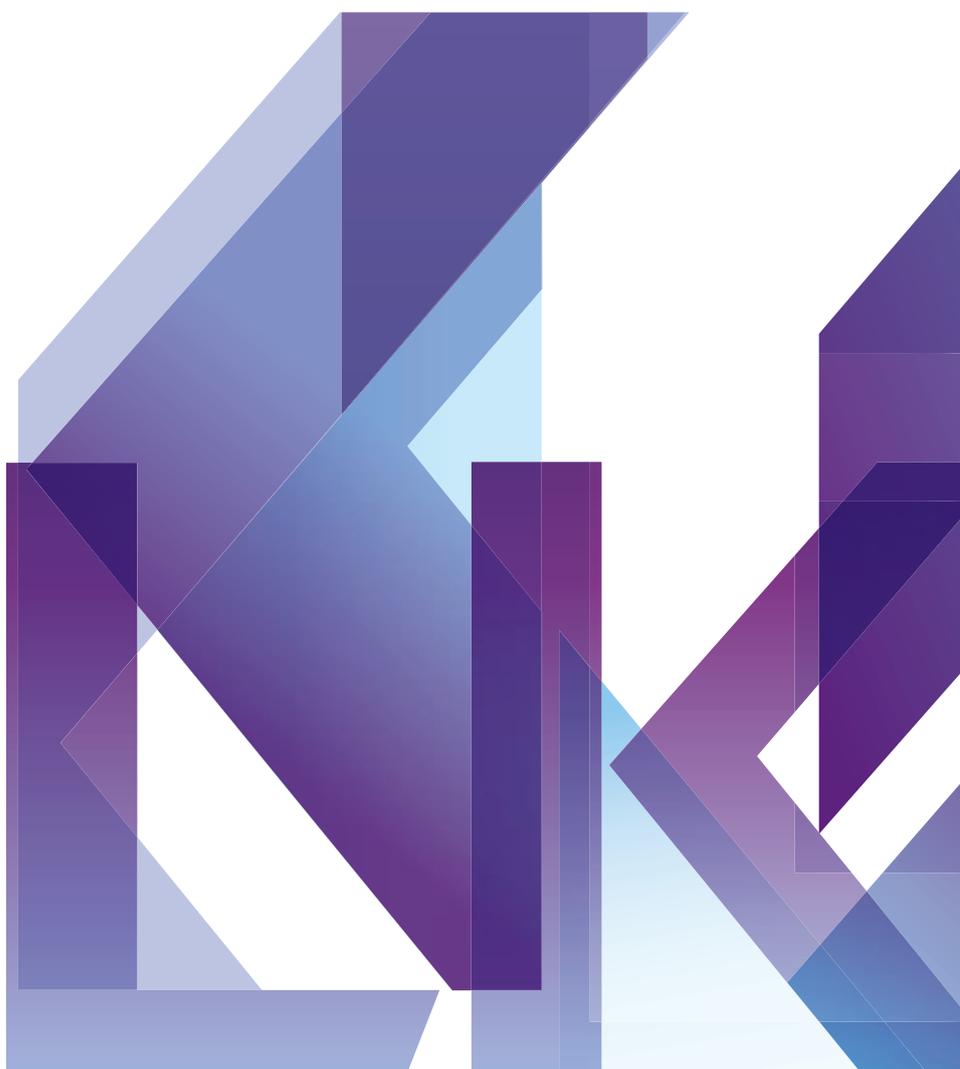


The quest for returns in
the new world paradigm

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Executive Summary

Given the backdrop of stagnating global growth, lower returns from traditional assets and rising correlations, investors are seeking alternative approaches to investing. The objective of this paper is to outline ways to boost portfolio returns and to achieve greater risk diversification. We examine both a risk parity approach to asset allocation and the broader incorporation of alternatives in investor portfolios. We find that the individual application of either of these concepts to a portfolio can result in a significant improvement in return, risk and diversification. When these two concepts are combined together in one portfolio, the results can be dramatic.

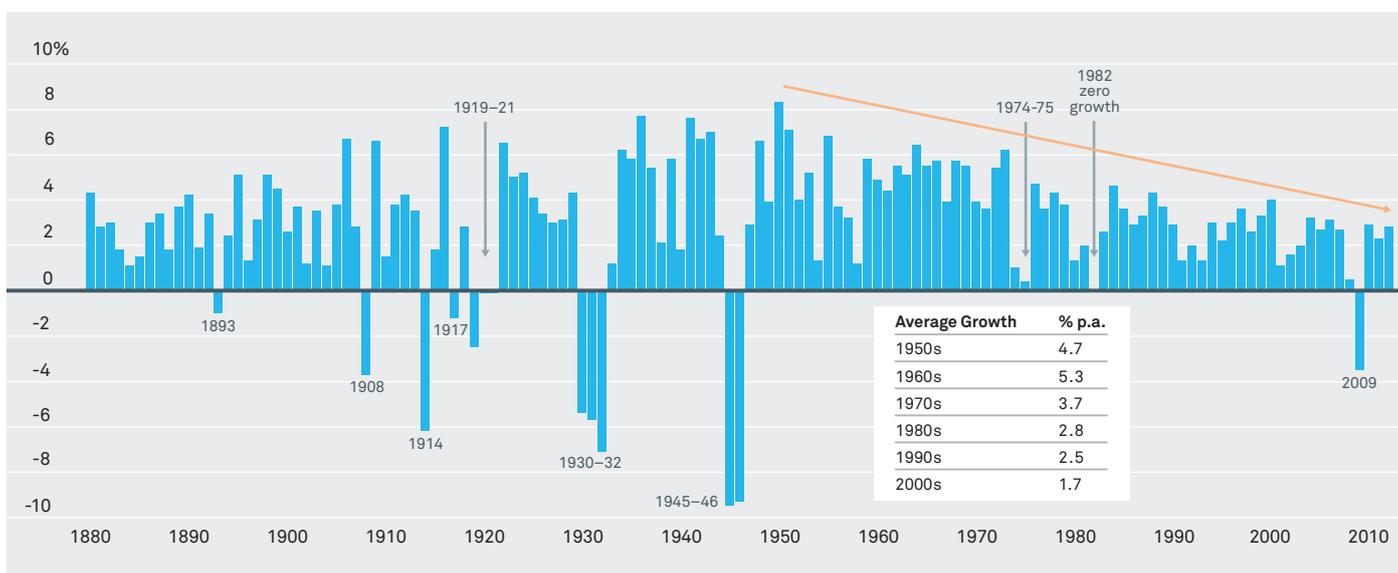
A changed world

The world's financial markets continue to be overshadowed by the stagnation of developed economies, a rolling sovereign debt crisis, political upheavals and the continuing operational and regulatory fallout from the global financial crisis. As a result, we are in an extended period of low market returns, high volatility and increased correlation across traditional asset classes. Worse, the world's economic prospects depend even more than usual on highly uncertain "tail events", which loom in the background. As many investors have realised, this is a world where the old approaches may not work anymore. The quest for returns has suddenly become all the more difficult: new and bold ways of thinking are needed under the new world paradigm.

