Geographic Diversification Can Be a Lifesaver,

Yet Most Portfolios Are Highly Geographically Concentrated

FEBRUARY 2019

MELISSA SAPHIER
KAREN KARNIOL-TAMBOUR
PAT MARGOLIS

BRIDGEWATER

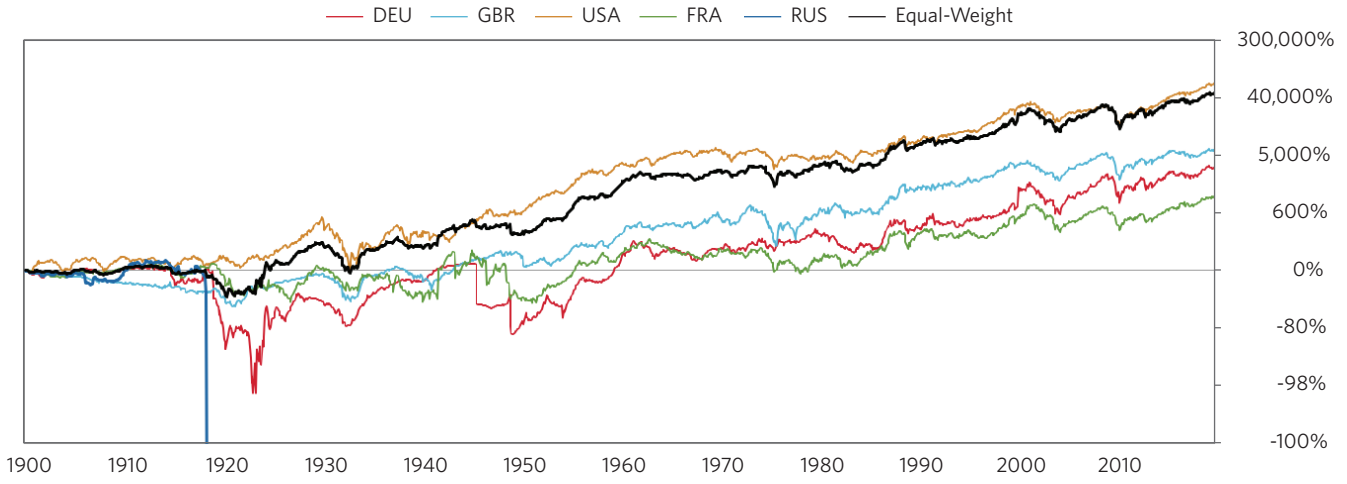
The best way we know to earn consistent returns and preserve wealth is to build portfolios that are as resilient as possible to the range of ways the world could unfold. To uncover vulnerabilities that are outside of investors' recent lived experiences, we find it valuable to stress test portfolios across the various environments that have cropped up across countries throughout history.

One common vulnerability is geographic concentration. In the past century, there have been many times when investors concentrated in one country saw their wealth wiped out by geopolitical upheavals, debt crises, monetary reforms, or the bursting of bubbles, while markets in other countries remained resilient. Even without such extreme events, there is always a big divergence across the best and worst performing countries in any given period. And no one country consistently outperforms, as outperformance can lead to relative overvaluation and a subsequent reversal. Rather than try to predict who the winner will be in any particular period, a geographically diversified portfolio creates a more consistent return stream that tends to do almost as well as whatever the best single country turns out to be at any point in time. So geographic diversification has big upside and little downside for investors.

