries' respective equity returns over every decade since the 1900s. As shown, an equities market that outperforms in one decade often underperforms in the next, with no one country consistently outperforming. In the 1980s, the US was one of the worst performers; that flipped in the 1990s when the US was nearly the top performer, flipped again in the 2000s when the US underperformed, and then reversed again in the 2010s when the US has been on top.

Rankings of Equity Excess Returns (Hedged) by Decade

2010s		2000s		1990s		1980s	
United States	182%	China ³	76%	Switzerland	231%	Sweden	503%
New Zealand	149%	Norway	48%	United States	217%	Korea*	354%
Sweden	146%	Brazil	45%	Sweden*	190%	Japan	310%
Japan	105%	Canada	42%	France	117%	Spain	188%
Germany	99%	Australia	36%	United Kingdom	110%	Equal Weight	185%
Switzerland	97%	Korea	22%	Spain	96%	Germany	179%
France	92%	Spain	17%	Germany	92%	United Kingdom	173%
United Kingdom	83%	Equal Weight	6%	Australia	59%	Italy	169%
Norway	78%	New Zealand	-3%	Equal Weight	53%	France	158%
Equal Weight	70%	Switzerland*	-4%	Canada	52%	Switzerland	96%
Taiwan	55%	Sweden	-13%	Italy	40%	United States	96%
Canada	54%	Taiwan	-23%	Norway	2%	Australia	39%
Australia	41%	United Kingdom	-23%	New Zealand	-6%	Norway	23%
Korea	27%	United States	-27%	Japan	-47%	Canada	-4%
Italy	20%	France	-32%	Taiwan	-49%		
Spain	11%	Italy	-35%	Korea	-66%		
China	1%	Germany	-36%				
Brazil	-26%	Japan	-41%				
Avg. Correl.	65%	Avg. Correl.	74%	Avg. Correl.	50%	Avg. Correl.	46%
Best - Worst	209%	Best - Worst	117%	Best - Worst	296%	Best - Worst	507%

 $^{^{\}scriptscriptstyle 3}$ China equities start in 2001.

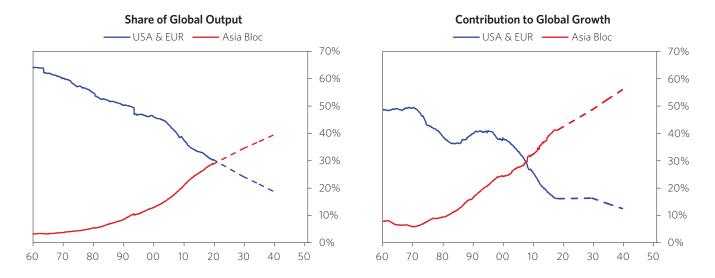
⁴ A "*" denotes the best performer of the prior decade.

1970s		1960s		1950s		1940s	
Korea	456%	Spain	312%	Germany	739%	Spain	140%
Japan	66%	Australia	148%	Japan	662%	Equal Weight	138%
Canada	30%	Equal Weight	75%	Italy	484%	Australia	132%
Equal Weight	10%	Japan	74%	France	484%	United States	122%
United Kingdom	8%	Canada	71%	Equal Weight	384%	United Kingdom*	117%
Switzerland	-5%	United States	41%	United States	376%	Canada	115%
Australia	-12%	Sweden	31%	Australia	277%	Sweden	100%
United States	-17%	United Kingdom	28%	United Kingdom	270%	France	-19%
France	-20%	Germany*	21%	Sweden	240%	Germany	-35%
Sweden	-22%	Italy	-1%	Canada	222%		
Germany	-31%	France	-6%	Spain*	98%		
Spain*	-69%						
Italy	-74%						
Avg. Correl.	38%	Avg. Correl.	26%	Avg. Correl.	20%	Avg. Correl.	17%
Best - Worst	530%	Best - Worst	319%	Best - Worst	641%	Best - Worst	176%
1930s		1920s		1910s		1900s	
1930s		1920s		1910s		1900s	
	6%	1920s Equal Weight	249%	1910s 	10%	1900s United States	83%
United Kingdom	6% 2%		249% 178%		10%		83% 9%
United Kingdom Germany		Equal Weight		United States*		United States	
United Kingdom Germany Canada	2%	Equal Weight Germany	178%	United States*	-35%	United States Equal Weight	9%
United Kingdom Germany Canada Equal Weight *	2% -9%	Equal Weight Germany United States*	178% 170%	United States* France United Kingdom	-35% -44%	United States Equal Weight France	9% 9%
United Kingdom Germany Canada Equal Weight* United States	2% -9% -10%	Equal Weight Germany United States* Canada	178% 170% 134%	United States* France United Kingdom Equal Weight	-35% -44% -54%	United States Equal Weight France Germany	9% 9% 9%
United Kingdom Germany Canada Equal Weight*	2% -9% -10%	Equal Weight Germany United States* Canada United Kingdom	178% 170% 134% 87%	United States* France United Kingdom Equal Weight Germany	-35% -44% -54%	United States Equal Weight France Germany Russia	9% 9% 9% -7%
United Kingdom Germany Canada Equal Weight* United States Sweden	2% -9% -10% -12% -22%	Equal Weight Germany United States* Canada United Kingdom Spain	178% 170% 134% 87% 72%	United States* France United Kingdom Equal Weight Germany	-35% -44% -54%	United States Equal Weight France Germany Russia	9% 9% 9% -7%
United Kingdom Germany Canada Equal Weight* United States Sweden France	2% -9% -10% -12% -22%	Equal Weight Germany United States* Canada United Kingdom Spain France	178% 170% 134% 87% 72% 41%	United States* France United Kingdom Equal Weight Germany	-35% -44% -54%	United States Equal Weight France Germany Russia	9% 9% 9% -7%

