HOW TO RIDE OUT MARKET VOLATILITY: RISK PARITY APPROACH

BSAMC – Research, Strategic Evaluation

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Table of Contents

Abstract 3

1. An introduction to a new asset allocation approach 4
    - *1.1. Risk parity at a glance 4*
    - *1.2. "All Weather" approach 5*

2. Performance Outlook 7
    - *2.1 A comparison between two crises 7*
    - *2.2 Risk parity compared to passive investment strategies 9*
    - *2.3. A critique about volatility-targeting 10*

3. Making the point on weaknesses 11
    - *3.1. A predictable failure beyond the Black Swan 11*
    - *3.2. A survivor: risk parity ETF 13*

4. Alternative to risk parity: our portfolio 14
    - *4.1. Investment idea 14*
    - *4.2. Cash & Cash Equivalents 15*
    - *4.3. Equity 16*
    - *4.4. Debt 19*

5. Conclusion 20

References 21

Abstract

What went wrong with our expectations? This is the very big question that links the last crisis we experienced in 2008 to the one we are facing now. Although we cannot yet provide an economic answer to the Covid-19 one (whose root cause must be sought in the healthcare emergency), we can for sure provide an answer to the other one: what today is clear is that investors underestimated risk. This is the reason why it is time to talk about risk parity again. After the 2008 crisis investors started looking for investment strategies that could perform well even during market turmoil. This was the context in which emerged the "All Weather" portfolio based on the assumption that, identifying clearly where the risk comes from and how much it weighs, allows diversification, creating more stable portfolios in order to face unexpected events.

Even before Covid-19 outbreak, we were already experiencing a fragile global growth and very high stock valuations, thus a stock market correction would have been inevitable in any case. The persistence of low level of interest rates has led investors all over the world to take more and more risk within their portfolios by increasing their exposure to risky assets (e.g. stocks and high yield bonds). The prices of these activities have thus risen. The slump was therefore so abrupt because the prices were excessive.

However, this traditional equity-driven approach has been working during the last decade but, is it still capable of generating value?

1. An introduction to a new asset allocation approach

1.1. Risk parity at a glance

These funds owe their name since they keep the risk of each element in the portfolio equal and constant. They increase their exposure to safer investment-grade debt to offset the higher equity volatility. Risk parity is about balancing a portfolio's risk exposures to attain a higher chance of investment success than what is offered by traditional, equity-centric approaches to asset allocation.

Within the majority of multi-asset traditional portfolios, equities tend to determine investors' return because their price moves up and down more than other assets. The goal of risk parity, instead, is to build a "diversified" portfolio in which each group of assets contributes an equal amount of risk so that the return is not primarily determined by stocks. Risk parity portfolios typically have lower volatilities and higher Sharpe ratios as a result of effective risk-based diversification. This is the reason why they became a popular tool for investors seeking to minimize downturns and preserve capital.

Risk parity strategies adjust their positioning dynamically: when the volatility of an asset class increases, the strategy decreases its exposure to that asset class and possibly the overall portfolio leverage, which may allow it to avoid subsequent losses but may also prevent the strategy from participating in a rapid rebound. This reallocation allows Risk Parity strategies to have smaller drawdowns than traditional diversified portfolios, which are rebalanced to a fixed stock/bond mix.

Rather than setting up an optimal expected returns target with a method based on correlation assumptions, this approach uses risk as a measure to allocate assets. Less risky assets will have a higher percentage weight in the portfolio, whereas shares will weigh less so that both asset classes provide the same amount of risk. Bonds are less volatile than stocks, so risky parity funds typically use leverage to increase their exposure to safer fixed income.

These assets react inversely to two environmental drivers: growth and inflation, but they have different sensitivities to shifts in the economic environment. Therefore, you can structure a portfolio in which the underperformance of a given asset class, in a specific part of the cycle, will automatically be offset by the outperformance of another asset class with an inverse sensitivity, leaving the risk premium as the dominant source of returns.
The idea behind this strategy is benefiting both from the low volatility level of bonds and the expected high return level of stocks.

1.2. “All Weather” approach

The strategy was pioneered by Ray Dalio in 1996 and then succeeded after the great depression of 2008 when investors were looking for strategies uncorrelated to the economic cycle.
This approach recognizes that the only way to achieve reliable diversification is to balance a portfolio based on the relationships of different assets to their environmental drivers, rather than based on correlation assumptions.
Let’s understand why analyzing correlations to build a fund; it is not the right thing to do, according to Ray Dalio. Stocks discount a future path of earnings growth and are worth more when the economy is stronger than expected. Bonds, instead, give you a fixed income and discount a forward path of interest rates, so bonds do well when interest rates unexpectedly fall due to unforeseen economic weakness. In other words, these asset classes have different sensitivities to growth surprises but, the same sensitivity to inflation surprises.
Assuming this is true if inflation was the only meaningful economic driver, we would believe that stocks and bonds are positively correlated. On the other side, if we consider growth as the only driver, we would believe in a negative correlation between stocks and bonds. Given this, what will be the future correlation of stocks and bonds? You really can’t know without knowing the future economic environment. The only obvious thing is the relationship between asset classes, respectively, to growth and inflation.
The portfolio manager shows that the “All Weather” investment strategy has been stress-tested through substantial turmoil periods and has achieved better returns and less volatility than other strategic allocation approaches. Dalio asked himself: what kind of investment portfolio would you hold that would perform well in all environments? Bridgewater founder understood that it was not possible to get a reliable answer through the traditional approach because of its excessive dependence on correlation and volatility assumptions. Indeed, correlations are unstable and unpredictable, and similarly, asset risk is challenging to predict, so when things get bad, risks tend to spike higher. For sure, everybody knows that there are good and bad environments for all asset classes, and once in a lifetime, we must expect that we will experience a ruinous environment for at least one of them. Starting from these assumptions, he imagined a basket of four portfolios (Figure 1) with an equal amount of risk in them, so that they will not have an exposure to any particular environment. Dalio suggests a portfolio where the risk is spread over various asset classes because he knows some assets do well in “rising” of market expectations and others that do well in “falling.” Hence, the underperformance of a given asset class relative to its risk premium in a particular environment will automatically be offset by the outperformance of another asset class with an opposing sensitivity to that environment.
Looking at the first column in the matrix below, for instance, a rise in growth is taken with assets like Equities, Commodities, Corporate Credit and Emerging Markets Credit, whereas it is balanced and covered from falls in the growth of another kind of assets like Nominal Bonds or Inflation-Linked Bonds. The same logic is applied for the Inflation column: he uses different kinds of assets to cover himself inversely against the increase and decrease in inflation, letting as a unique source of return the risk premium.