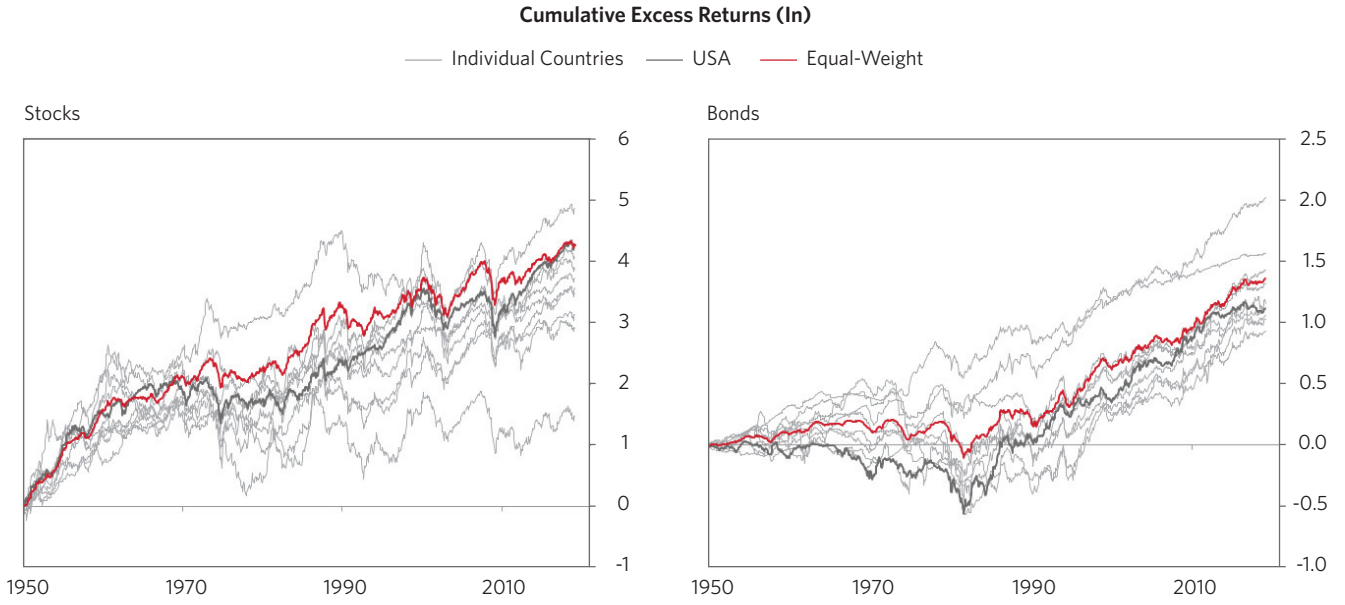
Geographic diversification is likely to be more important in the coming decades than it has been in our lived experience as investors. Through most of our working lifetimes, countries' economies and markets have become increasingly intertwined due to globalization and the free flow of capital, under the auspices of the US as a dominant economic force and keeper of a stable global geopolitical order. Looking ahead, China's ascent as an independent economic and financial center of gravity with an independent monetary policy and credit system is highly diversifying, making the world less unipolar and less correlated. At the same time, the rising risk of conflict within and across countries also increases the chances of divergent outcomes. Additionally, geographic diversification felt less urgent during the recent decade of great returns for most assets and portfolios. Low asset yields going forward make diversification and efficient risk-taking all the more important to investors.

To illustrate the impact of geographic diversification, we begin by looking at the characteristics of return streams from single countries relative to weighting a portfolio equally across countries, rebalancing annually. The chart below shows cumulative returns above cash back to 1900 for the equity markets where we have reliable data going back over 100 years. An investor concentrated in Russia or Germany in the early 20th century would have lost most or all of their wealth, while an equally weighted mix of the five countries shown below does almost as well as the best performer.