Stagnating growth

Over each decade since the 1960s, the average growth rate for advanced economies has faded. As observed in Figure 1, the average growth rate in OECD economies has declined from 5.3% in the 1960s to only 1.7% in the latest decade. Unfortunately, there is no sign that future growth rates will buck this trend. The latest forecast is for growth across OECD¹ countries to remain close to the 10-year average of 1.7% in 2012. Growth is expected to rise only slightly to 2.3% in 2013. These outcomes are despite unprecedented efforts by central banks and policymakers since the global financial crisis reached its critical phase in late 2008 to stimulate growth across the major economies.

Figure 1: Major countries' real GDP growth, 1880–2012 (% YoY)



Source: Llewellyn Consulting, Angus Maddison database, OECD.

1. OECD Economic Outlook, Volume 2011, Issue 2.

But what about emerging markets and, in particular, the rise of the so called BRIC² economies? Are these countries not supposed to save us from our developed world growth miseries? Sadly, this is not the case: the IMF³ reports that growth rates in emerging and developing economies is also projected to fall from 7.3% in 2010 to 5.4% in 2012, leaving total world output at a meagre 3.3%.

Our view?

At BlackRock, our 2012 investment outlook titled “The Year of Living Divergently” outlines five possible scenarios for 2012, each with varying probabilities. The outcome regarded as having the highest probability of occurrence (40-50%) is one that we describe as “Divergence”. Under this scenario: emerging economies continue to outperform developed economies; both the United States and Japan “muddle through”; and Europe slips into a recession. The outcome with the second highest probability (20-25%) is one that we describe as “Nemesis”. This scenario is categorised by global recession, a credit crunch, social upheaval and steep losses across traditional asset classes: the consequences could be worse than those of the 2008/09 global financial crisis. Interestingly, the scenario to which we ascribe the least probability – merely 0-5% – is one which we describe as “Growth”. Under this outcome: global growth rebounds back above the long term trend; fears of a euro debt crisis dissipate; and the continent’s economy rebounds. Meanwhile, emerging markets accelerate and the United States’ recovery solidifies.

The bottom line, sadly, is that we are very much of the view that the period ahead will look strikingly similar to the recent past – or worse.

Rising correlations

A major premise of Markowitz’s Modern Portfolio Theory (MPT) framework is that investors can maximise the expected returns of a portfolio while minimising risk by holding a diversified portfolio of complementary assets. By combining different assets whose returns are not perfectly positively correlated, MPT seeks to reduce total portfolio variance. MPT has been successfully used by investors since Markowitz first introduced the concept in the 1950s. More recently, however, investors have been left disappointed. This has not been because the theory is wrong. Rather, it is because one of the key assumptions underpinning the theory has been challenged: the crucial assumption is that asset prices move independently of each other, unlocking the potential diversification benefits. The reality over the last decade is that asset prices have been moving more and more in lock-step.

Figure 2: Risk on and risk off asset classes are highly correlated



Source: BlackRock.

As seen in Figure 2, correlations between traditional asset classes has risen, eroding much of the potential diversification benefits outlined by Markowitz’s portfolio theory.

“Tail risks” pervade everywhere

Just as it appears very unlikely that the growth of the global economy will strengthen, there is no sign that the rise in correlations witnessed in the past few years will mean-revert any time soon. In fact, the “tail risks”, which quite often drive asset prices to move in lock-step, appear to have increased in number – and in potential severity of impact on global financial markets. The current environment is characterised by fragile financial systems, high public debt, historically low interest rates and a plethora of non-standard policy measures to address growth. The most critical “tail risk” is the worsening of the sovereign debt crisis in Europe. While the recent incremental action by policymakers (such as the Long Term Refinancing Operations undertaken by the European Central Bank) may have bought some precious time, there are still many unanswered questions surrounding the long term resolution of the euro area’s problems.

Downside risks also arise in both the United States and Japan from insufficient progress in developing credible medium-term fiscal consolidation plans. The major short term danger in the United States, however, is the risk of undermining a fragile consumer sector through premature fiscal austerity.

Emerging markets are also not immune to “tail risk”, most notably that of “hard landings” for their economies, either. In recent years, many emerging market economies experienced buoyant credit and asset price growth. This has inflated demand and may have led to an overestimation of trend growth rates in at least some of these economies. If this in fact proves to be the case, a collapse in confidence and a correction in local real estate and credit markets – combined with falling demand

2. BRIC refers to the countries of Brazil, Russia, India and China.

3. World Economic Update, January 24, 2012, International Monetary Fund (IMF).

from abroad – could have a severe impact on activity in these economies. The problems will also likely be felt in other countries that are connected, through trade and investment links.

Geopolitical risks are also prevalent. Potential conflicts in the Middle East raise the risk of an oil supply shock which could have very damaging effects on the fragility of the global economic recovery. One only need look at the political events of 2011 as evidence that the region remains vulnerable to unpredictable outcomes.

And these are just the known unknowns. What about the unknown unknowns? To quote Donald Rumsfeld’s now famous line⁴, “there are things we do not know we don’t know”.

The old paradigm is broken

The traditional portfolio, split 60/40 across growth and income assets, is not sufficient to meet investor needs. The fact is, this “balanced” portfolio moved virtually in lock-step with a 100% equities allocation over the last 10 years. Specifically, the correlation between the returns from a typical “balanced” portfolio and the ASX200 is 0.96. This fact, in isolation, would not be so concerning if equity returns had been in double digits, and accompanied by low and stable volatility. This has clearly not been the case (see Figure 3). In fact, a typical “balanced” portfolio with a 60/40 split between growth and income assets has only returned 4.6% annualised over the last 10 years – and with a negative Sharpe ratio (-0.12). Australian investors would have been better investing 100% of their portfolio in cash throughout this time period.