	Growth	Inflation
Rising	25% OF RISK Equities Commodities Corporate Credit EM Credit	25% OF RISK IL Bonds Commodities EM Credit
MARKET EXPECTATIONS		
Falling	25% OF RISK Nominal Bonds IL Bonds	25% OF RISK Equities Nominal Bonds

Figure 1 *– Matrix used by Bridgewater to define "seasons."*

Compared to the Global Equity Index from 1970 to 2012, the "All Weather" portfolio shows the same returns but taking only a third of the risk taken by the index mentioned before (Figure 2). The same returns were achieved with much smaller losing periods, and these losing periods passed relatively quickly rather than lasting for many years.

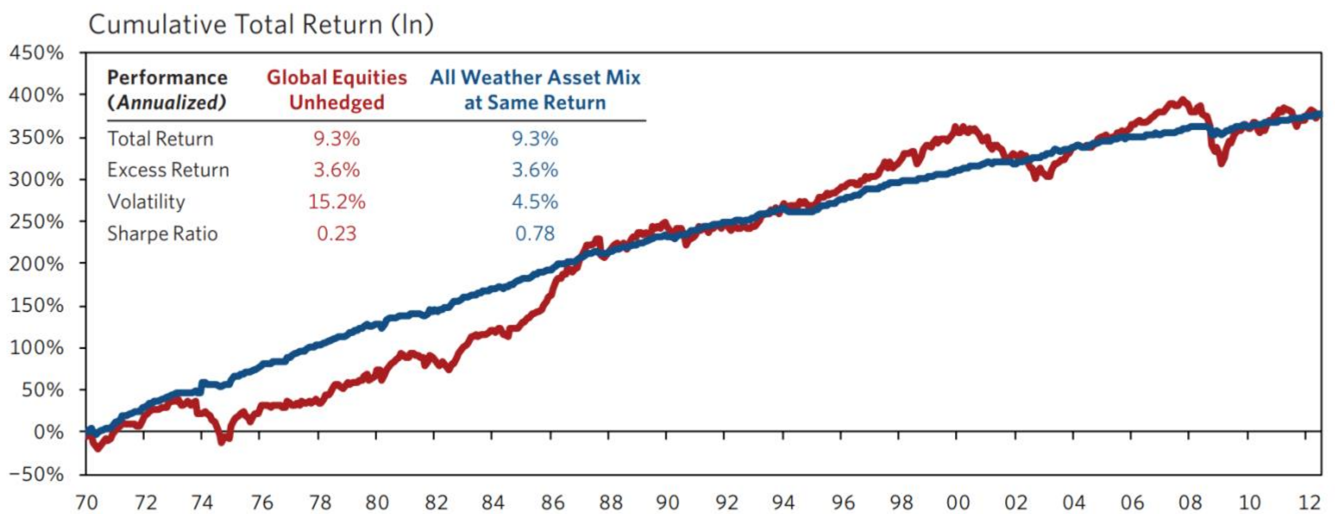
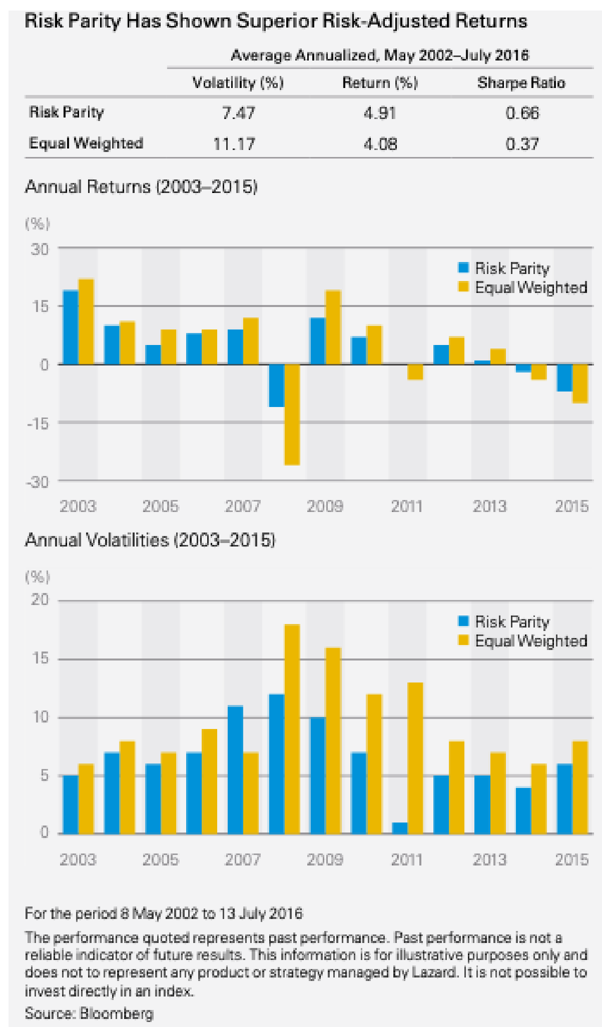