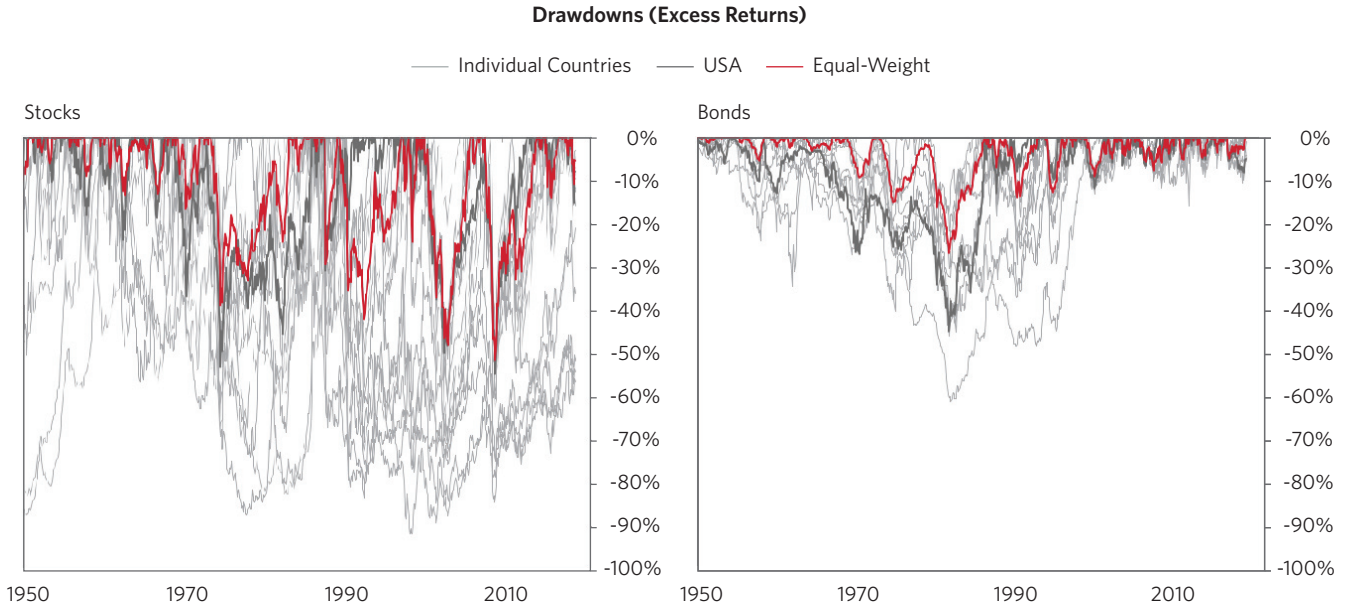
Equity Market Cumulative Excess Returns Since 1900 (In Scale)



Looking at a broader set of stock and bond markets back to 1950, you can see that an equally weighted mix has consistently performed well. And while no single equity market has suffered as much as Germany and Russia did in the first half of the 20th century, there is still a broad range of performance across countries, with the US fluctuating like any other country. In the charts below, the gray lines represent individual countries, with the US called out in dark gray, while the equally weighted mix is shown in red.

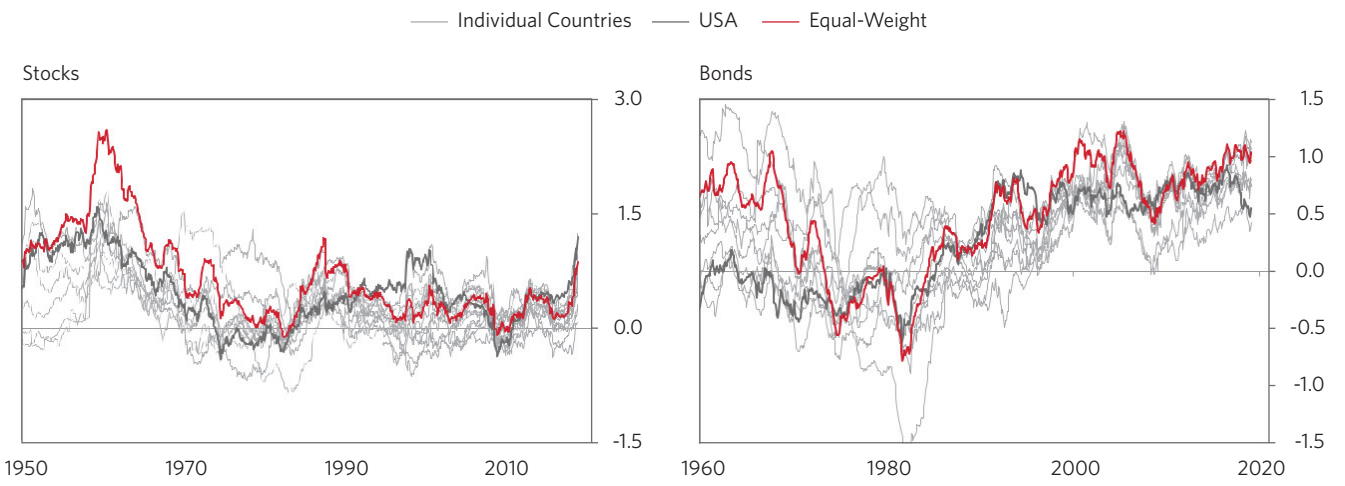


The geographically diversified portfolios do so well because they minimize drawdowns, creating a much more consistent return stream that allows for faster compounding.



