

Bridgewater®

Daily Observations

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Our Thoughts about Risk Parity and All Weather

Since there has recently been a controversy about risk parity, since we were responsible for coming up with the idea, and since we now manage more of it than any other firm, we feel a responsibility for answering people's questions about it. Finding out what is true is a two-way responsibility. Ours is to honestly convey what we believe is true and yours is to probe us hard and openly so that we can work together toward learning what's true. Then, after we have had this quality exchange, we can each decide what we believe is true and what to do about it.

How did you come up with risk parity?

In 1990 Ray had acquired enough money to form a trust to take care of his family beyond him. He had learned that making tactical asset allocation moves successfully depended on the skills of the people who made them, that it was very difficult to discern who would make money from who would lose it, and that the strategic asset allocation decision was the most important decision. He had also seen wealth destroyed by supposedly great investors during periods of high inflation and depressions that periodically hit every country. Because Ray believed that he could not trust his trustees and the people they picked to make those asset allocations well, and because he believed that the basic laws of investing were timeless and universal, he set out to create a timeless and universal strategic asset allocation mix—i.e., one that would have worked well going back 100 years or more and that would have worked in all economic environments including most extreme ones, such as the US Great Depression (deflationary) in the 1930s and Germany's hyper-inflationary depression in the 1920s. Before he actually designed this mix he pretty much knew how it would work based on what he had previously learned about what drives market movements, especially what drives relative movements of markets. In the early-1990's he worked with Bob Prince to develop the All Weather asset allocation approach, which was the first risk parity portfolio, and in 1996 he and his family trusts invested in it. In 2003 he showed it to his institutional investment clients and many of them decided to join him. Since then, Greg Jensen and several other Bridgewater researchers have joined Ray and Bob to refine the process. Ray and his trusts still have the preponderance of their money in Bridgewater's All Weather products.

What is risk parity?

Risk parity is the means of adjusting the expected risks and returns of assets to make them more comparable. This is done for the purpose of creating a better diversified portfolio that will have a better return-risk ratio than would otherwise be possible. Once the better diversified portfolio is created and the return-risk ratio is improved, the portfolio can be geared to the desired level of risk and return.

Before we get into discussing risk, we should note that standard deviation doesn't capture the most important risk, which is that the return will be bad. That is because standard deviation is an approximate expression of the volatility around a return number, so it doesn't capture the risk that the expected return number will be wrong and

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bad. When thinking about risk, please think about both the volatility risk and the risk that our assumptions are wrong. Whatever the form of risk and risk measurement one uses, the important thing to know is that diversification reduces risk and can be used to reduce risks without reducing returns. While diversification reducing risk makes sense, being able to reduce risk without reducing return sounds too good to be true. As mentioned, our job is to explain how and yours is to probe us to see if that's true.

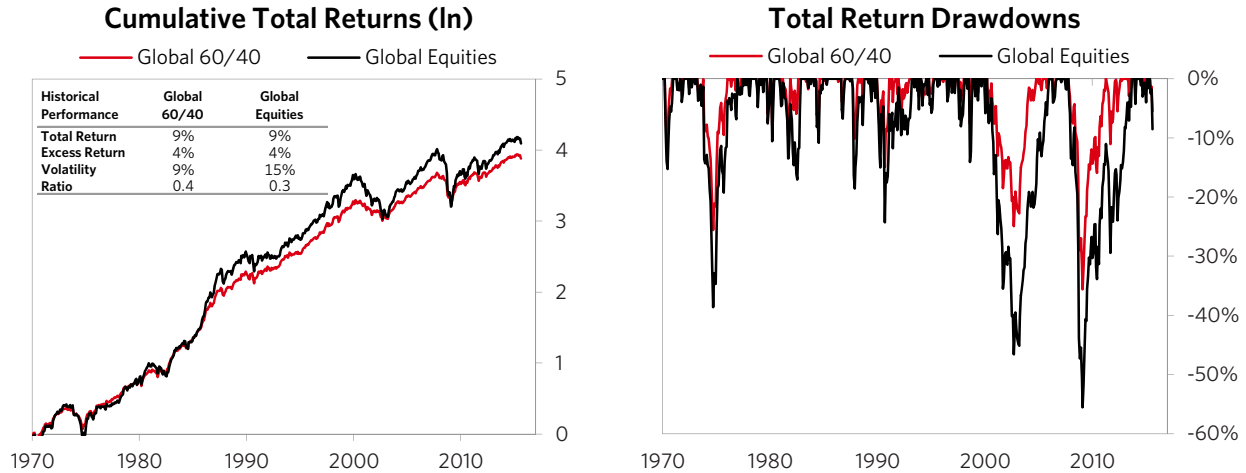
To understand the concept, imagine that you expect stocks to have a higher return than bonds, but you don't want to bet everything on stocks because you could be wrong, so you want to have a diversified portfolio of stocks and bonds. You might think that putting half of your money in each would do the trick, but that's not true because the stocks dominate the portfolio because they will move up and down by about twice as much as the bonds. Doing that would also lower your expected return because you expect bonds to have a lower expected return than stocks.

That was the dilemma faced by most investors before risk parity. On the other hand, if you lever up the bonds to have a similar volatility, both the expected risks and the expected returns of the bonds would increase to be more like the expected risks and returns of stocks. Doing that levering would raise the expected return of bonds because bonds have a expected return that is greater than cash so that borrowing cash to buy more bonds will give more of that profitable spread. So, by doing that and by putting 50% of your money into stocks and 50% of your money into levered bonds (which would be analogous to putting about 50% of your risk and 50% of your expected return in each), you would be betting like amounts on each. While that leveraging up creates increased volatility in the bond piece of the portfolio, that increased risk in bonds can be used to reduce the risk of your portfolio.