Figure 2 *– "All Weather" annualized performances compared to Global Equities Unhedged performances*

2. Performance Outlook

2.1 A comparison between two crises

Theoretically, risk parity funds should result in higher risk-adjusted returns than regular funds with a high concentration of equity. A study was conducted by Lazard in 2016 to compare them with Equal Weighted benchmark funds to test whether there was a difference in risk and returns, using data from 2002 to 2016. The results of the study were favorable for risk parity funds that outperformed the benchmark fund in numerous areas (Figure 3). The risk-adjusted returns were higher than the benchmark (mainly because of the lower volatility), as well as a much higher consistency in returns. For example, during the 2008 crisis, risk parity funds generally fared better than other more volatile funds.


Risk Parity Has Shown Superior Risk-Adjusted Returns

	Average Annualized, May 2002–July 2016		
	Volatility (%)	Return (%)	Sharpe Ratio
Risk Parity	7.47	4.91	0.66
Equal Weighted	11.17	4.08	0.37

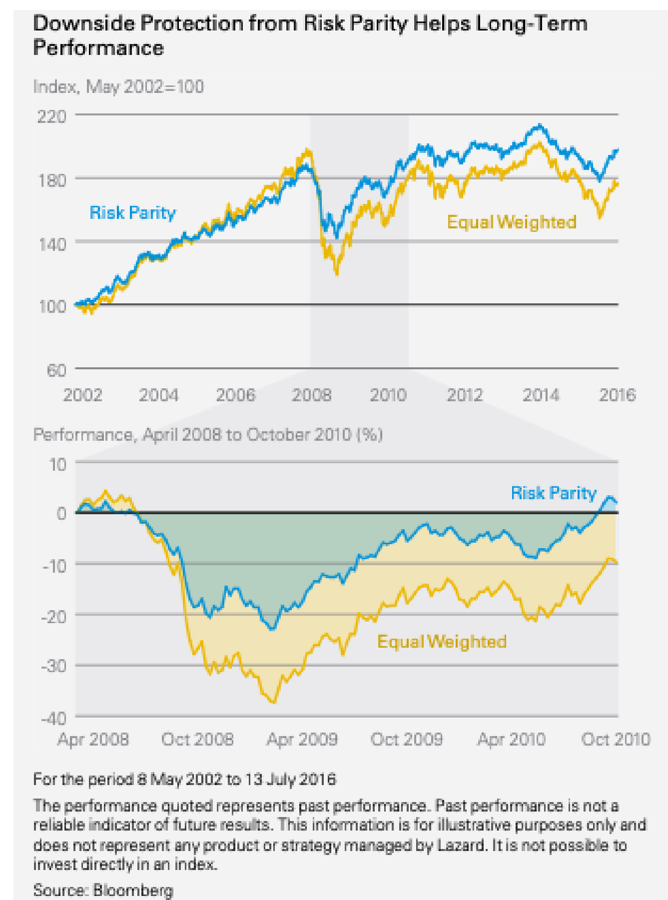


Figure 3 – Comparison between Risk Parity and Equal Weighted portfolios

If this strategy has worked well since the 2008 crisis (as shown above in Figure 3), this has not been the case in recent months when risk parity funds took a big blow.
Most financial crises, including 2008 one, start in the stock market and impact the real economy. On the contrary, in this case, coronavirus and lockdowns caused a shock on aggregate supply and demand in the real economy that consequently involved the stock market too.
As this crisis is different, its recession is different too. Recessions are generally caused by the bursting of a real or market bubble, by an excess of supply, by a high level of debt, or by a combination of these factors. This time we are facing a sort of "quarantine" recession: it isn't a stop that doubts the functioning of the economy, but rather a stop to the activity and consumption imposed by governments (a kind of "permanent holiday" with closed shops).

Usually, when equities decline, bonds grow in value, but this inverse relationship did not continue during the pandemic. Indeed, one of the main reasons for the poor performance of risk parity funds during this global crisis is that both bonds and equity have decreased in value simultaneously, as risk parity funds failed to adapt to this new circumstance. The typical risk-parity diversification is ineffective anymore, and the decorrelation effect is neutralized too.

At the beginning of the "corona-crisis," risk parity funds fared well since bond prices hadn't taken a hit yet. This changed in mid-March: some of the funds to have suffered the most during the March crash are the famous Bridgewater All Weather fund, the AQR Risk Parity II HV fund, the Wealthfront Risk Parity Fund, and the Putnam PanAgora Risk Parity fund. And with the downfall of these funds is shattered the dream of the "All-weather" approach (as was written in a Forbes article march 23rd: "the golden age of risk parity is over").

Data by S&P show us that the differences in performances also depended on the fund's volatility target. The S&P Risk Parity Index with a 15% volatility target lost 20.6% during the first quarter of 2020 (for reference, the S&P 500 (TR) lost 19.6%). However, with lower volatility targets come lower losses: S&P Risk Parity Index with 12% volatility target lost 16.5%, the one with 10% volatility target lost 13.7%, and the one with 8% volatility target lost 10.9% in value.
Therefore, even though we cannot say that Risk Parity Funds were successful in being risk-free, their volatility target generally had an essential impact on the performances during the crisis.