This flip-flopping pattern is understandable, as markets are discounting machines—the relative strength that causes one country to outperform gets baked into the price and if anything is often then over-extrapolated, making a disappointment more likely in the future (and vice versa). This has happened to a significant degree with recent US outperformance: markets are pricing that outperformance to continue at a time when the conditions that produced it are no longer in place. Markets are pricing real implied earnings growth in the US to be roughly 7% higher than in the rest of the world, even as the impact of one-off fiscal stimulus in the US is fading and both the cyclical and secular pressures are shifting to put strains on US companies.

Chinese Public Markets Now Offer a Unique Opportunity to Diversify

The following charts are likely familiar, but it's worth pausing on just how much the world has changed in our lifetimes with respect to the composition of global output and growth and the opportunity for global diversification. China and emerging Asia are now roughly equal contributors to global output versus the US and Euroland combined, and make up a significantly higher proportion of global growth, with these trends likely to continue. The world is increasingly tri-polar, with China being of equal importance as the US and Euroland.

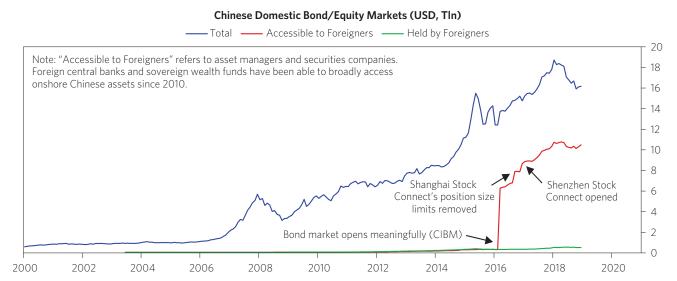


The capital markets reflect the new economic reality, with China now having the second largest equity market and the third largest bond market in the world.

Global Rankings of Asset Markets (USD, Bln)

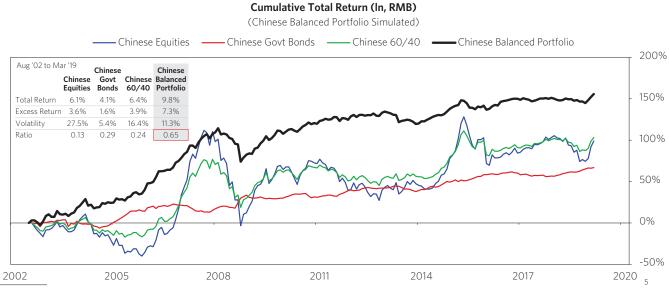
Rank	Equity Marke	t Cap	Govt Bonds Outstanding		
1	United States	\$30,031	United States	\$15,901	
2	China	\$11,251	Japan	\$9,633	
3	Japan	\$5,708	China	\$6,593	
4	United Kingdom	\$3,327	France	\$2,262	
5	France	\$2,426	Italy	\$2,220	

The big deal is that these markets are now open to foreign investors. The blue line below shows the total size of the Chinese equity and bond markets, with the red line showing the amount now accessible to foreigners (over \$10 trillion). The green line shows the amount currently held by foreigners: by and large, foreigners haven't taken advantage of the opening of Chinese markets, and are effectively quite underweight China relative to its importance in the global economy and its size in global markets.