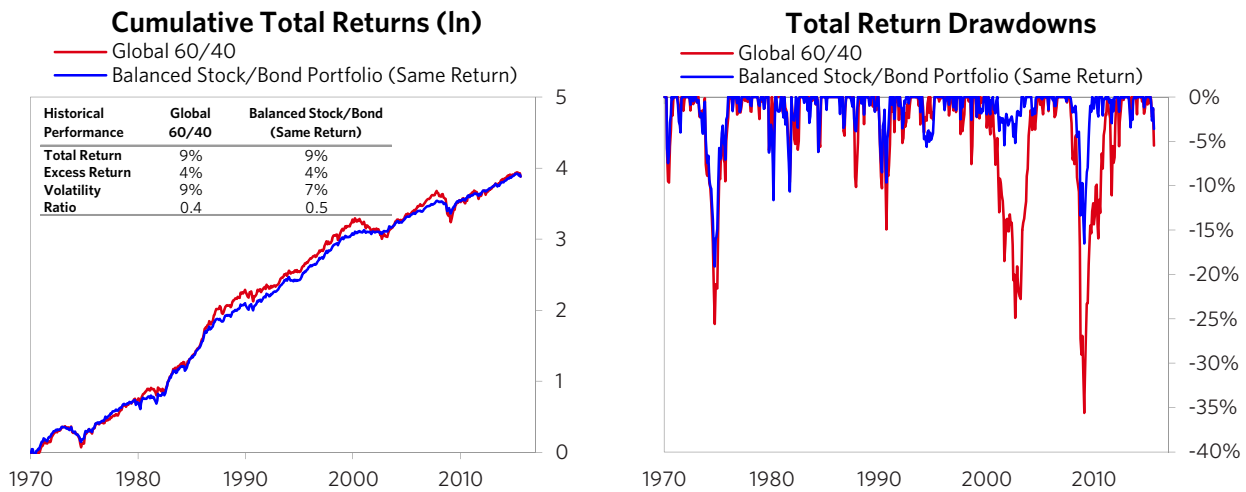
For example, if you put 50% of your money in global stocks and 50% of your money in global bonds, over the last 20 years, the return of your portfolio would have been 98% correlated with stocks and had a return of 6.5%. To have diversification, you would need the stocks and bonds to have comparable impacts on your portfolio. You could do that by taking more money out of stocks and putting it in bonds. To do that over that period, you would have had to change the asset mix from 50/50 to about 25% stocks and 75% bonds. If you did that, you would have achieved your diversification and thus reduced the risk by about 3%. But you also would have reduced the return by about 50bps. On the other hand, if you levered up bonds to have a risk that was comparable to the risk of equities, the overall risk of the portfolio would have been virtually the same as the 50/50 portfolio (i.e., 7%) and the return would have been about 1.5% greater (8.0% versus 6.5%). That happened because the risk-return ratio was improved by the greater parity that was achieved. Diversification does that—i.e., it improves the ratio of return to risk. If you understand that you can take that portfolio mix with an improved ratio and gear it up or down, then you can understand how you could deleverage the portfolio should you prefer it to have less risk rather than more return. We are just using this period and these numbers to convey the concept; any period will have somewhat different numbers, but the concept will be the same.

Let's look into that more carefully.

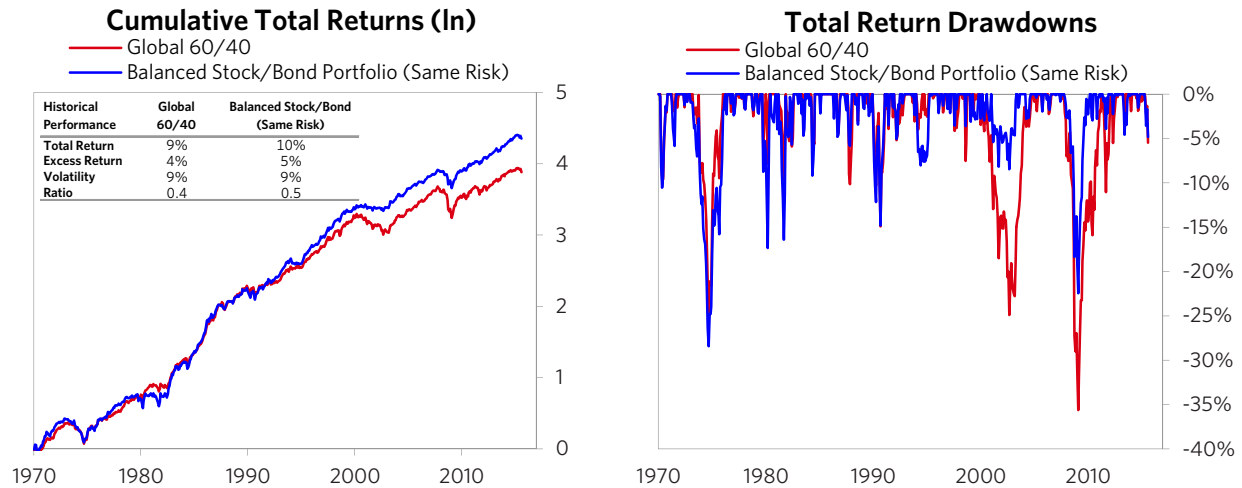
A traditional institutional portfolio has about 60% of its money in stocks and 40% in bonds. This 60/40 stocks/bonds portfolio may look diversified in capital terms, but because stocks are so much more volatile than bonds, bonds are providing virtually no diversification in such a portfolio. The returns of a global 60/40 portfolio are 98% correlated to the returns of its equity component. Also, the equity part of the portfolio had a bit higher return. As a result, the 60/40 portfolio had less risk and a bit less return than the 100% equity portfolio, as shown in the chart on the left. The chart on the right shows how the risks of the "diversified" 60/40 portfolio would have done in relation to the undiversified 100% equity portfolio. As you can see, there wasn't a heck of a lot of risk reduction - the drawdowns aren't all that different. Such is the nature of the risk/return tradeoffs as they are typically faced without the risk parity approach.