Figure 3: Performance of a 60/40 portfolio versus cash and ASX200 over the last 10 years



For illustrative purposes only. The 60/40 portfolio comprises a 40% allocation to income assets represented by an equal weight investment in the UBS Composite Index, the Barclays Global Aggregate Bond Index Hedged to \$A, and the UBS Bank Bill Index. The 60% allocation to growth assets is represented by a 20% allocation to the MSCI World Ex Australia Hedged to \$A and a 40% allocation to Australian Equities. Source: BlackRock, Datastream.

So, what’s the solution?

We believe that there are two concepts that are helpful in this environment, in that they can potentially improve portfolio diversification and boost returns. Firstly, there is the so-called risk parity approach to asset allocation. This may improve the diversification characteristics of an investor’s beta portfolio to make the portfolio more “efficient”. The approach reduces the beta portfolio’s reliance on a single risk factor – equity risk – to drive returns. Secondly, portfolio returns can potentially be further boosted by harnessing the most efficient sources of active returns – alternative assets – and combining them with the efficient beta portfolio. The next section explores both of these potential solutions in more detail.

Fortune favours the bold: Two ways to boost returns and diversify risk

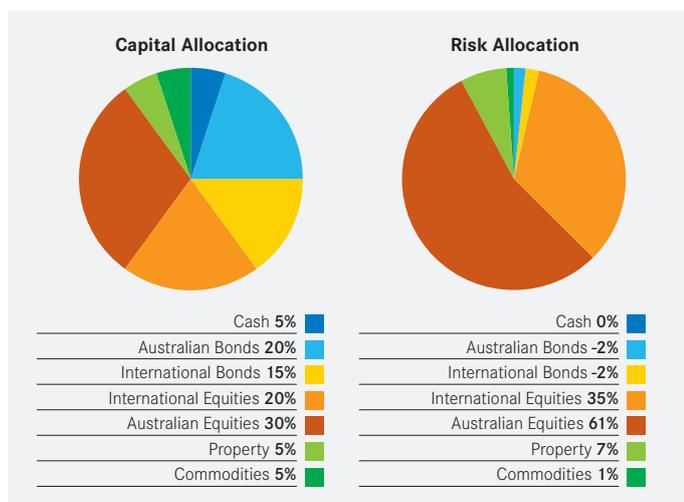
1. A risk parity approach to asset allocation

The basic idea behind the risk parity approach is this: while a traditional “balanced” portfolio that is split 60/40 between growth and income assets may look well diversified from a capital allocation point of view, it is unbalanced in terms of its risk exposure. This is because equity returns are the dominant driver of volatility for such a portfolio. This is illustrated in Figure 4 below, which compares the capital allocation of a seemingly well diversified 60/40 portfolio, with its overall risk allocation. In this example, equities comprise 50% of the total capital allocation but make up 96% of the expected risk of the portfolio.

Risk parity asset allocation techniques look to spread portfolio risk more evenly across asset classes, or in some cases across risk factors, so that the resulting portfolio is more diversified. The objective is to achieve a higher risk adjusted return compared with that offered by the traditional capital allocation approach to asset allocation. The effect of a risk parity allocation relative to the traditional approach is essentially a reduced weighting of equities and an increased weighting to other less volatile or lowly correlated asset classes (e.g. fixed income, real estate, commodities etc). This can be seen in the example of a risk parity portfolio in Figure 5 below, where the equity allocation drops to 14%: much of the corresponding increase is in an allocation to bonds, but there are smaller rises in the weightings to property and commodities. The end result is a portfolio where the risk is spread equally across asset classes. In the stylised example illustrated below, the expected contribution to total portfolio risk from equities falls from 96% to 33%.

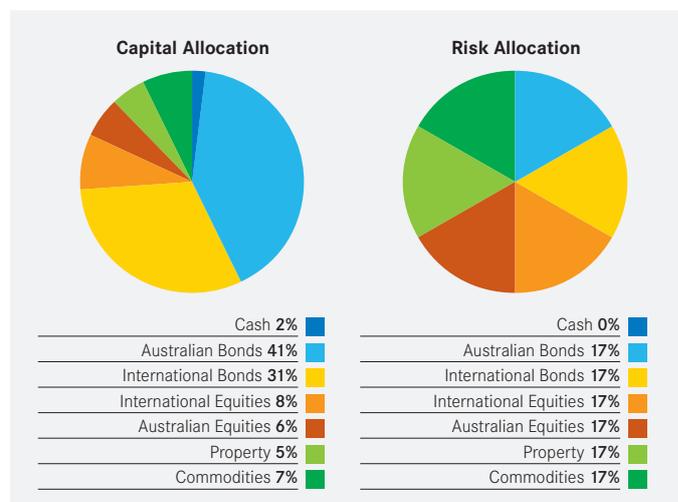
4. Donald Rumsfeld, United States Secretary of Defense, Press statement, February 2002.

Figure 4: Traditional 60/40 portfolio



Source: BlackRock.

Figure 5: Example risk parity portfolio

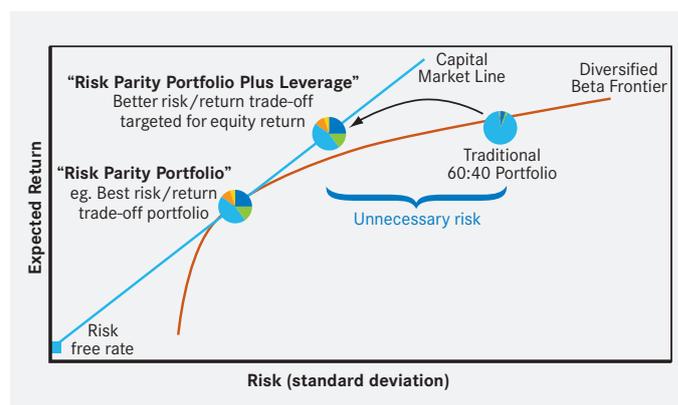


Source: BlackRock.

While the offer of a higher Sharpe ratio sounds attractive, the total return expected from a risk parity approach will most likely be lower than that offered by the traditional 60/40 portfolio if the conventional assumption that equities should outperform bonds holds over the long term. This is illustrated in the efficiency frontier in Figure 6. The traditional 60/40 portfolio, with a high risk weight to equities, and the risk parity portfolio, with a more even distribution of risk, both fall on the efficiency frontier: however, while the risk parity portfolio offers the highest return per unit of risk, the expected return of the portfolio is less than that offered by the traditional 60/40 portfolio. This problem can be overcome through the use of leverage.