Exhibit 1: S&P Risk Parity Indices Performance in Q1 2020

PERIOD	S&P RISK PARITY INDEX – 8% VOLATILITY TARGET (%)	S&P RISK PARITY INDEX – 10% VOLATILITY TARGET (%)	S&P RISK PARITY INDEX – 12% VOLATILITY TARGET (%)	S&P RISK PARITY INDEX – 15% VOLATILITY TARGET (%)	S&P 500 (TR) (%)
January 2020	-0.1	-0.2	-0.3	-0.4	0.0
February 2020	-2.5	-3.1	-3.8	-4.7	-8.2
March 2020	-8.5	-10.7	-12.9	-16.3	-12.4
Q1 2020	-10.9	-13.7	-16.5	-20.6	-19.6

Source: S&P Dow Jones Indices LLC. Data as of March 31, 2020. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Figure 4 – S&P Risk Parity Indices Performance in Q1 2020

March 23rd, the market, both bonds, and equity, has regained a large part of its value, and the Volatility index has decreased. This has given some breathing air to risk parity funds that sunk during March.

Figure 5 – S&P Risk Parity Index with a 10% volatility target

2.2 Risk parity compared to passive investment strategies

Risk-parity strategy underperformed in the actual bear market due to the pandemic losing more money than its low-cost alternatives. Therefore, the question that arises is whether risk parity is worth the high fees investors pay and if it can still be considered a valuable strategy.

Among the possible alternatives to a risk parity fund, passive investing stands out. Such a strategy involves undertaking an investment that tracks a specific market segment, usually an index, with the premise of keeping it over the long run. The idea behind it is simple, reduce trading in the market at its minimum to obtain returns in a cheap, since fees are avoided, and simple way. The assumption on which passive investing is built is that the market produces positive returns in the long-time horizon. The most common practice of this strategy is index

investing, which, among its main advantages, includes the possibility of diversifying and reducing at zero the risk connected to the buying and selling of securities. A simple example would be to invest in the SPDR S&P 500 ETF (SPY) and hold it for many years, with the expectation of reselling it at a much higher value. Indeed, the Lazard study mentioned above highlights that the performance of "buy and hold risk allocation based" funds almost balanced one of risk parity funds, showing how the two can be interchangeable.

Hence, why not just applying this method instead of undertaking a risk parity strategy, which involves high fees and is complicated due to a large amount of rebalancing? The main difference between these two investing methods is that portfolios built by passive investing are entirely vulnerable to market risk. Indeed, although data shows that, for example, the S&P 500 has gained on average in the last decade, there is always the possibility of a fall in the index, as proven by the month of March 2020. In such a situation the investor would find himself with a, let's assume 10-years investment, that produces a negative profit, resulting in a waste of both money and something even more valuable, time.
Moreover, the "dark side" of risk parity, which is its complexity associated with rebalancing, is also its advantage to passive investing, as it provides much higher flexibility that results in defensive measures that can be carried out in case of a recession.
Last but not least, or perhaps the most crucial aspect of the comparison, is that passive funds should theoretically produce slower and smaller profits than the risk parity ones.

2.3. A critique about volatility-targeting

Despite this, it must be recognized that today the active-passive debate is more actual than ever. Volatility targeting has become an increasingly popular way of managing assets. However, those strategies, by their nature, will be pro-cyclical in terms of adding risk as volatility goes down and reducing risk as volatility goes up, which typically means extending a move that has already started.

To understand better what we are talking about, we report here an example, made by Stephen Coltman[1]. He argued: if the euro, for instance, starts rallying and the daily volatility is declining, CTA[2] hedge funds will hold a high exposure in a market over the course of the trend. When the trend starts to vanish, there is a change in direction and an increase in volatility. CTA hedge funds that follow that trend will cut their positions. First, because the trend has finished and second because they have to reduce their position size as volatility has increased. Moreover, CTA hedge funds can be 3-5 times leveraged, and, in contrast to risk parity, a trend-following strategy will be aggressively long an asset and then move to be short an asset.

Stephen Coltman is a Senior Investment Manager within the Alternative Investment Strategies division at Aberdeen Asset Management.
2 Commodity Trading Advisor

In contrast, a risk parity fund will always have prolonged exposure to an asset but just trim and manage that exposure to keep it in proportion to other exposures in the portfolio without a wholesale change in direction. Managers run risk parity strategies in different ways, but Coltman argues that these approaches are mostly passive and that they tend to rebalance without taking a negative or positive view on assets, always trying to maintain a long portfolio across different assets.

3. Making the point on weaknesses

3.1. A predictable failure beyond the Black Swan

The rise of risk parity funds in the last decade has been astonishing; the overall market reached a $1 trillion value. The expectation of achieving returns proper of stocks with volatility similar to one of the bonds hyped investors. Nonetheless, as for the last month, there has been a 28% fall in the S&P 500 risk parity index. The obvious question comes to mind, how is it possible for a strategy to fail in circumstances that it was explicitly designed to overcome? Perhaps it might be possible that what people believed did not coincide with the actual reality of facts. Risk parity did not fail all of a sudden; it was already shacking. Arguably, risk-parity strategies would have failed anyway even without the Black Swan , which only speeded up the process due to their vulnerability to such a context. To understand why, first, it is necessary to analyze the framework in which this strategy has proliferated.

Over the past 10-years, the most significant liquidity expansion in history has been witnessed. After 2008 the economy needed a handhold, which was given by the Fed and its peers oversea. Since the crisis, all central banks engaged in unprecedented interest cut and quantitative easing measures that lead to the most significant liquidity expansion in history. In the past decade, rates have been reduced more than 50 times, the Federal Reserve, the Bank of Japan and the European Central Bank alone carried out QE provisions for $11 trillion, that have inflated their balance sheets by abnormal values (Increases in assets: Fed + $3.6 trillion, BoJ + $4.7 trillion, ECB + $3.4 trillion). It is clear that the astonishing data of the past 10-years serves as evidence and justification for Quincy Krosby's, chief market strategist at Prudential Financial, a financial services and Fortune Global 500 company, statement:
"What was once extraordinary has become ordinary, not just in the United States but all over the world."
It is even more evident that in such a scenario, stocks have had a fertile ground that enabled their also unprecedented climb.