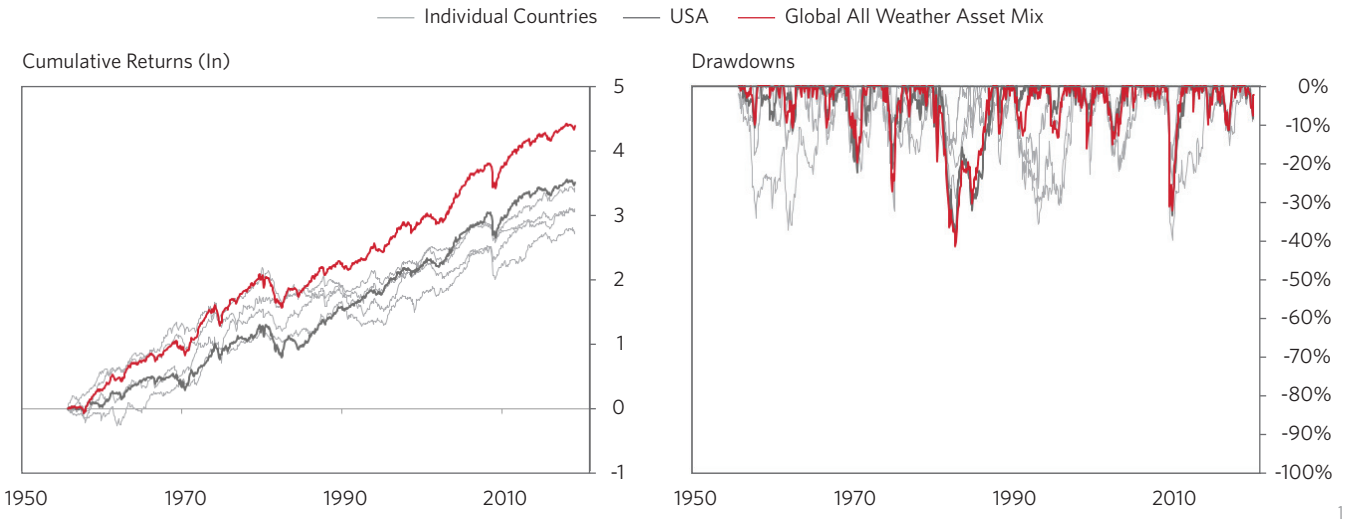
This basic picture holds through time regardless of the starting point, as shown in the following charts of the 10-year rolling return-to-risk ratio across individual countries and a diversified portfolio.

Rolling 10-Year Return-to-Risk Ratio



Even when we create portfolios that are diversified across economic environments (what we refer to as an All Weather mix of assets, balanced to perform equally well when growth or inflation are rising or falling), there is significant value to adding geographic diversification (as we do in our own All Weather portfolios). The charts below repeat the first two perspectives we showed above, this time for country-specific All Weather mixes as well as our own geographically diversified All Weather asset mix.

Country-Level and Global All Weather Asset Mixes
(Simulated, Gross Excess Returns)



[1]

1 Where shown the Global All Weather Asset Mix and Country-Level All Weather Asset Mixes are simulated. 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 PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS. Past performnce is not indicative of future results. Please review the disclosures located at the end of the Daily Observations.

The Best and Worst Performers Naturally Fluctuate Through Time as Markets Move Toward Equilibrium Pricing

To get a better feel for what an investor would have experienced in any given period and how it compares to the longer-term range of outcomes, the table below looks decade by decade at how equity performance across countries stacks up. You can see the fluctuations through time; no one country is consistently outperforming, as outperformance can lead to relative overvaluation and a subsequent reversal. This decade, the US has been the best performer so far, but it was one of the weaker performers in the previous decade following the dot-com bust; it was one of the best performers in the 1990s, but before that you have to look back to the 1920s to find a decade in which US equity performance was better than middling.