By using leverage to increase the returns of the risk parity portfolio, the same expected return can be achieved as that of the traditional 60/40 portfolio, and with less risk. This is shown as the “Risk Parity Portfolio Plus Leverage” in Figure 6. In the case of the example outlined in Figures 4 & 5 above, based on our assumptions for the risk and return of underlying assets, the expected Sharpe ratio increases from 0.3 for the traditional 60/40 portfolio to 0.5 for the risk parity portfolio. The leverage required to achieve the same expected return of the traditional 60/40 portfolio used in this example is a reasonably modest 1.5 times. From a practical perspective, leverage can be obtained either via direct borrowing or employing derivatives such as futures to control the exposures to the various asset classes.

Figure 6: Risk parity portfolio with leverage “optimal beta”

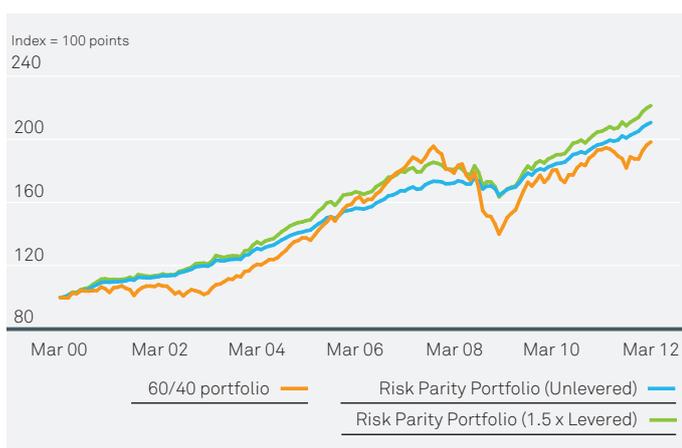


Source: BlackRock. Pie charts indicate portfolio risk exposures and are for illustrative purposes only.

Figure 7 shows the returns experienced over the last 12 years by an investor in a stylised risk parity portfolio relative to those achieved by an investor in the traditional 60/40 portfolio – on the basis of the capital allocations shown in Figures 4 & 5. The returns for the risk parity portfolio are shown on both an unlevered and levered basis (using leverage of 1.5 times). Interestingly, both the levered and unlevered portfolio outperformed the traditional 60/40 portfolio over this period. In addition, the two risk parity portfolios experienced higher returns, but with much lower realised volatility; 4.1% for the levered risk parity portfolio, for instance, versus 7.0% for the traditional 60/40 portfolio. The resulting Sharpe Ratio increased from 0.1 for the traditional 60/40 portfolio to 0.4 for the risk parity portfolio.

Figure 7: Comparison of returns

Return Analysis (Apr 2000 – Mar 2012)	Traditional 60/40 Portfolio	Risk Parity Portfolio (Unlevered)	Risk Parity Portfolio (1.5 x levered)
Return	5.9%	6.4%	6.9%
Risk	7.0%	2.7%	4.1%
Sharpe Ratio	0.1	0.4	0.4
Max Drawdown	28%	6%	12%
Correlation to ASX	0.96	0.61	0.61



For illustrative purposes only. The 60/40 portfolio comprises a 40% allocation to income assets represented by an equal weight investment in the UBS Composite Index, the Barclays Global Aggregate Bond Index Hedged to \$A, and the UBS Bank Bill Index. The 60% allocation to growth assets is represented by a 20% allocation to the MSCI World Ex Australia Hedged to \$A and a 40% allocation to Australian Equities. Source: BlackRock, Datastream.

Not only did the risk parity portfolio deliver a higher Sharpe Ratio but also a much lower correlation with the S&P/ASX 200 (0.61 for the risk parity portfolio versus 0.96 for the traditional 60/40 portfolio) and a greatly improved maximum drawdown statistic (maximum drawdown of only 12% for the levered risk parity portfolio versus 28% for the traditional 60/40 portfolio).

A risk parity portfolio sounds great... but where can it go wrong?

While the risk parity approach seems to address many of the problems associated with the more traditional approach to asset allocation, it often faces criticism on several fronts. Firstly, opponents to the risk parity approach argue that the use of leverage can be a dangerous tool for investors. While it allows investors to magnify returns, it also magnifies losses. Leverage is generally implemented using marked-to-market securities (e.g., using futures to gain exposure to equity and bond beta). As such, during periods of drawdown an investor may be faced with margin calls which result in a forced selling of portfolio assets to fund losses, particularly at the time when the prices of these assets are most suppressed. Unlevered investors have the luxury of waiting for prices to return towards economically rational levels and are, therefore, not forced liquidators during drawdown periods.

It has also been argued that the return benefits of the risk parity approach of the type outlined in Figure 7 are overstated: this is because the last 10-20 years can be seen as a unique period in which inflation and bond yields both fell from very high levels following a period of high inflation in the 1980s. In addition, the last decade was a particularly volatile period for equity markets – thanks to the bursting of the bubble in technology, media and telecommunications (TMT) stocks in 2001 and the global financial crisis which reached its critical phase in 2008. It is therefore not surprising that a portfolio heavily weighted to bonds, with a lower weighting to equities, would have significantly outperformed a traditional 60/40 portfolio over the last decade, even on an unlevered basis. However, if an investor adopts a medium-to-longer term view that a deflationary and or low-growth environment lies ahead, then the adoption of a risk parity approach may continue to have merits.

A third issue often faced by an investor looking to implement a simplified risk parity portfolio is how to define “risk”. A risk parity approach in its most basic form simply seeks to have equal risks, defined as the standard deviation of returns, across each asset class. This takes no account of the risk asymmetry exhibited by different asset classes: different asset classes can exhibit different tail risks., Nor does this approach account for overlapping risks between asset classes. For example, there may be limited diversification benefits from allocating equal risk between domestic and international equities.

The extent to which diversification benefits are gained through a simple risk parity approach is highly dependent on which categories of assets comprise the portfolio and across which asset classes risk parity is sought. In addition, the increased use of leverage and derivatives needed to implement the strategy may result in the introduction of other risks in the portfolio: such risks include basis risk between the derivative and underlying physical asset, together with counterparty and collateral risk.

Next generation risk parity

Fortunately, investment managers have made significant enhancements to the basic risk parity approach over the last few years which address many of these concerns.