Now consider an alternative: a portfolio that levers bonds to a comparable risk to stocks, and holds equal risk in stocks and bonds with a degree of leverage in the bonds so that the expected return of the portfolio is the same as the expected return of the 60/40. Its annual and cumulative total returns would have looked like the below. This portfolio could achieve the same return as the 60/40 with over 200bps less risk and much shallower drawdowns, as seen below.



Most importantly, note that the ratio of return to risk is improved by a third (from 0.37 to 0.5). This gives the opportunity to take a little more risk, so that the risk of the portfolio is the same as the 60/40, and earn a higher return. As shown, the return of this portfolio was 100bps higher than the 60/40 with the same risk. The average size of losing periods is comparable between these two portfolios, but the balanced portfolio has less tail risk because its exposure is to two assets rather than one.



To be clear, we are just showing you these numbers in these periods to convey the concepts, not because these numbers are representative of all periods. Our main points are that a) no period is representative or knowable ahead of time, b) over any relevant time frame (e.g., 20 years, 5 years etc.—you pick it) we don't know what will be good or bad, and c) that by altering their risk and returns of assets so that they are comparable, we can have comparable exposures to each without reducing our expected returns.

We just gave you a very simple example of just using stocks and bonds to convey the point. The same principle applies to all asset classes, though the risks steadily decrease without reducing the returns as more assets are added in this way. In other words, by apportioning the risks better by leveraging low risk assets and/or deleveraging high risk assets so that they have more parity and using these adjusted assets rather than just the unadjusted ones, we can create a better balanced portfolio. That's risk parity. It should be noted that different investment managers who do risk parity all adjust their individual assets in basically the same way for the reasons described, but they structure their portfolios differently. We will touch on how they do it differently later.

When does this approach lose money?

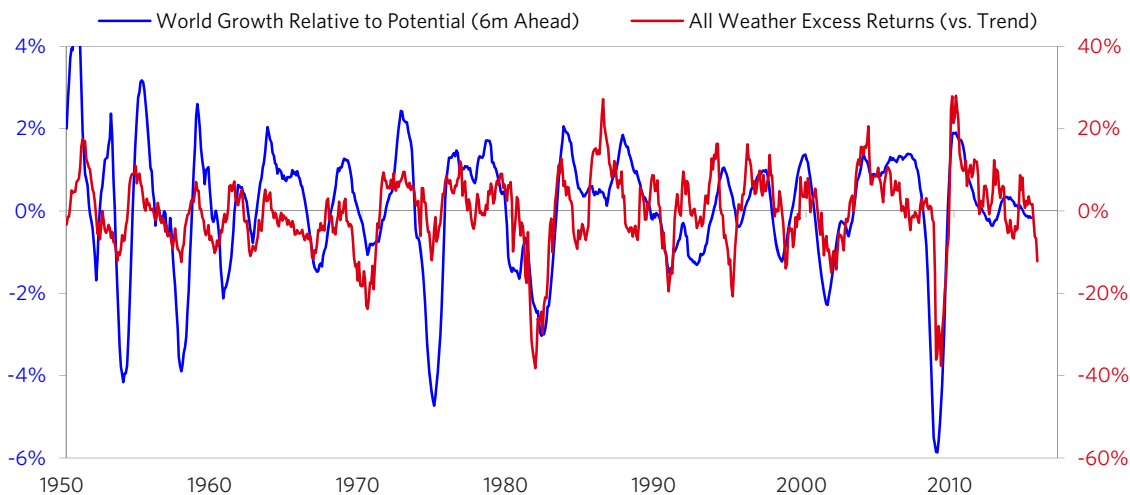
Risk parity loses money when the diversified portfolio of assets has a lower return than cash.

What are the risks of this happening?

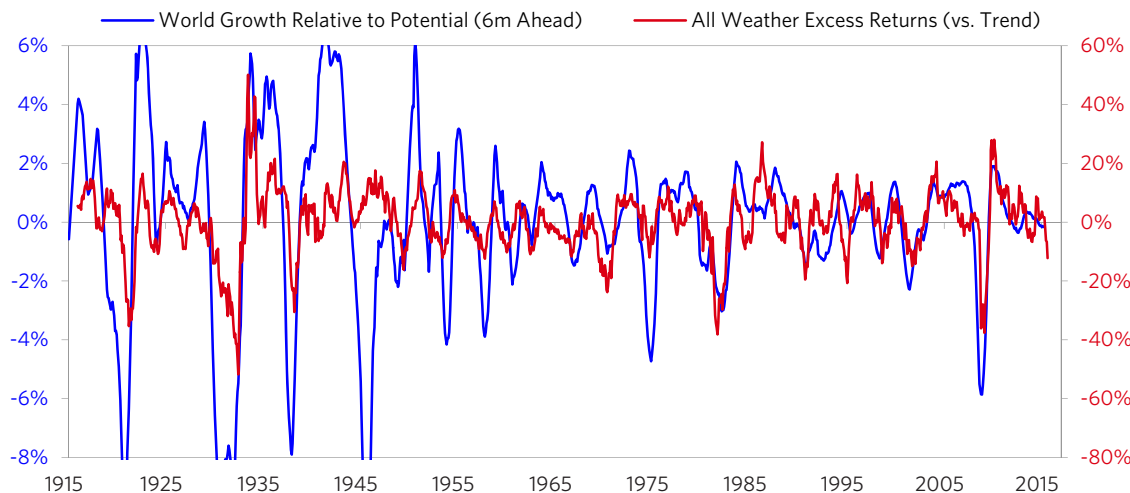
A well-diversified portfolio of assets will underperform cash when a central bank's tightenings are enough to raise the discount rate used to calculate the present value of the assets' cash flows (thus lowering their present values), and cash rates are high enough to drive money from other assets to cash because the risk premia in the other assets are not adequate. While any one asset might underperform cash for a while, it is rare that a well-diversified portfolio of assets will underperform cash for long because it is intolerable for the economy, which leads central banks to ease monetary policy and fix things. That is because the world economic system depends on central banks making cash available at interest rates that people can borrow at so they can use the cash to do things that produce higher returns than the cost of the cash that they're borrowing. That is not just a theoretical statement; throughout history, the times in which a well-diversified portfolio of assets underperformed cash for any significant period of time were times of depression and were always followed by central banks doing all in their power to rectify that. The worst performing periods were in the Great Depression and in the 2008 financial crisis, and in those periods our balanced portfolio did materially better than stocks or a 60/40 portfolio. And, in these worst cases in economic history, the Federal Reserve eased monetary policy and the balanced portfolio's value increased to new high values faster than the traditional portfolio, which was slower to recover. That is because the return-to-risk ratio of the balanced portfolio is higher than conventional portfolios, because it is more diversified.