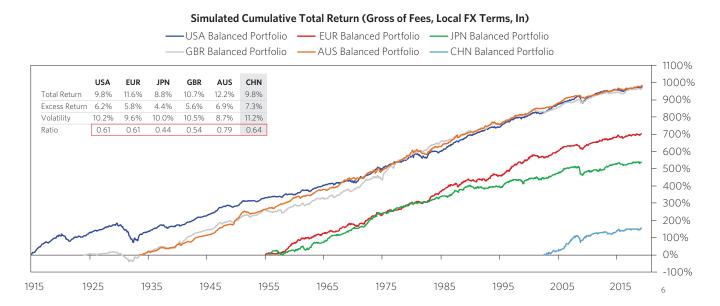
A Balanced Portfolio Is Possible in Liquid Chinese Assets

The opening up of the Chinese bond market alongside the equities market means that it's now possible for foreigners to hold a balanced portfolio of Chinese assets. That is, you can harvest the returns of Chinese assets relative to cash without making a bet on the Chinese economy or Chinese economic conditions. Below, we show the returns of a balanced portfolio of Chinese assets versus Chinese equities, bonds, and a Chinese 60/40. The balanced portfolio would have generated a significantly higher return-to-risk ratio than these alternatives, and in particular would have generated a higher return than Chinese equities with about one-third the risk, avoiding the wild gyrations in the Chinese equities market.



⁵ Data through March 2019 and shown gross of fees. The Balanced Portfolio of Chinese Assets is simulated based on the All Weather China Asset Mix. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the Important Disclosures located at the end of the research paper.

Balance across Chinese assets works about as well as balance anywhere else. Chinese assets work in fundamentally the same ways as any other country's assets: they offer a risk premium over time and respond logically to economic conditions. As a result, a balanced portfolio of Chinese assets has produced by and large the same return-to-risk ratio over time as a balanced mix of any other country's assets, roughly 0.6.



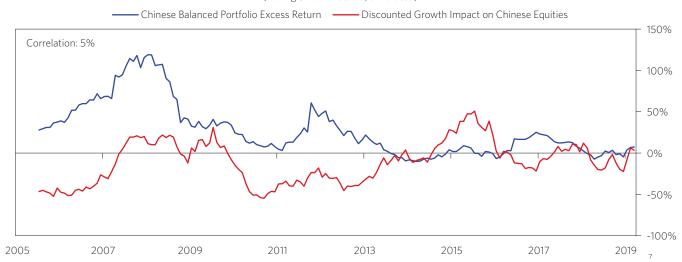
A Balanced Portfolio Is Not a Bet on Chinese Growth

Foreign investors who are already in China have largely focused on equities and private equity, and Chinese growth is either directly or indirectly a significant driver of global equities. So many investors already have exposure to Chinese growth. What we largely don't see investors doing is harnessing the returns of Chinese assets without taking on this growth bet. A balanced portfolio of Chinese assets can capture the returns of Chinese assets relative to cash, while neutralizing exposure to Chinese economic conditions (shifts in discounted Chinese growth and inflation). The blue line below shows the rolling three-year returns of a Chinese balanced portfolio, and the red line shows the impact of shifts in discounted Chinese growth on Chinese equity market returns. The two are essentially uncorrelated. Investors in Chinese equities or other pro-growth assets feel the impact of the red line, which has no expected return over time and just adds risk—risk that happens to be correlated to most portfolios, given their typical pro-growth bias.

⁶ Data through March 2019. Single country Balanced Portfolios are simulated versions of environmentally balanced portfolios using local assets. The Balanced Portfolio of Chinese Assets is simulated based on the All Weather China Asset Mix. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the Important Disclosures located at the end of the research paper.

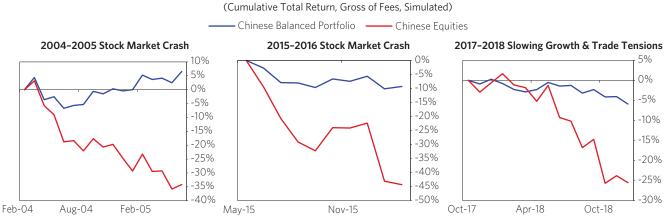
Chinese Balanced Portfolio vs Chinese Discounted Growth

(Rolling 3-Year Returns, Simulated)



By hedging out exposure to Chinese growth, a balanced portfolio would have been flat to slightly positive over the three Chinese equities bear markets since 2002, including last year's equities decline.