Rankings of Equity Excess Returns by Decade

1900s

United States	83%
Equal Weight	9%
France	9%
Germany	9%
Russia	-7%
United Kingdom	-34%
Avg. Correl.	19%
Best - Worst	116%

1910s

United States	10%
France	-35%
United Kingdom	-44%
Equal Weight	-54%
Germany	-92%
Russia	-100%
Avg. Correl.	3%
Best - Worst	110%

1920s

Equal Weight	249%
Germany	178%
United States	170%
Canada	134%
United Kingdom	87%
Spain	72%
France	41%
Sweden	24%
Avg. Correl.	26%
Best - Worst	225%

1930s

United Kingdom	6%
Germany	2%
Canada	-9%
Equal Weight	-10%
United States	-12%
Sweden	-22%
France	-54%
Spain	-61%
Avg. Correl.	37%
Best - Worst	68%

1940s

Spain	140%
Equal Weight	138%
Australia	132%
United States	122%
United Kingdom	117%
Canada	115%
Sweden	100%
France	-19%
Germany	-35%
Avg. Correl.	17%
Best - Worst	176%

1950s

Germany	739%
Japan	662%
Italy	484%
France	484%
Equal Weight	384%
United States	376%
Australia	277%
United Kingdom	270%
Sweden	240%
Canada	222%
Spain	98%
Avg. Correl.	20%
Best - Worst	641%

1960s

Spain	312%
Australia	148%
Equal Weight	75%
Japan	74%
Canada	71%
United States	41%
Sweden	31%
United Kingdom	28%
Germany	21%
Italy	-1%
France	-6%
Avg. Correl.	26%
Best - Worst	319%

1970s

Korea	456%
Japan	66%
Canada	30%
Equal Weight	10%
United Kingdom	8%
Switzerland	-5%
Australia	-12%
United States	-17%
France	-20%
Sweden	-22%
Germany	-31%
Spain	-69%
Italy	-74%
Avg. Correl.	38%
Best - Worst	530%

1980s

Sweden	503%
Korea	354%
Japan	310%
Spain	188%
Equal Weight	185%
Germany	179%
United Kingdom	173%
Italy	169%
France	158%
Switzerland	96%
United States	96%
Australia	39%
Norway	23%
Canada	-4%

Avg. Correl.	46%
Best - Worst	507%

1990s

Switzerland	231%
United States	217%
Sweden	190%
France	117%
United Kingdom	110%
Spain	96%
Germany	92%
Australia	59%
Equal Weight	53%
Canada	52%
Italy	40%
Norway	2%
New Zealand	-6%
Japan	-47%
Taiwan	-49%
Korea	-66%

Avg. Correl.	50%
Best - Worst	296%

2000s

Norway	48%
Brazil	45%
Canada	42%
Australia	36%
Korea	22%
Spain	17%
Equal Weight	1%
New Zealand	-3%
Switzerland	-4%
Sweden	-13%
Taiwan	-23%
United Kingdom	-23%
United States	-27%
France	-32%
Italy	-35%
Germany	-36%
Japan	-41%

Avg. Correl.	74%
Best - Worst	89%

2010s

United States	182%
New Zealand	149%
Sweden	146%
Japan	105%
Germany	99%
Switzerland	97%
France	92%
United Kingdom	83%
Norway	78%
Equal Weight	74%
Taiwan	55%
Canada	54%
Australia	41%
Korea	27%
Italy	20%
Spain	11%
Brazil	-26%

Avg. Correl.	65%
Best - Worst	209%

Geographic Diversification Can Be a Lifesaver

There are plenty of instances in which geographic diversification has been a lifesaver, preventing wealth from being wiped out. Below, we show a few perspectives on this. For each country, we looked at its deepest drawdown and how long it took to recoup the losses. There are plenty of instances where a given country's equity market was decimated, and it often takes decades to recover from the losses. Most countries have worse drawdowns in their history than the equally weighted portfolio has ever had, despite many of them having track records that are decades shorter.