To address the concern surrounding the use of leverage which magnifies both gains and losses, some risk parity managers have incorporated sophisticated “risk conditioners” into their investment process – which act to cut risk and de-lever the portfolio during periods of heightened market volatility. Managers have also incorporated an element of fundamental analysis which takes into account how risk premia of different asset classes vary through time: this analysis enables the managers to adjust exposure to asset classes which exhibit extreme deviation from fair value.

Finally, to address the third concern outlined above, some managers take a factor exposure approach to risk parity. Under this approach, asset classes are viewed as composites of exposures to common systematic risk factors for which investors are rewarded (e.g. real rates, inflation, default risk, economic growth, political risk and liquidity). For example, the dominant risk factors for nominal government bonds are real rates and inflation, whereas for developed market equities the dominant risk factors are economic growth risk and default risk. Asset classes are then mapped to each of these risk factors and an optimal portfolio is constructed which aims to diversify across risk factors as opposed to strict risk parity between asset classes as conventionally defined.

Risk parity portfolios, or “efficient beta strategies” as they have become more commonly known, are still in their infancy compared to the traditional 60/40 approach. Nevertheless, at BlackRock, we are seeing increasing interest in these strategies from investors, particularly pension funds in the United States and Europe that are looking to diversify their portfolios away from equities. While there has been growing interest from Australian investors in these strategies, the adoption of the risk parity approach has been slower in this country: this is because of the Defined Contribution nature of Australian superannuation funds, as opposed to the Defined Benefit nature of offshore pension funds, which have a stronger focus on matching liabilities. A further consideration for Australian superannuation funds is the peer risk faced by funds that take a radically different approach to the norm. Nonetheless, risk parity strategies could play an important role for Australian superannuation funds, as the focus shifts from accumulation of assets to capital preservation for retirees.

We have explored some new approaches to help improve and diversify portfolio beta. We now turn our attention to exploring more efficient ways to harness alpha within investor portfolios to further diversify and boost portfolio returns.

How can portfolio returns be boosted in the current environment?

We have shown above that a well-diversified portfolio of market betas can improve returns, with lower risk and greater diversification from equity markets: however, the total returns achieved by these portfolios are still only two or three percentage points above Australian cash rates, even after a tremendous bull market for bonds. Investors are rightly asking the question: “How can I boost returns without taking on more equity risk?”

The obvious answer to this question is to utilise some form of active management to increase returns – but at what risk? If the objective of a rational investor is to maximise returns while minimising risk, it stands to reason that an investor should allocate risk to strategies that have the highest return expectation for the risk that is allocated. Investors should also have regard to the diversification benefits that an active return stream may have when blending with the broader portfolio. From a practical perspective, this commonly means choosing active return streams which have the highest expected information ratio⁵ and the lowest possible correlation with the existing portfolio – or risk factor from which the investor is seeking to diversify. The addition of these “superior quality” active returns should have the effect of increasing total portfolio returns with minimal incremental risk.

This leads to the investor’s next question: “So which strategies have the highest expected information ratio?” To understand this it is worth breaking down the information ratio into its constituent components. Perhaps the best description of this is by Grinold and Kahn (*Active Portfolio Management*, 2000) who introduce the Fundamental Law of Active Management. An extended version of this is shown in Figure 8 below.

Figure 8: The Fundamental Law of Active Management

$$\text{Information Ratio} = \text{Information Coefficient} \times \sqrt{\text{Breadth}} \times \text{Transfer Coefficient}$$

A measure of a manager’s skill. Defined as the correlation between actual returns and a manager’s forecasts.

The number of times a manager uses their skill. Defined as the number of independent forecasts in a portfolio.

The degree to which forecasts can be implemented. Defined as the correlation between the ideal and real portfolio.

Source: Grinold, R and Khan, R. (2000) *Active Portfolio Management*, 2nd edition: McGraw-Hill.

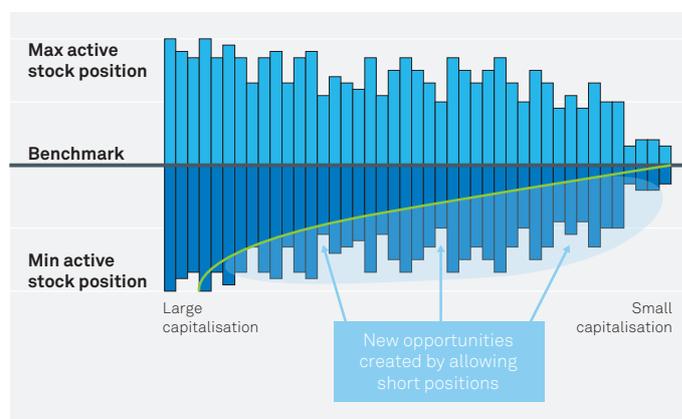
5. Information ratio measures the quality of an active return stream. It is defined as the ratio of active returns divided by active risk over a given period. Investors seek to maximise active returns per unit of active risk.

According to the Fundamental Law of Active Management, managers have three ways to improve the information ratio of their portfolios: improve their skill at forecasting returns (the “information coefficient”); look for additional ways to apply their skill within a portfolio (breadth); or reduce the constraints inhibiting implementation of their insights (maximise the transfer coefficient) . For example, to increase the information ratio from 0.5 to 1.0 a manager needs to: double his/her skill; or increase breadth by a factor of four; or double the transfer coefficient; or some combination of the these. If taken a step further to better reflect an implementable portfolio, a third term can be introduced; the Transfer Coefficient (TC). The Transfer Coefficient is a measure of the extent to which a manager’s active views can be implemented in a ‘real’ investor portfolio.

So how does this relate to the investor’s question around which strategies tend to have the highest information ratio? It is the Transfer Coefficient that is of most relevance here. Naturally, all active managers purport that they have more “skill” than the next manager, and outlining a framework for separating skillful managers from the less skillful is beyond the scope of this paper. The second term, “breadth” is typically a function of the style of active management. All else being equal, combining skill with higher frequency of active views will result in a higher information ratio. But, in the ‘real’ world, there are transaction costs and portfolio constraints that limit the extent to which a manager’s ‘ideal’ portfolio may become a ‘real’ portfolio. This effect is measured by the transfer coefficient – and it can be used to easily distinguish between those strategies that are expected to have a higher information ratio than other strategies, all things being equal.