Chinese Balanced Portfolio vs Equities during Equity Bear Markets



⁷ Data through March 2019. The Balanced Portfolio of Chinese Assets is simulated based on the All Weather China Asset Mix. Discounted Growth Impact on Chinese Equities is based on the AW Lens, which is an analytical approach to assess the behavior of the major drivers of asset performance and their impact on markets during any given period, based on Bridgewater's understanding of global financial markets. Information shown is the result of analyses of actual and simulated market data. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the Important Disclosures located at the end of the research paper.

Independent Monetary Policy and Differentiated Investor Pools Mean That Discount Rates and Risk Premiums in China Are Lowly Correlated to the Rest of the World

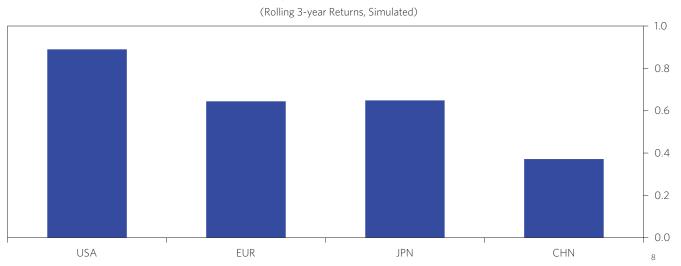
Balancing Chinese assets to shifts in Chinese economic conditions leaves the risk premiums and discount rates across the assets as the primary driver of returns, and those risk premiums and discount rates are highly diversifying to most portfolios. China has a domestic-oriented economy with an independent monetary policy and (for the time being) a distinct investor pool. As a result, its risk premiums and discount rates are only ~30% correlated to global risk premiums and discount rates. As China opens up, these correlations may rise, but for the reasons we have already discussed, i.e., its large domestic economy and independent monetary policy, it is still an attractively uncorrelated return stream.

Returns from Chinese Risk Premiums & Discount Rates vs Global Risk Premiums & Discount Rates



This presents a unique opportunity, as other major markets aren't nearly as diversifying, with risk premiums in the US ~90% correlated to global ones.

Correlation of Economy's Risk Premiums & Discount Rates to Global

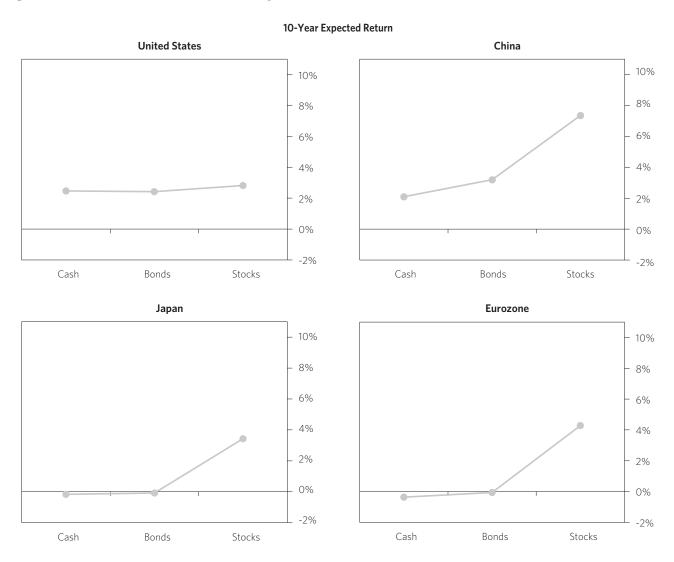


While There Are Many Risks to Investing in Chinese Assets, We Think the Expected Returns Relative to the Risk of Chinese Assets Are Attractive

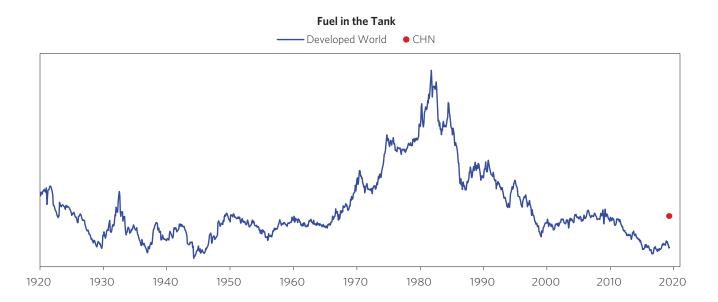
Investing in Chinese assets is risky—the problem is that the alternatives are at least as risky. And as best as we can tell, investors in Chinese assets are compensated for the risks at least to the same degree as elsewhere, and, given current pricing, arguably more so right now. Every major developed economy is facing serious secular challenges of high levels of debt and other non-debt IOUs, monetary policy at or near its limits, a growing wealth/opportunity gap, and resultant growing populism. China has its own challenges of reducing high debt levels and leverage in the financial system while stimulating productive growth, but we believe they have the tools to handle these challenges (e.g., their debts are in their own currency) and are deploying those tools skillfully.