A Black Swan is an unpredictable event that is beyond what is normally expected of a situation and has potentially severe consequences. Black swan events are characterized by their extreme rarity, their severe impact, and the widespread insistence they were obvious in hindsight. It cannot be predicted beforehand, though many claim it should be predictable after the fact. (Source: https://www.investopedia.com/terms/b/blackswan.asp)

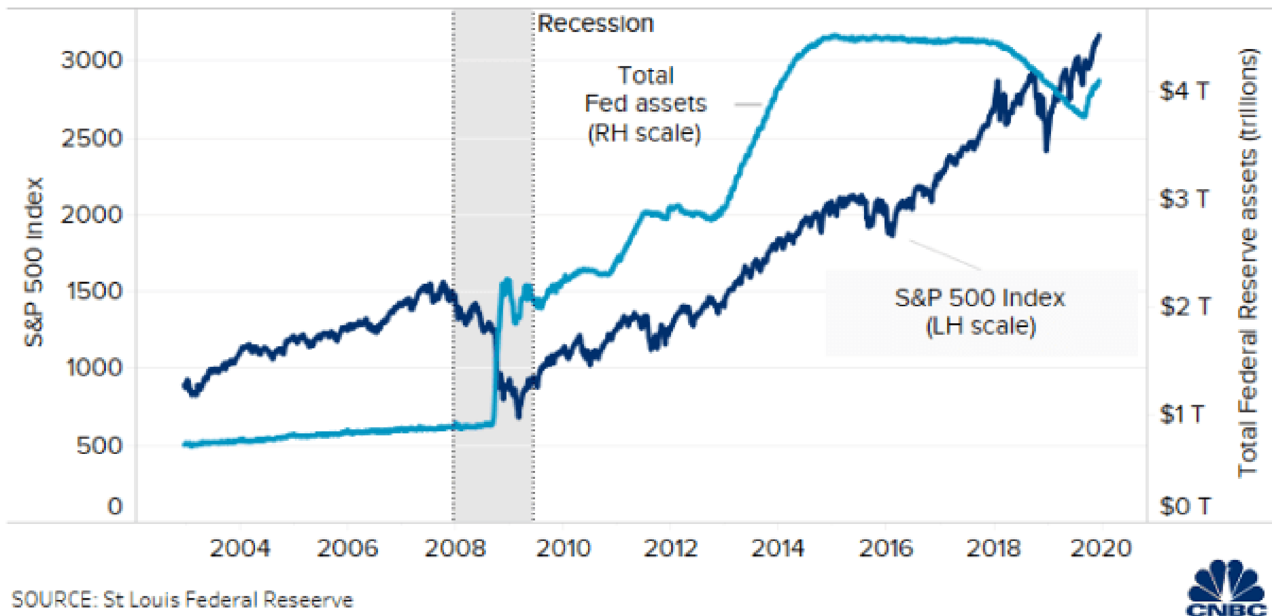


Figure 6 – Rally of stock prices thanks to FED easing

But what is the downside to these support measures, and how does it relate to the precariousness of risk parity funds? First of all, the low market volatility established by these provisions persuaded investors that also risk was low; therefore, it gave the kick-off to overleveraging, a critical concept that allows risk parity funds to achieve high returns, developing in people's minds the idea that nothing could go wrong. The technique of using leverage to buy bonds that characterizes risk parity, in Coronavirus time, does not have the desired effect anymore, as volatility has risen a lot during these uncertain times. A mistake usually made by investors is to assume that "risk = volatility." Indeed, the support of central banks that injected endless liquidity has crushed the typical volatility of the stock market for long periods. The problem lies in the fact that it is tough to endure an explosion of volatility when you are used to such prolonged tranquility. Hence volatility was low, whereas the risk was high. Investors should have kept leverage under control: some risk parity funds did not provide enough downside protection in 2020 because they took the inverse correlation between stocks and bonds for granted. As Joe Becker, portfolio strategist at Milliman stated: "Leverage can enhance returns in certain climates, but it can also lead to higher volatility." Now that the unimaginable has happened, owners of such portfolios are forced to sell off assets to repay their debts, thus intensifying both their losses and market volatility.

Moreover, the asset prices inflation caused by the excessive liquidity in circulation is one of the reasons for which the correlation between bonds and stocks switched from being negative to positive, demolishing the concept on which risk parity funds are built: the portfolio cannot sink because, if one goes down, the other goes up.

Last but not least, what is different from 2008 is that now Central Banks have played their cards, with interests rates that cannot go any lower and with balance sheets that are on the verge of financial instability, there is little they can do to fight these crises, and if they do it, it might be in large part ineffective. Thus, the economic fertilizer that was the main cause for risk parity funds' performance has now stopped. A scenario that was already advanced in December 2019, just before the crisis, by Ethan Harris, head of Global Economic Research at Bank of America Merrill Lynch, who stated:
"The problem is all the other major central banks have very low ammunition. Even if they wanted to be super-interventionist, they don't really have the tools. The Fed doesn't have enough ammunition to deal with a future recession. The BOJ and ECB can't even deal with a moderate shock."
Summarizing, risk parity funds have been working well because of the circumstances stated above, but investors did not take into consideration all the risks that have been hiddenly piling up in the last years. The bubble has been enlarging for a long time, and nobody noticed that its reliability was in jeopardy, whereas the crisis caused by coronavirus can be arguably seen as just one of the many needles that could have made it go boom!