Essentially it comes down to the extent to which portfolio constraints and transaction costs restrict a manager’s opportunity set for applying his/her skill (via active positions versus a specified benchmark). For example, a long-only active equity manager expresses his/her investment insights by taking active positions in securities relative to the securities’ weightings in the benchmark. While there is no constraint for a manager wanting to buy more of a stock he/she likes, as replacements for stocks he/she dislikes, the maximum negative active position possible for each stock will be to hold no shares at all. This reduces the opportunity set for the long-only manager and reduces the transfer coefficient of the portfolio. The inability to take full advantage of negative stock forecasts becomes particularly detrimental when assets comprise a small percentage of the benchmark. The green line in Figure 9 below represents the binding short constraint for the long-only manager portfolios.

Figure 9: Portfolio constraints faced by long-only strategies



Source: BlackRock.

In contrast, a market neutral manager has no benchmark-related constraints. In addition to taking long positions, he/she may “sell short” to create negative weights in those stocks which have relatively poor return expectations. Negative positions are achieved by borrowing securities and then selling them in the market as normal trades. Stocks that have been identified as overpriced are sold short. When the stocks have returned to fair value, they are repurchased and the borrowed stocks are returned to the stock lender. This increases the Transfer Coefficient of the strategy and a more complete implementation of the manager’s stock selection insights. The increased opportunity set is illustrated in Figure 9 as the light blue shaded area under the green line.

The expected improvement in a manager’s information ratio can be estimated using the Fundamental Law of Active Management⁶. If one assumes that a manager is benchmarked against the S&P/ASX300 and has an active view on each stock in the index but can only implement 50% of these active views in the client portfolio - due to the portfolio’s long-only mandate constraint – the transfer coefficient is 0.5. To achieve an information ratio of 0.5 the manager needs to have an information coefficient (skill) of 0.058. The same manager can improve his/her information ratio simply by relaxing the long-only constraint which will allow the manager to express more fully both positive and negative views across a greater number of stocks in the index. Assuming that, by relaxing the long-only constraint, the manager can now implement 80% of these active views in the client portfolio, the information ratio can improve to 0.8⁷ without an increase in skill or breadth.

6. I Grinold, R and Khan, R. (2000) Active Portfolio Management, 2nd edition: McGraw-Hill.

7. $IR = 0.058 \times \sqrt{300} \times 0.8 \approx 0.8$.

So what is the point of all this theory? Generally speaking, strategies which have fewer constraints should have a higher transfer coefficient: as such they should produce higher quality returns than those which are constrained, all else being equal. As a group, hedge funds which have the potential to take both long and short positions across asset classes should have the ability to produce higher returns per unit of risk, in relation to portfolios run on more constrained long-only active strategies.

This has important implications for investors looking to make the most efficient use of their active risk budget. We highlight our statement at the start of this section that the objective of a rational investor is to maximise returns while minimising equity risk.

2. Move alternatives from the periphery to the core

Australian investors were early adopters of alternatives through the late 1990s and early 2000s. As an asset class, alternatives rose from 5% of investor portfolios in 1997 to an allocation of 13% in 2011. Breaking the alternatives category down further, the majority of the 13% allocation comprises currency and infrastructure investments with only 2% of total assets invested in hedge funds⁸. This seems a low allocation, given the potential return and diversification benefits offered by hedge funds. In some cases investors have funded hedge fund investments from their cash allocation: this is because most hedge funds seek absolute returns versus a cash benchmark. For this reason, Australian investors have been restricted in their usage of hedge funds.

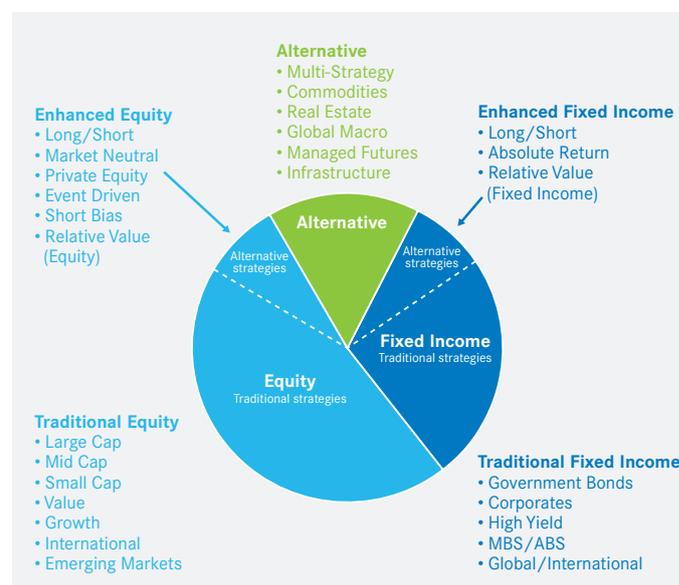
More broadly, investors are taking a closer look at their alternative investments to understand the types of risks they are taking and rethinking where these investments fit in their asset allocation models.

At BlackRock, we believe alternatives should take a broader role in investor portfolios. Some examples of how this can be achieved are:

- ▶ Reallocating part of an existing long-only equity strategy.
- ▶ Redefining private equity allocations as 'equity' rather than 'alternative'.
- ▶ Reducing exposure to traditional fixed income products such as government bonds and investment grade credit, and increasing exposure to long/short absolute return and relative value fixed income strategies.
- ▶ Replicating existing equity and fixed income allocations synthetically, unlocking cash to invest in other strategies.

These measures are illustrated in Figure 10.

Figure 10: Alternatives taking broader role in investor portfolios



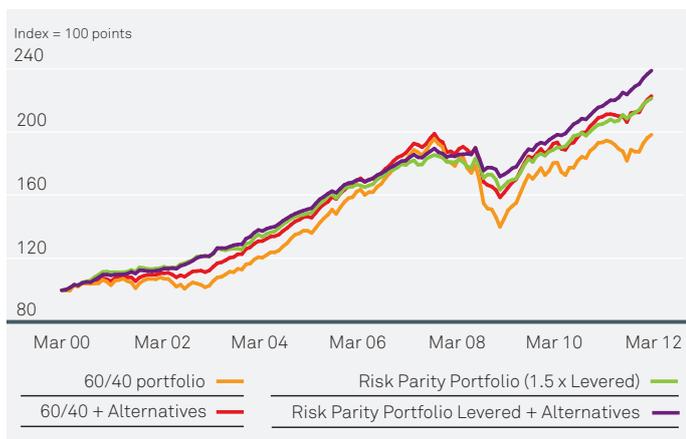
Source: BlackRock.