B Data through March 2019. Country risk premiums and discount rates are simulated using All Weather-like asset allocation in regional terms using local assets. China risk premiums and discount rates are simulated using global assets where necessary to achieve diversification. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the Important Disclosures located at the end of the research paper.

Though we would separate strategic from tactical considerations in making any investment decision, at this point in time the two are aligning with respect to increasing exposure to China. Below, we show the risk curves across countries: the expected 10-year returns of cash, bonds, and stocks. A normal risk curve would be upward sloping and roughly linear, with bonds offering higher returns than cash and stocks offering higher returns than bonds. The pricing in most of the developed world is out of equilibrium. The risk curve in the US is roughly flat, with bonds and stocks offering virtually no incremental return over cash, while European and Japanese bonds offer virtually no return to cash. The expected returns of Chinese assets are both higher and more normal in relation to one another.

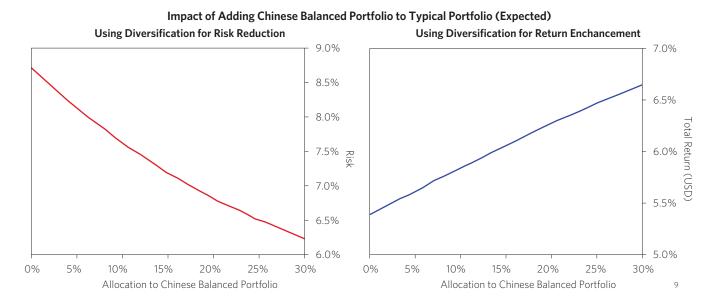


In part as a function of more normal asset pricing, China has considerably more room to stimulate than developed world central banks. Below, we show our measure of developed world "fuel in the tank"—all of the ways that central banks have to stimulate, including both interest rates and quantitative easing. Developed world fuel is near historic lows, meaning central banks would struggle to offset a deep downturn, while China has considerably more capacity to do so. And importantly, the ability to coordinate and use both fiscal and monetary levers is a distinct advantage in managing the economic cycle for Chinese policy makers relative to the rest of the developed world.



You Can Use Chinese Assets for Risk Reduction or Return Enhancement

The improved diversification from an allocation to Chinese assets can be used for risk reduction, return enhancement, or some degree of both. Starting with a simple global 60/40 portfolio, below we show the impact of using a Chinese balanced portfolio for risk reduction (left) or return enhancement (right).



⁹ There are no guarantees that expected returns can or will be achieved.

This research paper is prepared by and is the property of Bridgewater Associates, LP and is circulated for informational and educational purposes only. There is no consideration given to the specific investment needs, objectives or tolerances of any of the recipients. Additionally, Bridgewater's actual investment positions may, and often will, vary from its conclusions discussed herein based on any number of factors, such as client investment restrictions, portfolio rebalancing and transactions costs, among others. Recipients should consult their own advisors, including tax advisors, before making any investment decision. This material is for informational and educational purposes only and is not an offer to sell or the solicitation of an offer to buy the securities or other instruments mentioned. Any such offering will be made pursuant to a definitive offering memorandum. This material does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual investors which are necessary considerations before making any investment decision. Investors should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, where appropriate, seek professional advice, including legal, tax, accounting, investment or other advice.

The information provided herein is not intended to provide a sufficient basis on which to make an investment decision and investment decisions should not be based on simulated, hypothetical or illustrative information that have inherent limitations. Unlike an actual performance record simulated or hypothetical results do not represent actual trading or the actual costs of management and may have under or over compensated for the impact of certain market risk factors. Bridgewater makes no representation that any account will or is likely to achieve returns similar to those shown. The price and value of the investments referred to in this research and the income therefrom may fluctuate. Every investment involves risk and in volatile or uncertain market conditions, significant variations in the value or return on that investment may occur. Investments in hedge funds are complex, speculative and carry a high degree of risk, including the risk of a complete loss of an investor's entire investment. Past performance is not a guide to future performance, future returns are not guaranteed, and a complete loss of original capital may occur. Certain transactions, including those involving leverage, futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Fluctuations in exchange rates could have material adverse effects on the value or price of, or income derived from, certain investments.