As mentioned, different risk parity managers structure their portfolios somewhat differently to achieve balance, so we can't comment on them all. But we can show you how this wealth effect has worked by showing you how our diversified portfolio mix (which simply represents a well-diversified portfolio of assets) would have led economic growth, which is shown in the below two charts, one of which goes back to 1950 (because it's easier to see) and the other which goes back to 1915. These charts show how the excess returns (the returns of the portfolio over the return of the cash interest rate) led economic growth relative to potential (i.e., estimated economic capacity). Whether you use this mix or another mix of assets isn't very material because the point is that if a well-diversified mix of assets underperforms cash, there will be a negative wealth effect and negative incentives to invest in economic activity, which will be bad for the economy. The Federal Reserve and other central banks would be well-served to pay attention to this relationship to make sure that this doesn't happen for long and/or happen too severely. The chart speaks for itself.

World Growth Six Months Ahead vs. All Weather Returns since 1950



World Growth Six Months Ahead vs. All Weather Returns since 1915



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Remember that **if you are running monetary policy and if you want positive economic growth, you want the returns of assets to be above the return of cash.** Said differently, you want the return of cash to be below the returns of assets. If you let the return of cash get above the returns of assets, money will move from assets to cash and the economy will contract. In fact, as riskier assets will require higher returns, assets will have to have risk premiums (i.e., will have to be priced to have higher returns than cash), which means that the assets will probably fall in price before the return of cash comes to equal the expected returns of the other assets.

Concerning the magnitudes of the risks, the worst performing periods in our timeless and universal tests never produced losses that were past the point of no recovery (i.e., when the percentage returns needed to recover were unrealistically high), while all other asset allocations did produce intolerable losses (including investing in cash, which had occasions of producing ruinous losses in buying power due to interest rates being lower than inflation rates). While the well-diversified portfolio did significantly better than traditionally structured portfolios during bad times it also would have had better long-term returns.

Have you thought about the risk of the future being different from the past in having a well-diversified portfolio of assets underperform cash in a big way for an extended amount of time?

To say that we have thought about the question would be an understatement. Over the last couple of years we have obsessed about it, we have thought about the investment alternatives, and we have made provisions for that possibility. For previously explained reasons, to us that would be a depression scenario in which monetary policy and fiscal policy are ineffective in reversing it—i.e., it would be the “end of the super-cycle” scenario that we have talked about for quite some time. If this were to occur, more than ever we would want to be in a well-diversified portfolio and we would especially want to be in our All Weather Portfolio or Optimal Portfolio, which have been structured to both be diversified and to have protections against this scenario. What are the alternatives? To be more concentrated in stocks or bonds? In that scenario we’d be scared to be concentrated in equities because we could see an economic plunge and risk premia rise a lot. We’d be scared to be concentrated in bonds because central banks will be prone to flood the systems with money and depreciate their currencies. And we’d be scared to have our money in cash, which already has a significantly negative real return that central banks would want to drive down more. Where would you rather have your money?

How are risk parity strategies similar and different?

While we are not experts in others’ risk parity strategies, we believe that they are similar in trying to achieve the parity of risk in the previously described ways and they are different in what they do from there. For example, some risk parity managers actively manage positions based on what they expect markets to do in order to produce alpha and some do not. In our risk parity product, All Weather, we do not because we want to give our clients purely beta returns*. We also understand that some managers tend to sell assets when prices fall and buy them when prices rise because they believe that changes in volatility will persist, and volatility tends to rise when prices fall. We do the opposite because we want to rebalance to achieve a constant strategic asset allocation mix.

Also, different managers choose to balance their risks differently and we are not knowledgeable about how others do it, so you will have to get that information from them.

How does Bridgewater balance its risks?

It’s really simple. Basically we risk adjust assets so that they have parity and we put 25% of money into risk adjusted assets that do well when growth is faster than expected, 25% into those that do well when growth is slower than expected, 25% into those that do well when inflation is higher than expected, and 25% into those that do well when inflation is lower than expected.

*We do, however, run our Optimal Portfolio with alpha combined with beta in a way that we believe raises returns over time by reducing risk when assets are more likely to underperform cash.