3.2. A survivor: risk parity ETF

Although, as stated above, risk parity strategies can be considered a failure has given their underperformance concerning the market, there has been an exception.
The RPAR ETF is an active-managed fund that tracks the Advanced Research Risk Parity Index (ARIS), which, in turn, tracks the performance of specific risk parity strategies. February 20, up until today, this ETF dropped by only 3%, while the S&P risk parity index with 15% volatility target lost, as mentioned before, approximately 20.6% of its value, in the same time frame. How can this difference in performance be explained given that they are exposed to the same asset classes (global equities securities, commodities, T-Bills) in the same proportions?
If, on the one hand, it is true that the percentage of asset allocation is more or less similar in the two cases, on the other, this does not mean that the constituents of these allocations are the same. Indeed, a large part of the commodities on which the S&P Risk Parity index relies on is oil/gas-related, which is not a favorable market at the moment considering the recent below zero oil prices. RPAR's commodities, instead, are mainly composed by gold and diversified mining (61%), which are industries that, as opposed to the oil one, have quickly recovered from the crash of mid-March, this can be part of what offset the sharp decrease in the equity portion, thus resulting in lower final volatility.

The name Risk Parity is associated with little risk and volatility, yet curiously among risk parity funds performances have varied considerably. As we have already said, some of these funds took a significant knockback because of coronavirus, but others have fared well in comparison. An example is Columbia's Adaptive Risk CRAAX, as well as other risk parity funds performed better than traditional 60/40 portfolios (based on an MPI study) during March.

4. Alternative to risk parity: our portfolio

4.1. Investment idea

Given that risk parity funds have failed to fulfill their purpose. Since the stock market has crashed, thus, it conceals not only risks but also the possibility of substantial future gains, we believe that to recover from the losses suffered by risk parity portfolios, it is a good strategy investing a more significant portion of our allocation in promising equities. Instead of just rebalancing the weights of the asset classes already present in our portfolio to vary the risk exposure of the overall portfolio (which is the risk parity approach) we should think about rebalancing the various investment components from defensive assets to more profitable ones (which is the more traditional approach). Nonetheless, as the future is still uncertain, it is appropriate to be cautious by balancing such bet on shares by keeping a large portion of almost risk-free debt and cash equivalents. Our solution is a new portfolio made by balancing the conventional approach to asset allocation with the risk parity one.

In this period of high uncertainty, it's complicated to make forecasts with a high level of confidence because even if the slowdown of infections in some parts of the world is encouraging, the slowdown itself is not enough to recover the economy. Many portfolio managers warned that this rally in equity markets is probably too far, too fast, and probably still hides downside risks. Furthermore, the fear gauge index Vix went down too steeply so that in the next months, it is likely to bounce back to the old high value. We think that due to the significant amount of uncertainty in the market caused by the Coronavirus outbreak, it is preferable a long term and well-diversified portfolio, with assets that should cover different geographies and industries to overcome the volatility rollercoaster.

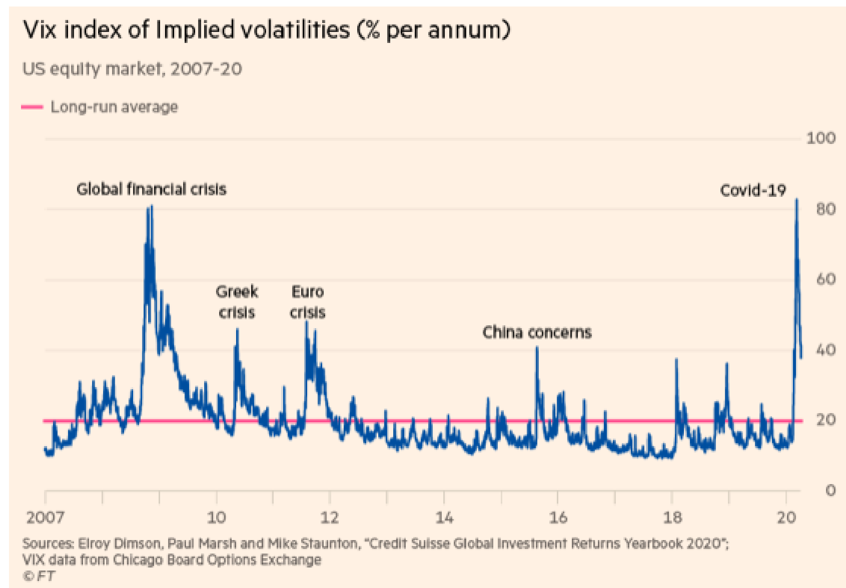


Figure 7 – Vix Index trend over the period from 2007 to 2020

We have to cope with this uncertainty until the end of the year, especially in the US market; that is why we suggest a portfolio mainly based on sectors that are doing well now, such as entertainment, healthcare, online retailers, delivery firms, and IT.

4.2. Cash & Cash Equivalents

In a period of such uncertainty holding a portion of cash & equivalents reduces the portfolio's volatility by decreasing its market exposure. Moreover, as many companies' valuations declined in the past month, having a share of liquidity available can be used for purchasing promising businesses.
Money Market Mutual Funds offer slightly higher returns than Treasury Bonds and other cash equivalents products in the current situation and, at the same time, are incredibly reliable for the preservation of capital and liquidity; therefore, a large share of this portion of the portfolio will be allocated in these financial instruments.
3-months Certificates of Deposits are another valuable option since they offer a decent return and are incredibly liquid.