Moving investments previously considered 'alternative' into the core of a portfolio can have dramatic results. Consider what happens if one takes the same 60/40 allocation used in Figure 4 and replaces a portion of the traditional equity and fixed income exposures with absolute return focused equity and fixed income strategies, together with the inclusion of a global macro strategy to provide tactical asset allocation views in the portfolio. This results in an increase in total portfolio returns from 5.9% for the traditional 60/40 portfolio to 6.9%, with a 2% reduction in portfolio risk (as portfolio volatility declines from 7% to 5%). The portfolio's Sharpe ratio increases from 0.1 to 0.3. In addition, the maximum drawdown experienced by the portfolio reduces from 28% to 20%. These figures are outlined in Figure 11 below.

Adding alternatives to the traditional 60/40 portfolio greatly improves the portfolio's return characteristics. So, what would happen if one replaces the traditional 60/40 portfolio with a risk parity portfolio and combine this with the above allocation to alternatives? The historical results for the last 12 years are also outlined in Figure 11. The portfolio return increases to 7.5%, risk declines further from 5.0% to 3.3% and the Sharpe ratio doubles from 0.3 to 0.6. In addition, portfolio drawdown halves from 20% to only 9% and the correlation with equities falls from 0.93 to 0.65.

Figure 11: Including alternatives as a core allocation

Return Analysis (Apr 2000 - Mar 2012)	Traditional 60/40 Portfolio	60/40 Portfolio + Alternatives	Risk Parity Portfolio (1.5 x levered)	Levered Risk Parity + Alternatives
Return	5.9%	6.9%	6.9%	7.5%
Risk	7.0%	5.0%	4.1%	3.3%
Sharpe Ratio	0.1	0.3	0.4	0.6
Max Drawdown	28%	20%	12%	9%
Correlation to ASX	0.96	0.93	0.61	0.65



For illustrative purposes only. The 60/40 portfolio comprises a 40% allocation to income assets represented by an equal weight investment in the UBS Composite Index, the Barclays Global Aggregate Bond Index Hedged to \$A, and the UBS Bank Bill Index. The 60% allocation to growth assets is represented by a 20% allocation to the MSCI World Ex Australia Hedged to \$A, a 30% allocation to Australian Equities, a 5% allocation to the S&P/ASX300 REIT Index and a 5% allocation to the Dow Jones-UBS Commodity Index. Risk Parity Portfolio returns comprise index returns outlined above using the capital allocations outlined in Figure 5. Source: BlackRock, Datastream.

If it's that easy why doesn't everyone do it?

The common criticisms of the risk parity approach were outlined earlier: but, what about hedge funds? Many investors are still smarting from a poor experience with hedge funds and funds of hedge funds through the global financial crisis, and the media has been quick to criticise the asset class – rightly so in some cases. However, at BlackRock, we believe the pendulum has swung too far: we fear that many investors may overlook the asset class just at the time when a well chosen institutional quality hedge fund may be the answer to investor needs. This is particularly relevant given the suppressed outlook for returns from traditional assets.

So, what are the key considerations that investors should take into account when thinking about investing in hedge funds?

Hedge funds are risky....or are they?

The term “risk” is very broad and can encompass many types of investment risk. The most common use of the term “risk”, particularly in relation to hedge funds, refers to the volatility of returns. It is true that hedge funds typically target a higher level of expected return than more traditional active strategies.

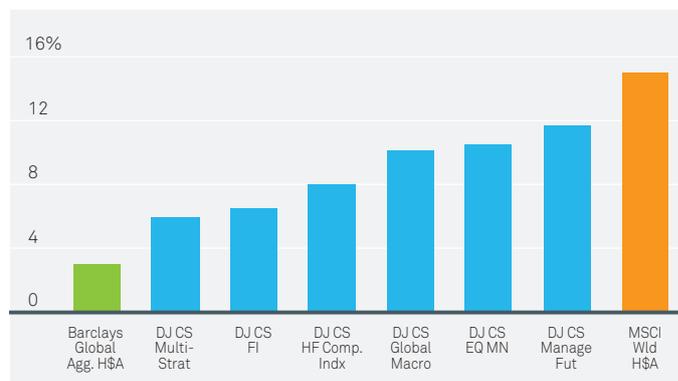
By their nature, hedge funds are typically less constrained than long-only active strategies which provide hedge funds with the greatest opportunity to maximise the information ratio of their returns (as is discussed above in the section on the Fundamental Law of Active Management). In addition, hedge fund strategies aim to be capital efficient for investors. These strategies typically target high levels of returns, and correspondingly higher risk, so that investors only need to invest a small amount of capital to achieve the desired return contribution at their own portfolio level.

For example, an investor looking to add 1% to his/her overall portfolio only needs to invest 5% in a hedge fund which targets 20% return above cash to achieve the desired outcome, assuming the manager meets that return target. So long as an investor has a good understanding of both the return expectations for a strategy and what risk the manager expects to utilise to achieve that return, the investor can tailor his/her investment to suit the desired outcome for their own portfolio.

The key question that investors should ask is how the volatility of returns compares with the volatility of returns of the other assets in the portfolio? As we have seen from the risk parity discussion above, investor portfolios have historically been dominated by equity risk. The common perception is that hedge funds are riskier than equity markets: however, this view is incorrect. Figure 12 below shows the standard deviation of returns for several common hedge fund styles, as measured by the Credit Suisse Dow Jones Hedge Fund indices, from inception of these indices in January 1994 to December 2011. As illustrated in the chart, all have exhibited lower return volatility than global equities, with several styles exhibiting risk closer to bonds than equities.

Figure 12: Hedge fund return volatility vs. Equities and Bonds

Annualised Risk (Jan 1994 – Dec 2011)



Source: Dow Jones/Credit Suisse, Datastream.

But standard deviation of returns is only one measure of “risk”. What happens if one undertakes a similar analysis, but using the maximum peak to trough drawdown? Figure 13 charts the results. Again, the findings show that the risk of each hedge fund style in all cases falls below the risk of equities, but remains higher than that of bonds. One area of disappointment for the asset class has clearly been the underperformance of Equity Market Neutral strategies during the global financial crisis. This is evident in the drawdown chart below where, in most cases, the maximum drawdown for each hedge fund style was concentrated in the months following the collapse of Lehman Brothers in September 2008.