Where shown, a Balanced Portfolio of Chinese Assets is based on the All Weather China Asset Mix, which is simulated. Other, single country balanced portfolios are simulated versions of environmentally balanced portfolios using local assets, as indicated. Such Balanced Portfolios are simulated by applying All Weather asset mix weights, which are determined by Bridgewater's proprietary process for building an environmentally balanced portfolio, to historical market returns. We use actual market returns when available and otherwise use Bridgewater Associates' proprietary estimates, based on other available data and our fundamental understanding of asset classes. In certain cases, market data for an exposure which otherwise would exist in the simulation may be omitted if the relevant data is unavailable, deemed unreliable, immaterial or accounted for using proxies. In the case of omitted markets, other markets in the same asset class, which represent the vast majority of our positions in each asset class, are scaled to represent the full asset class position. Simulated asset returns are subject to considerable uncertainty and potential error, as there is a great deal that cannot be known about how assets would have performed in the absence of actual market returns. These simulations are an approximation of our actual process but not an exact replication, and may have differences including but not limited to the precise mix of markets used and the weights applied to those markets. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology (including the addition/removal of asset classes) and the underlying market data. There is no guarantee that previous results would not be materially different. Future changes could materially change previous simulated return in order to reflect the changes accurately across time.

Where shown, the All Weather Lens is an analytical approach to assess the behavior of the major drivers of asset performance and their impact on markets during any given period, based on Bridgewater's understanding of global financial markets. Information shown is the result of analyses of actual and simulated market data.

Where shown, the US Traditional Portfolio includes interest in a variety of assets (which include, equities, nominal bonds, corporate bonds, MBS, inflation linked bonds, high yield bonds, real estate, commodities, and hedge fund interests). Allocation weights are estimates based either upon Bridgewater Associates' understanding of standard asset allocation (which may change without notice) or publicly available information. Asset class returns are actual market returns where available and otherwise a proxy index constructed based on Bridgewater Associates understanding of global financial markets. Information regarding specific indices and simulation methods used for proxies is available upon request (except where the proprietary nature of information precludes its dissemination). Results are hypothetical or simulated and gross of fees unless otherwise indicated.

Bridgewater research utilizes data and information from public, private and internal sources, including data from actual Bridgewater trades. Sources include, the Australian Bureau of Statistics, Barclays Capital Inc., Bloomberg Finance L.P., CBRE, Inc., CEIC Data Company Ltd., Consensus Economics Inc., Corelogic, Inc., CoStar Realty Information, Inc., CreditSights, Inc., Credit Market Analysis Ltd., Dealogic LLC, DTCC Data Repository (U.S.), LLC, Ecoanalitica, EPFR Global, Eurasia Group Ltd., European Money Markets Institute – EMMI, Factset Research Systems, Inc., The Financial Times Limited, GaveKal Research Ltd., Global Financial Data, Inc., Haver Analytics, Inc., The Investment Funds Institute of Canada, Intercontinental Exchange (ICE), International Energy Agency, Lombard Street Research, Markit Economics Limited, Mergent, Inc., Metals Focus Ltd, Moody's Analytics, Inc., MSCI, Inc., National Bureau of Economic Research, Organisation for Economic Cooperation and Development, Pensions & Investments Research Center, Renwood Realtytrac, LLC, RP Data Ltd, Rystad Energy, Inc., S&P Global Market Intelligence Inc., Sentix Gmbh, Spears & Associates, Inc., State Street Bank and Trust Company, Sun Hung Kai Financial (UK), Thomson Reuters, Tokyo Stock Exchange, United Nations, US Department of Commerce, Wind Information (Shanghai) Co Ltd, Wood Mackenzie Limited, World Bureau of Metal Statistics, and World Economic Forum. While we consider information from external sources to be reliable, we do not assume responsibility for its accuracy.

This information is not directed at or intended for distribution to or use by any person or entity located in any jurisdiction where such distribution, publication, availability or use would be contrary to applicable law or regulation or which would subject Bridgewater to any registration or licensing requirements within such jurisdiction. No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of Bridgewater ® Associates, LP.

The views expressed herein are solely those of Bridgewater as of the date of this report and are subject to change without notice. Bridgewater may have a significant financial interest in one or more of the positions and/or securities or derivatives discussed. Those responsible for preparing this report receive compensation based upon various factors, including, among other things, the quality of their work and firm revenues.