Name		Percentage
Vanguard Prime Money Market Fund (VMMXX)		2,0%
Fidelity Money Market Fund (SPRXX)		2,0%
Schwab Value Advantage Money Fund (SWVXX)		2,0%
Money Market Mutual Fund		**6,00%**
Trustone Financial Credit Union		0,50%
MTC Federal Credit Union		0,50%
Citi		0,50%
Chevron Federal Credit Union		0,50%
3-months Certificates of Deposits		**2,00%**
Cash		**2,00%**
	TOTAL	**10,00%**

Figure 8 – Cash and Cash Equivalents asset allocation

4.3. Equity

Energy Sector

The reopening of factories, firms, and small businesses and the restart of production will positively affect the energy industry. Thus, current low prices of both energy stocks and ETFs conceal the possibility of realizing significant gains.
As for ETFs, the Energy Select Sector SPDR Fund holds large-cap Energy stocks and invests in firms that produce natural gas and crude oil and supply other energy-related services. Thus, it is a good way of investing in valuable companies and diversify at the same time.
Another security that has been performing well in the last period and has prospects of growth is the SPDR S&P Oil & Gas Exploration & Production ETF.
Moreover, a way to decrease risk maintaining the possibility of substantial gains is to invest in oil firms with strong balance sheets, as their well-established popular names will likely be the first to recover as investors see them safer than any other companies. Such companies are Chevron (CVX), ConocoPhilips (COP), and Exxon Mobil (XON).

Tech Sector

As lockdown orders force billions of people to work, learn, and play from home during the coronavirus outbreak, usage has surged for the cloud computing services that power video conferencing, streaming television, and online games. For these reasons, we suggest investments in different sectors that could profit, notwithstanding coronavirus.

Firstly, Google's holding Alphabet, that has seen demand for their services jump, as shown with the 30-fold growth of Google's Meet video conferencing tool usage. Coronavirus has also affected the price of Alphabet, which goes down 16% from its peak of 1526,29 per share on February 19, 2020.

Furthermore, Sony and other video game makers seem to be coronavirus-proof, with growth in earnings and the gaming industry that still has significant room to grow, with many of the stocks undervalued. Sony is one of the leading players in the industry, so we think that it will grow in the long run. Sony's annual revenues are continually growing based on its core business of video games and consoles. It had verified a 2,73% increase each year, and it should be an excellent investment opportunity. The P/E ratio is in line with the industry average, but we believe that the growth of the gaming sector will increase the shares' value.

Tencent Holdings, a game developer, film distributor, and online advertising company, has all the qualities to be a winning bet. It will grow in different sectors and has launched a Blockchain accelerator to digitalize currencies in China, showing his well-diversified business model and his long-run view.

Mastercard and PayPal are technology companies that connect consumers, financial institutions, merchants, governments, and businesses across the world, enabling them to use electronic forms of payment. They are two leading players in digitalized payments, one of the tools that could decrease the spread of the pandemic, restricting the use of cash. Mastercard has lost 29% of its capitalization due to coronavirus and is priced 268,74, very far from his highest price of 344,56 on 19/02/2020; therefore, it is likely to come back to his past values. Paypal, instead, has fully recovered from his down verified on 16/03/2020 but still has room for improvement.

Finally, Veeva Systems provides cloud-based software solutions primarily for the life sciences industry, which includes pharmaceutical, biotech, and medical device companies, among others. These types of companies are typically more resilient during tough economic times because they produce products that are essential to many people. Additionally, it has recently announced a new application aimed to simplify Global Surveillance in medical devices and diagnostics. Analysts expect growth of about 20% in 2020, and we share their sentiment. Veeva System Inc. It's fascinating because it is a relatively small company that is a bit undervalued, with a P/E ratio down 25 points from his recent peak, thus now is the best moment to enter with a long position.

Other Sectors

A bit of diversification is always good, especially against the growing volatility of the market. Therefore, we suggest ETFs focused on sectors that are doing well now, like entertainment, online retailers, and delivery firms. Our choices are the Xtrackers MSCI World Communication Services ETF and the Invesco S&P US Select Communication ETF.

Name	Ticker	Percentage
Tencent Holding Ltd	700	3,50%
Mastercard Inc.	MA	1,00%
Paypal Holdings Inc.	PYPL	1,00%
Alphabet Inc.	GOOG	1,00%
Sony Corp ADR	SNE	2,00%
Veeva Systems Inc.	VEEV	4,00%
ETF Xtrackers MSCI World Communication Services	XWTS	3,50%
ETF Invesco S&P US Select Communication	XLCS	3,50%
ETF SPDR S&P 500 Trust	SPY5	2,50%
ETF ISHARES China Large Cap	FXC	6,00%
SPDR S&P Oil & Gas Exploration & Production ETF	XOP	3,75%
Energy Select Sector SPDR Fund	XLE	3,75%
Chevron	CVX	2,00%
ConocoPhilips	COP	2,00%
Exxon Mibil	XON	2,00%
	TOTAL	**41,50%**