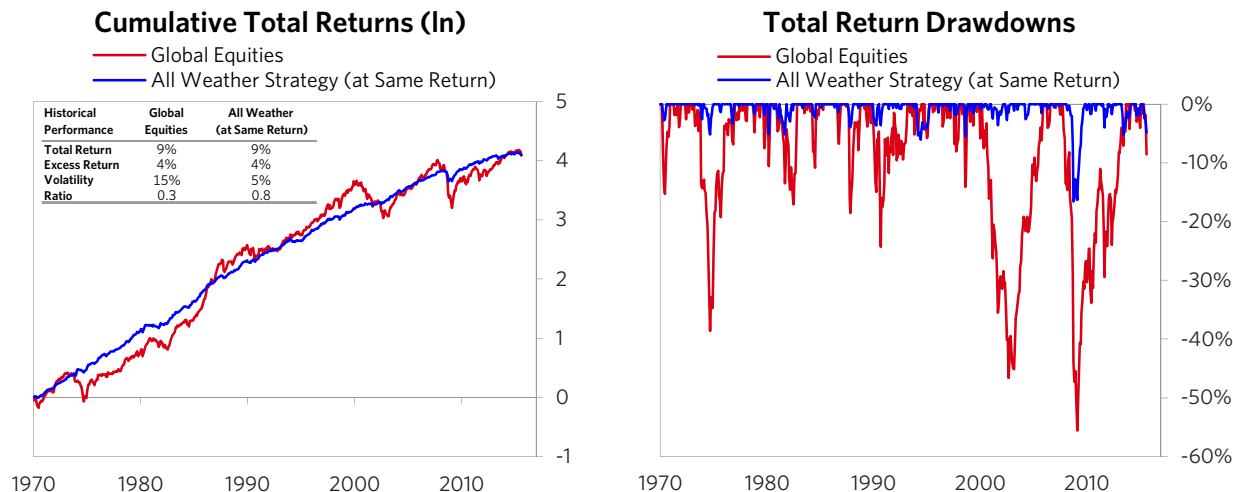
The thinking behind doing this is a bit less simple, though it is based on simple investment and economic principles. All investment assets are priced to be exchanges of lump-sum payments for future cash flows; i.e., when assessing their value the market estimates the present values of those cash flows. And they all compete with each other, with investors trying to buy those that are cheap and sell those that are expensive. Because so many people put so much effort into doing this well, markets are generally pretty efficient—i.e., there aren't many no-brainers that allow one to buy one thing and sell another to confidently make a favorable return spread. Trying to do that is trying to create alpha, which we do in our Pure Alpha accounts. In our All Weather account, we assume that we don't know what investment assets will be better and worse than others, so we try to buy all sorts of stocks, bonds and commodities in the right proportions to produce good diversification.

Concerning what the right proportions are, because all assets are priced as exchanges of lump-sum payments for future cash flows, the pricing of assets implicitly discounts future economic scenarios that affect those cash flows. For example, the present value of stocks is roughly equivalent to the present value of future earnings, adjusted for the risk premium for stocks. Implicit in this pricing is the expected rate of earnings/cash flow growth. If growth turns out to be faster than is expected and discounted in prices, stocks will rise, and if they turn out to be less, stocks will fall, all else being equal. In addition to the expected future cash flows influencing the present value, the interest rate to discount future cash flows will affect its present values. Because the returns of assets are driven by how conditions unfold in relation to what is discounted, we can say that stocks will tend to do well when earnings/economic growth is faster than expected and/or the interest rates come in less than expected, and to do worse when the opposite is true. Similarly inflation, growth, and the tightness of money affect bonds and other asset classes in logical ways. With that knowledge—e.g., that stocks tend to perform better when the economy is stronger, bonds perform better when the economy is weaker or inflation falls, commodities perform better when growth is strong and inflation is rising, etc.—we can balance the portfolio to have approximately equal exposures to each of the major drivers of returns. Since growth and inflation are the big drivers of changes in future cash flows and each can go up or down, we want to put 25% of our risk adjusted (i.e., risk parity) assets in each of the boxes below. As we also know that changes in risk premia and discount rates impact the discounting of those cash flows and therefore asset prices, we balance our risks with consideration to these. Our research and logic has led us to believe that this approach reduces risk by about one-third relative to the 60/40 portfolio (i.e., a return-to-risk ratio around 0.6 versus a 0.4 ratio for a traditional mix), which means one could also earn roughly 50% more excess return above the cash for the same risk (at 10% risk, about 2% more return). While that's our estimate and what it has been in the past, we assume that isn't precise. We just assume that we have a well-diversified portfolio of assets which will have a significantly better return-risk ratio than a more traditionally structured portfolio. It stood the stress tests of holding up well in all countries through time and it has worked as we expected it would work since we started it in 1996.

	Growth	Inflation
Rising	25% Risk	25% Risk
Falling	25% Risk	25% Risk
Risk Premiums & Discount Rates		

Please understand that there is no precision to this process because it is impossible to predict the future volatilities of assets precisely. But significant risk reduction without return reduction occurs by roughly balancing assets along these lines based on logical assessments of their durations and volatilities, and that risk reduction can be converted to return enhancement by raising the gearing.