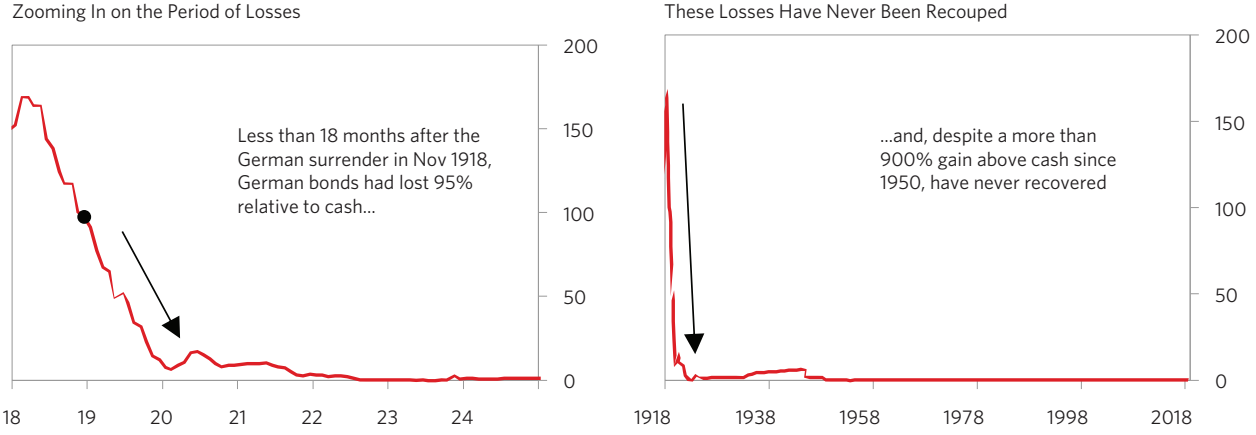
The equally weighted stock portfolio took material losses at times, but experienced drawdowns that were shorter and shallower, and it tended to recover faster than most individual country equity markets.

Worst Equity Excess Return Drawdowns Across Countries (USD Terms)

Country	Data Starts	Period of Worst Drawdown	What Caused It To Happen	Years To Recover From Start of DD	Magnitude of Losses	Equal-Weight Returns During Country DD
Switzerland	Jan 1966	2007 - 2009	Global Financial Crisis	7	-51%	-49%
Equal-Weight	**Jan 1900**	**1929 - 1932**	**Great Depression**	**13**	-66%	--
Australia	Jun 1933	1969 - 1974	70s Inflation	10	-66%	-17%
UK	Jan 1900	1972 - 1974	70s Inflation	11	-72%	-20%
Norway	Feb 1970	1974 - 1978	70s Inflation	16	-74%	-17%
Japan	May 1949	1989 - 2003	Deflationary Grind	29 & Counting	-75%	-16%
Brazil	Aug 1994	1994 - 1998	Balance of Payments Crisis	24 & Counting	-77%	23%
Canada	Jan 1919	1929 - 1932	Great Depression	16	-79%	-65%
New Zealand	Dec 1984	1986 - 1990	Currency & Constitutional Crisis	32 & Counting	-81%	-10%
Sweden	Dec 1915	1917 - 1932	WWI and Great Depression	29	-81%	-30%
Spain	Dec 1915	1973 - 1982	Political Turmoil/70s Inflation	26	-83%	-19%
France	Jan 1900	1944 - 1950	WWII	15	-83%	41%
Taiwan	Jan 1988	1990 - 2001	Asian Financial Crisis	29 & Counting	-85%	0%
United States	**Jan 1900**	**1929 - 1932**	**Great Depression**	**16**	-85%	-64%
Italy	Jan 1948	1960 - 1977	Political Turmoil ("Years of Lead")	59 & Counting	-87%	49%
Korea	Jan 1965	1989 - 1998	Asian Financial Crisis	30 & Counting	-91%	33%
Germany	Jan 1900	1912 - 1923	WWI	47	-99%	-62%
Russia	Jan 1900	1912 - 1918	WWI and Bolshevik Revolution	Never	-100%	-31%

While we focused on the stock market above, investors can of course suffer material losses being concentrated in other assets as well. One particularly egregious example is German bonds from WWI, which lost 95% of their value relative to cash in the year or so after Germany surrendered. Despite earning more than a 900% excess return since then, investors concentrated in German bonds in this period have never recovered their wealth.