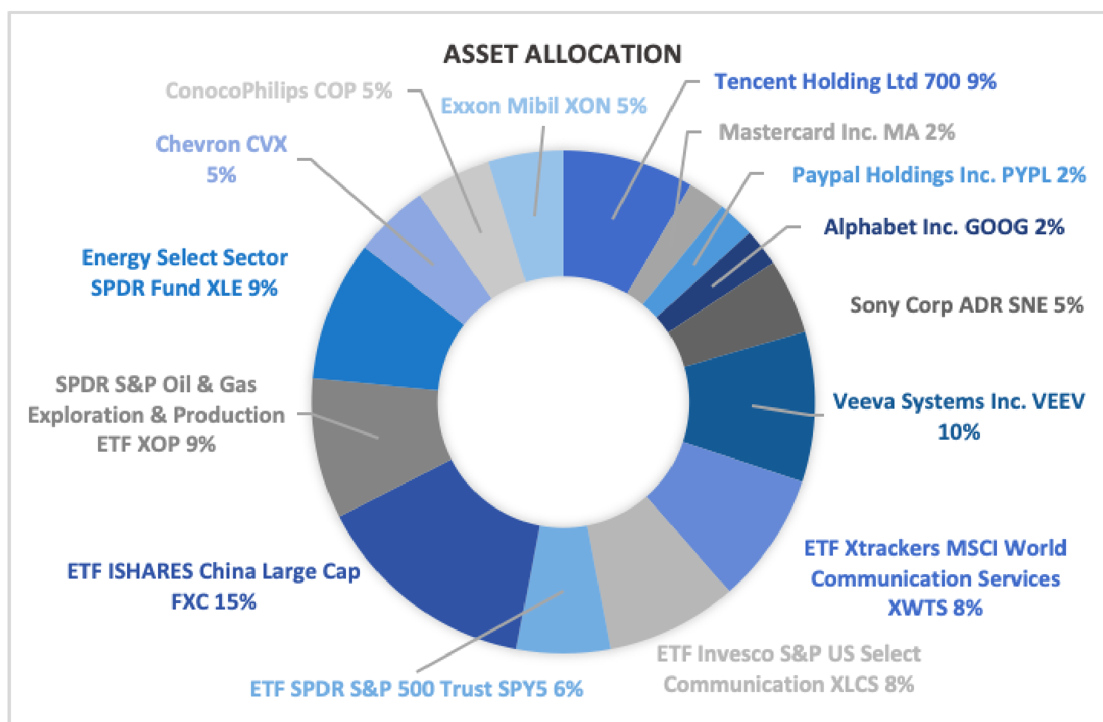


Figure 9 – Equity asset allocation

4.4. Debt

Due to the pandemic, the correction of the high-quality corporate bond indices (so-called investment grade with a rating of BBB-) was 6/7%, which is not so high if compared to the correction suffered by the debt of heavily indebted companies, which was higher than 17% (e.g., US bonds exposed to the crude sector saw very high corrections due to the collapse of the WTI price).

Government commitment is fundamental in supporting debt and loans: this will lead to a worsening of the deficit, which will also increase the risk premium (therefore the cost of debt) and on bonds issued by governments. For this reason, bonds will have returns even without necessarily investing in riskier bond categories. The US has already predicted that most of the issues will expire in the short term precisely because the FED is maintaining meager rates to prevent real and nominal long-term ones from undesired changes. We are having evidence of how erroneous it can be to believe that bonds are a safe haven. Such necessary corrections have highlighted the liquidity risk so that if we want to insert riskier fixed-income obligations, we must extend the reference horizon by focusing on the long term.

Our final consideration is to invest in Chinese government bonds in Renmimbi. The weight of this geographical area, both in bonds and equities, remains too limited in investor portfolios compared to the importance of China as a global growth engine. It is interesting to analyze, among the various areas of the world, how markets lost differently depending on the characteristics of the context: if the US lost approximately 30% and Europe 40% on the market, China lost only 8% even though the pandemic started from there. China has outperformed the rest of the world in its economic response to the virus, even though it originated in the Chinese mainland, and Asia will be for sure a key player in the future economic landscape.

As per our portfolio, on the one hand, the Global Government Bonds have little volatility and act as risk minimizers, while on the other hand, it is reasonable to add a tiny part of our fixed-income allocation on Corporate, High Yield and Emerging Market Debt, as an excellent alternative to risky equities (that we have not included in our portfolio), to conserve an absolute yield. We selected a few funds which are extremely reliable and are expected to perform well in the years to come.

Name	Percentage
M&G Global Government bond fund Euro C Inc	7,50%
JPMorgan Funds - Global Government Bond Fund C (acc) - EUR	7,50%
BlackRock Global Funds - China Bond Fund A3 CNY	12,00%
HSBC Global Investment Funds - RMB Fixed Income BC	13,00%
Government Bonds	40,00%
Eaton Vance International (Ireland) Emerging Markets Debt Opportunities Fund Class IUSD Inc	3,00%
Emerging Market Debt	3,00%
UBS (Lux) Bond SICAV - Asian High Yield (USD) Q-dist	2,00%
HSBC Global Investment Funds - Euro High Yield Bond	1,00%
BlackRock High Yield Bond K – BRHYX	1,00%
Wellington Global Credit Plus Fund S USD Acc	1,50%
Corporate / High Yield Bonds	5,50%
TOTAL	**48,50%**

Figure 10 – Bonds asset allocation

5. Conclusion

It is possible to conclude that, although the superiority of a risk-balanced approach is recognized over the traditional asset allocation one, it is not safe to blindly assume that all Risk Parity approaches are the same or will perform reliably through all environments as "All Weather" funds pretend to do.

The report highlighted how a strategy that delivers equity-like returns with bond-like volatility is a good intuition, whose ultimate objective is to perform well even in a period of market turmoil, but whose main goal itself has been betrayed in time of adverse economic cycle like this one. The Black Swan just brought out the weaknesses of this approach, which succeeded along the last decade, mainly thanks to the economic backdrop: the most significant liquidity expansion and coordinated major Central Bank has driven stimulus in the history of markets.

It's reasonable to believe that, despite their outstanding past performance, there are not so many positive expectations for the future performances of risk parity funds, all the more during this health and economic emergency. For this reason, we suggested some alternative investment ideas to build a new portfolio strategy best suited to tackle the Coronavirus crisis. Nobody knows if we will be right on it but, if there's something particular at this point, it is that now it's time to "think the unthinkable," as Macron said.

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