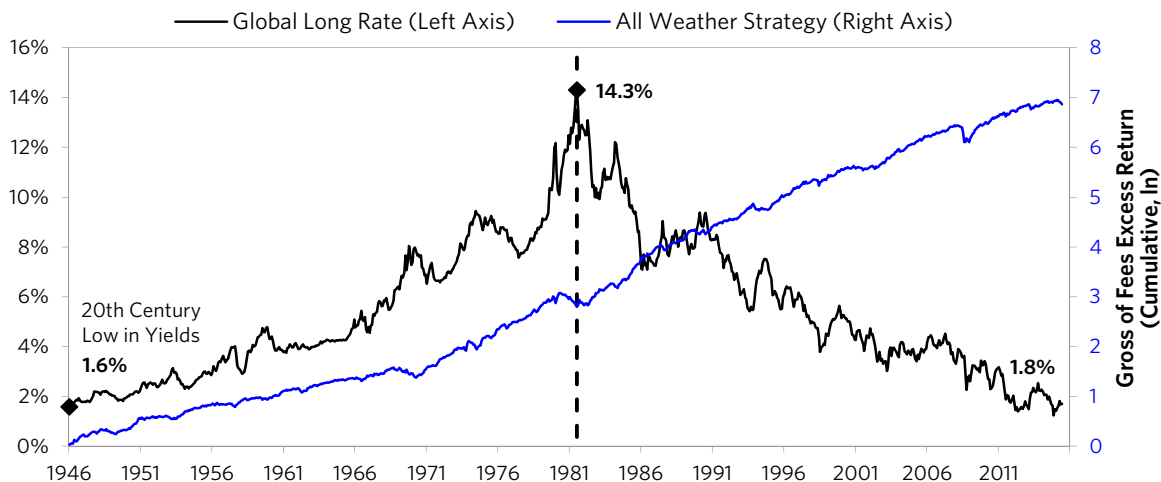
For example, a balanced portfolio like this can match the expected return of a portfolio that is 100% invested in equities at a much lower level of risk. The charts below show the cumulative returns and drawdowns (peak to trough declines) of a fully balanced portfolio versus those of a portfolio that is 100% invested in global equities. The balanced portfolio achieved the same return as equities with around one-third the risk. The same returns were achieved with much smaller losing periods, and these losing periods passed relatively quickly rather than lasting for many years.



Isn't this bond heavy portfolio especially vulnerable to a selloff in bonds that seems likely now that it's pretty clear that interest rates will rise?

No. While the amount of money invested in bonds is generally greater than the amount of money invested in more volatile assets in the portfolio, this is done to achieve balance in the portfolio so that it would not have a systematic risk. Because the portfolio is well-diversified, it has no such systematic bias to do better when interest rates are falling than when they are rising. For example, from the point that bond yields were at their lowest in the 20th century to when they were at their highest (from March 1946 to September 1981) the average annual return of this diversified portfolio would have been 8.7%, in comparison to a 7.6% return for a 60/40 stock bond mix. In the inflationary 1970s when bonds were a bad investment, this diversified portfolio did about as well as during the disinflationary 1980s when bonds were a good investment. That is because the portfolio is diversified so as not to be exposed to any particular economic environment. The chart and table below convey this picture.

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Annualized Performance	All Weather Strategy			Global 60/40		
	Mar. 1946 - Sep. 1981	Oct. 1981 - Present	Full Period	Mar. 1946 - Sep. 1981	Oct. 1981 - Present	Full Period
Total Return	8.7%	12.1%	10.4%	7.6%	9.5%	8.5%
Excess Return	4.4%	7.6%	5.9%	3.2%	5.0%	4.1%
Standard Deviation	7.5%	9.1%	8.3%	8.4%	9.5%	8.9%
Sharpe Ratio	0.58	0.84	0.72	0.38	0.53	0.45

Are All Weather or other risk parity strategies contributing to the recent market turmoil?

All Weather is a strategic asset allocation mix, not an active strategy. As such, All Weather tends to rebalance that mix, which leads us to tend to buy those assets that go down in relation to those that went up so that we keep the allocations to them constant. This behavior would tend to smooth market movements rather than to exacerbate them. As mentioned, not all risk parity managers operate this way and we are not knowledgeable enough about what they do to comment on it. However, we can say that the amount of money that is invested in risk parity strategies is relatively small in relation to the amount of money that is managed in active strategies, especially those that tend to sell in response to price declines. For example, equity mutual fund investors tend to sell in response to price declines because they get nervous, and they are much larger. And, suppose they did tend to do that; what should be done about it—prevent those who want to sell when prices fall from doing that?

To help put flesh on those bones, consider that the amount of money in risk parity products is much smaller than other forms of mechanically driven active management such as insurance company variable annuity product hedging, trend-following CTAs, options replicators, carry trading strategies, and so forth. As a ballpark estimate, using surveys of investment practices, we estimate that US funds have allocated about 4% of assets to risk parity strategies. This would be around \$400 billion, of this we know that about \$150 billion is managed by external managers. Some of those external managers have active management or short-term volatility adjustments, but we do not, and we are half of that figure, so we know that the amount of it is relatively small. With respect to internally managed programs, we doubt that they are making many short-term shifts based on short-term volatilities. Theoretically, if the remainder of the external managers cut their risk by 25%, that would be a sale of roughly \$20 billion spread across global equities, bonds, commodities, etc. Given typical equity holdings of

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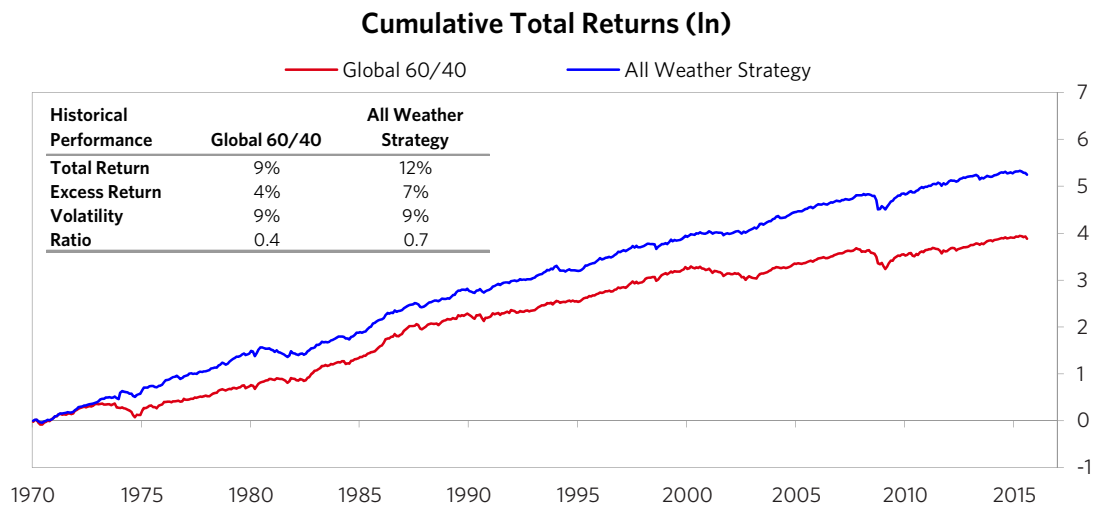
about 35% and half of it is allocated to US equities, a 25% reduction translates to around \$4 billion. To put this number in context, the daily trading volume of US equities in the cash market has been about \$200 billion daily over the past couple of weeks, which suggests that selling pressure of \$4 billion over that period should not have much market impact. This does not consider their likely need to buy equities to rebalance as equities have sold off relative to bonds.