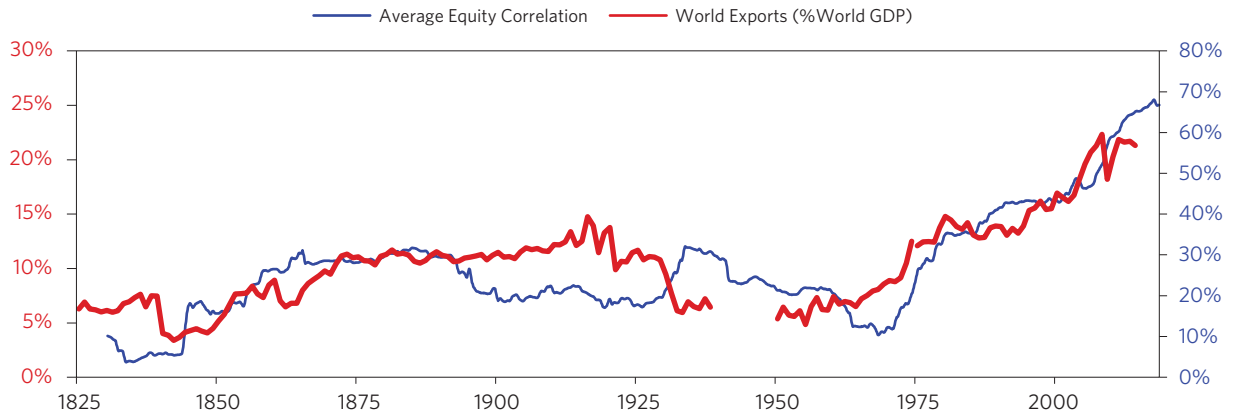
German Bonds Cumulative Excess Return (Indexed to after WWI Surrender, December 1918)



Geographic Diversification Is Likely to Be More Important in the Coming Decades Than It Has Been in Recent Decades

Over the past 40 years, economies and financial markets have been driven closer together by globalization and the free flow of capital, under the auspices of the US at the helm of the global economic and political order. So the past few decades of returns vastly understate the potential benefits of geographic diversification because of the unusual environment of high correlations across countries. As one indication of this, the chart below shows equity correlations across countries against the size of exports as a percent of the global economy back to 1825. The surge of globalization in the postwar era under US dominance, with rising trade and capital ties between countries globally, has led to unprecedented high correlations among the equity returns of different countries. In the past, there have been ebbs and flows in the pace of globalization—including a period of rising trade tensions culminating in the world wars—and of course we see rising anti-globalization sentiment resurging today.