Relative to the size of global asset markets, the amount of money being managed and moved around through risk parity is a drop in the bucket.

Why has All Weather recently underperformed the traditional portfolio and is this indicative of what to expect going forward?

A less diversified portfolio will outperform a balanced portfolio when the environment happens to be particularly favorable for the asset class in which the less diversified portfolio is concentrated. Equities were the best performing asset class over the past three years and, as a result, equity-concentrated traditional portfolios outperformed balanced portfolios. The outperformance was well within the range of what we have seen historically and would expect, and occurred for reasons that should not be extrapolated forward. While a balanced portfolio improves portfolio return-to-risk by roughly 50% (portfolio Sharpe ratio goes roughly from 0.4 to 0.6), that difference still implies that the less diversified portfolio will outperform in roughly 40% of all 3-year periods. This needs to be expected. And moving back and forth based on recent performance is particularly bad investment practice, as it generally means buying assets when they are expensive and selling them when they are cheap.

Since 1970, a balanced portfolio of this sort would have produced roughly 300bps incremental return over a traditional portfolio at the same risk. Alternatively, the improved efficiency can be used to produce the same return with much less risk.



Still, the limits on how good any passively held beta portfolio can be are such that a balanced portfolio will not outperform over every sub-period. The recent outperformance of the traditional portfolio is within the range of what we have seen historically, and holders of balanced portfolios should expect that there will be such periods. To give a sense for what to expect, the table below shows how often All Weather outperformed a typical concentrated portfolio over different time frames. In any given year, the chances All Weather outperformed the

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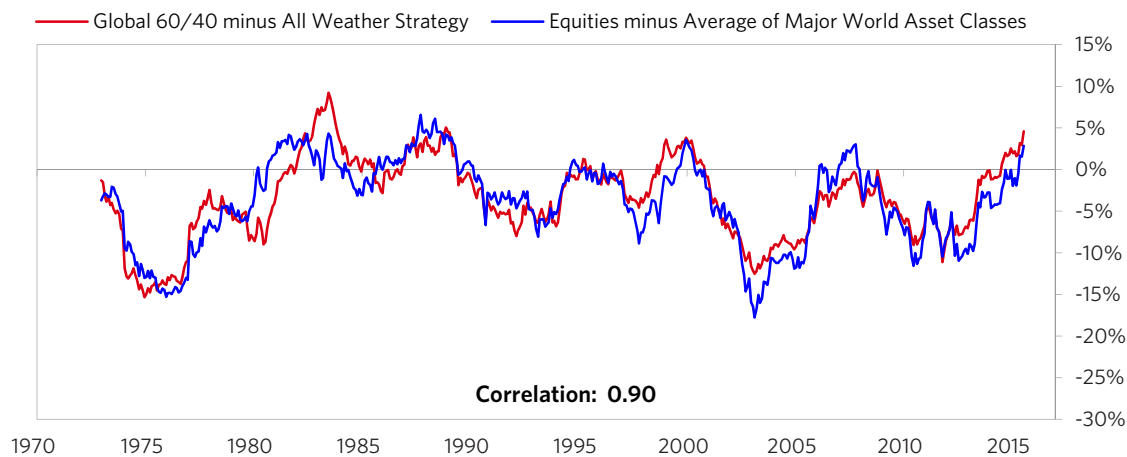
60/40 were a bit better than 50%. But as your time horizon lengthens, the likelihood that diversification wins out over concentration increases. This is because a concentrated portfolio relies on the return of a single asset, and no single asset can perpetually have good returns without eventually running into a bad environment.

**% of Periods since 1925 that All Weather Strategy
Outperformed Global 60/40**

Rolling 1-Year Returns	58%
Rolling 3-Year Returns	62%
Rolling 5-Year Returns	65%
Rolling 10-Year Returns	72%
Rolling 20-Year Returns	80%

We've heard various theories about why All Weather has underperformed more traditional approaches over the last few years, but the real reason is actually very simple. As we said, a concentrated portfolio will outperform a more diversified one when the asset in which the portfolio is concentrated happens to outperform assets overall. The chart below shows this. The red line is the return of the 60/40 portfolio relative to All Weather—when it is positive it means that 60/40 is outperforming balance. The blue line is the same idea, but with equities and the average of all asset classes—when it is positive equities are outperforming the average across assets. As you can see, the performance of a concentrated portfolio relative to All Weather is virtually entirely explained by the degree to which equities outperform the average of all asset classes.

Rolling Three-Year Return Differences (Annualized, Gross of Fees)



Over the past three years, the stabilization of conditions in Europe, central bank money printing, and global disinflation have encouraged investors to move into riskier assets, which has been particularly favorable to equities. Equities have been the best performing asset class, returning over 14% annually, while commodities have declined roughly 15% annually. Of course, that has made equities more expensive, so that it would be inappropriate to extrapolate those results.