World Exports and Average Cross-Country Equity Correlation

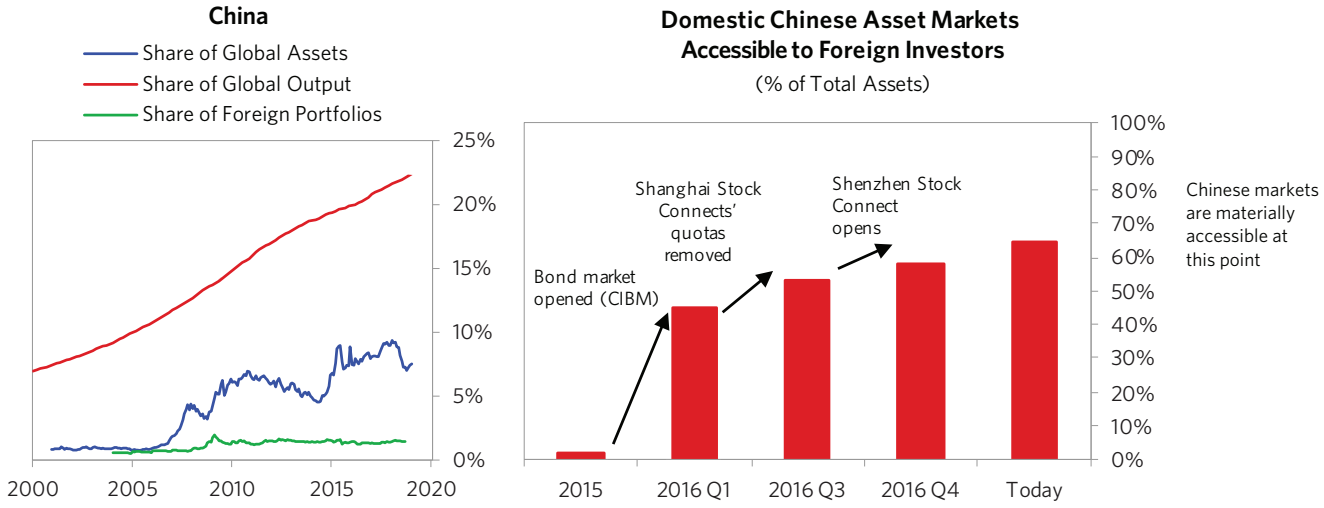


Going forward, rising conflict around trade and globalization may increase divergences across countries. Additionally, China's ascent as an important economic and financial center with divergent secular conditions from much of the developed world (e.g., more ability to stimulate in the event of a downturn) raises the likelihood of an increasingly multipolar and less correlated world. All of these forces raise the importance of diversification going forward. The table below reflects how lowly correlated the Chinese economy and its markets have been.

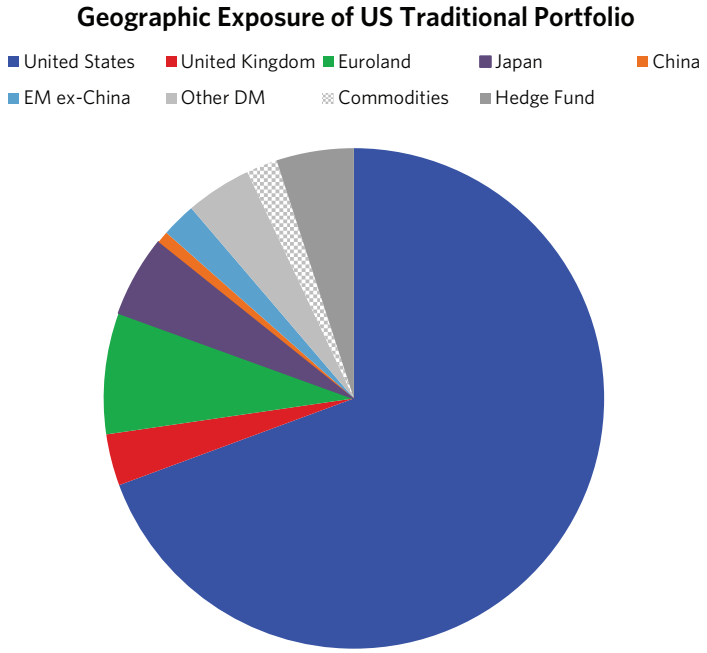
Correlations to US Assets and Conditions

Asset Correlations	Euroland	Japan	UK	China	South Africa	Brazil	Turkey
Equities	0.5	0.7	0.6	0.4	0.4	0.6	0.3
Bonds	0.7	0.5	0.6	0.4	0.3	0.1	0.3
Correlation of Economic Conditions							
Growth	0.4	0.4	0.4	0.0	0.2	0.1	0.2
Inflation	0.8	0.6	0.8	0.0	0.5	0.1	0.3
Short-Term Debt Cycle	0.4	0.3	0.6	-0.3	0.1	-0.3	0.5
Monetary Policy	0.9	0.4	0.9	0.0	0.4	0.5	0.4

At the same time, global portfolio exposure to China is tiny, though it is growing as Chinese markets gradually open up, making significant geographic diversification easier for investors to achieve.



Developed world investors are similarly under-allocated to the rest of the emerging world and tend to have a large home country bias, leaving them geographically concentrated overall. Below, we show an example of a typical US investor portfolio's geographic exposure.



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, the All Weather asset mix performance is 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. The All Weather asset mix simulation is 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 strategy changes could materially change previous simulated return in order to reflect the changes accurately across time.

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, Shanghai Wind Information Co., Ltd., 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.