Are there better ways for me to meet my return target, such as holding illiquid assets?

There is no better way to reliably meet your return target than holding a diversified portfolio of assets that is geared to meet your objectives. A portfolio that is concentrated in any particular asset class will severely fail

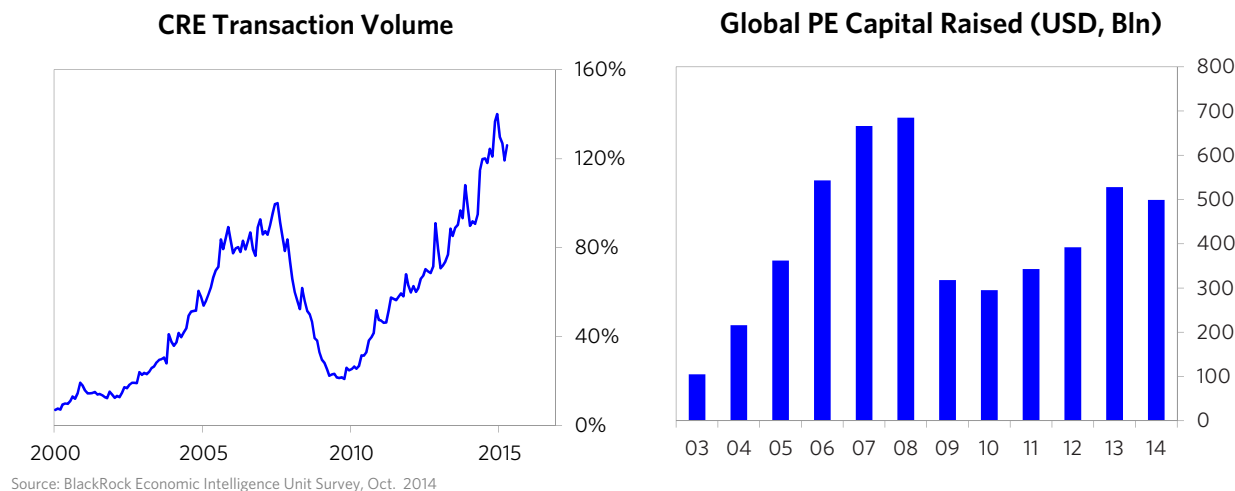
Past results are not necessarily indicative of future results. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. Where shown, simulated returns for All Weather are created using the All Weather asset mix. 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. Please review the disclosures at the end for more information.

under certain scenarios, whether it holds liquid assets or not. The big movement into illiquid assets has led to a lot of money chasing a limited supply which has shrunk risk premia. Also, illiquid investments behavior similar to high beta stocks and can be replicated by leveraging equities. That would not be as effective of a way of diversifying the portfolio and improving the return-risk ratio as creating a well-diversified portfolio and gearing it to the desired risks and return targets.

The biggest challenge investors face today is the low return environment—the returns of cash and assets are low and risks are high. In response to this environment, we have seen an unprecedented rush by investors into illiquid assets over the last few years. Those investors are competing hard for assets that by their nature are in limited supply. The logical result is that low expected returns have pushed out to these illiquid assets as well.

An investment in illiquid assets can (like any investment) be broken down into a beta and alpha component. If an investor has skill picking particular illiquid investments relative to the broader market, that can be a source of value from alpha. But the beta exposure that comes with an illiquid investment is generally not additive to what is available from publicly traded, more liquid alternatives, once you adjust for risk. For example, private and public equity will respond very similarly to economic events. So, our concern is that the rush into illiquid assets is creating more unbalanced and illiquid portfolios that don't actually experience much in the way of return enhancement (because the competition for these assets has driven realistic future returns so low).

As shown, commercial real estate transaction volume is at an all-time high, with one of the primary reasons for investors increasing their allocations being perceived higher returns. Money is flowing at record rates into most illiquid assets on the promise of higher returns.



All markets discount existing conditions and then react to change. Abundant liquidity has been with us for a while now, and eventually abundant liquidity will be discounted to continue into the future, if not already. Illiquid assets will be among the worst things to own when the liquidity cycle turns.

Conclusion

It is understandable that investors are concerned about how to invest in the current environment. All assets look expensive, central banks are dangerously short on ammunition, and the global economic risks are rising. Cash is one alternative, but has terrible returns and central banks who control its quantity are trying to make it even worse. Unbalanced portfolios are another alternative, but imply the investor knows in this environment which assets will be best, and we would certainly be very humble about the degree to which we could know. The other option is a diversified portfolio of all assets.

We do not love any of these choices, but we cannot make them something they are not. It was our research into the low return environment—risk premiums, asset pricing, and how the two connect to economic conditions, monetary policy, and liquidity and the end of the monetary policy supercycle—that led us to the creation of our Optimal Portfolio strategy, where we combine a balanced beta with tailored, value-adding, risk-reducing alpha to both deal with this environment and produce good results over time.

The best choice we can see is a balanced portfolio as the beta component, supplemented if possible by carefully sized and balanced alpha. For investors with concentrated portfolios, the move to balance is the most impactful step, and dwarfs the impact that alpha will have at any practical size. It is worth remembering that in the worst crises in history (e.g., 1929 or 2008), a balanced portfolio even with its modest leverage was far safer than traditional portfolios that are concentrated in equities.

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Where shown, simulated returns for All Weather are created using the All Weather asset mix. 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 mitted 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. Examples of omitted markets include, but are not limited to, non-U.S. markets prior to 1970, emerging market equities, some inflation-linked bond markets and certain commodities. 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.

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