Much has been documented about the reasons behind this level of drawdown for equity market neutral strategies. The discussion essentially focuses on the commonality between portfolio holdings across managers and the liquidity squeeze that took place due to the requirement to reduce leverage and hold cash. The global financial crisis provided a wake-up call for many of these Equity Market Neutral managers to diversify their insights away from the more generic factors (which results in commonality of positions) and strengthen their risk controls. Nonetheless, the overall perception that hedge funds are riskier than equities does not appear to be correct.

Figure 13: Hedge fund maximum drawdown vs Equities and Bonds

Maximum drawdown (Jan 1994 – Dec 2011)



Source: Dow Jones/Credit Suisse, Datastream.

Cost efficiency and fee considerations

There has been a heightened focus on investment manager fees across all asset classes in recent years as many strategies have fallen short of delivering the returns expected. For Australian superannuation investors, the pending MySuper reforms have

increased this focus. Hedge fund fees have naturally been in the spotlight. This is because, in any simple ranking of headline Management Expense Ratios (MER's), hedge funds are typically at the top of the list, with index funds at the bottom. Doing this simple comparison fails to take into account both the level and the quality of returns targeted by each strategy: in essence, it compares apples with oranges. In order to obtain a fairer comparison of fees between funds, one must first scale fees according to the expected return.

For example, assume an institutional investor wants to compare fees between a hedge fund investment which targets a 20% active return and a long-only active equity mandate which targets 2% active return over an equity benchmark. Further assume that the hedge fund fees are the “typical” 2% base fee and 20% performance fee and that the long-only active equity mandate fee is 0.30% flat. Clearly the headline management fee is much higher than the equity mandate: but, what happens if one adjusts the hedge fund fee to match the expected return of the equity mandate? (A similar calculation can be done to determine the capital allocation required in the hedge fund to meet the same target return contribution to the client portfolio)⁹. One should assume that each investment delivers the target level of out-performance over its respective index, so that the fee scaling is valid. On this basis, the total fees levied by the hedge fund would be 5.6% (2% base fee plus 20% of net of base fee alpha of 18%). On a return (or capital) adjusted basis the total fee for the hedge fund investment would be 0.56%¹⁰. Clearly this is a fairer comparison of hedge fund fees with the long-only equity mandate than simply comparing headline fees of 2% plus 20%.

But why pay 26 basis points more for the same level of return? There is a problem with our return assumption, because we are again comparing apples to oranges. The quality of return or in other terms, the consistency of return as measured by the information ratio of the two return streams is vastly different. While the long-only equity mandate hopes to achieve its return by taking 3% risk providing investors with an expected information ratio of 0.67¹¹, the hedge fund looks to achieve the 20% return target by taking 16% risk resulting in an information ratio of 1.25, almost twice that of the equity mandate. Or, stated another way, to achieve the same level of excess return the hedge fund only requires around half the risk of the equity mandate to achieve the same return goal.

9. Assume the investor wants to add 1% excess return to their portfolio. The investor would need to invest 50% of portfolio assets in the Equity Fund but only a 5% investment will be needed in the hedge fund to achieve the 1% excess return target.

10. Return (or capital) adjusted fee = $2\%/20\% \times 5.6\% = 0.56\%$.

11. Information ratio = Active return/active risk = $2\%/3\% = 0.67$.

In addition, the correlation of active returns for the hedge fund versus equities compared with the correlation of active return for the equity mandate are expected to be much lower. As such, the returns streams for a well chosen hedge fund are most likely diversifying to an investor's overall portfolio – possibly actually reducing overall portfolio risk. Depending on the investor's preferences, a decision will need to be made whether the risk and diversification benefit offered by the hedge fund warrants the fee premium over the long-only mandate.

However, if the return targets of the two investments are not met, surely an investor still pays more for the hedge fund? The hedge fund fee structure comprises both a base fee and incentive fee: in a period where there is no alpha delivered, the fund only charges the base fee. On a return-adjusted (or in this case, as returns are zero, a capital-adjusted basis) the investor will pay 0.20% for the hedge fund. Meanwhile, due to the flat fee structure of the long-only mandate, the investor will pay 0.30% – regardless of poor performance. The performance fee structure typical of hedge funds is important as it aligns manager and client interests and ensures a manager is only rewarded for delivering excess returns: this is in sharp contrast to more traditional strategies which charge a flat fee regardless of performance.

When analysed in the correct context, fees charged by hedge funds are not too dissimilar to that of other active strategies. Managers of “institutional quality” hedge funds, who deliver diversified returns on a consistent basis and protect investor capital during times of market stress, should continue to command a fee premium over traditional strategies. Nonetheless, fees are an important consideration and there are cost effective ways for investors to gain exposure to the higher quality return streams that many of these funds can offer.

For example, rather than investing in several single strategy funds to obtain style diversification across asset classes (eg. Equity Market Neutral, Global Macro, Commodities, Fixed Income), where each fund charges its own performance fee in isolation, a more cost effective approach would be to invest in a multi-strategy fund that combines these strategies into a single fund which charges an aggregate performance fee for overall delivered performance. Under a single strategy approach, an investor would still pay those managers who exceeded their benchmarks even though the overall portfolio of hedge funds may have experienced negative returns due to the underperformance of one or two managers. In contrast, a multi-strategy fund, with a single layer of fees that only charges performance fees if the fund in total exceeds its benchmark,, is a much more cost effective way to gain exposure to several hedge fund styles. Fee savings upwards of 20% of total fees may be achieved by using a multi-strategy approach which utilises this performance fee netting methodology.

The focus on fees will likely continue for some time, until further clarity is reached on the pending MySuper reforms. The logical outcome should be that investors take into account the level of fees, together with the level of returns across various investment options. Ultimately, what is important to the end investor is the return, on a net of fees basis, on their investment and what mix of strategies are best placed to maximise this outcome. Investment managers are also responding by increasing the alignment of interest with clients through offering different splits of base and incentive fee, looking at ways to extend the assessment of performance fees over a longer time horizon and incorporating fee deferral mechanisms.

Liquidity

Along with fees, the importance of liquidity has also been elevated in the list of investor considerations in recent years. Liquidity terms across hedge funds differ dramatically, depending on hedge fund style and the underlying asset universe utilised by the strategy. It is not uncommon for hedge funds to provide quarterly liquidity with various gates and lock-up mechanisms. For some strategies there are very sensible reasons why the hedge funds are less liquid than a portfolio of traditional assets. Hedge fund strategies by their nature seek to deliver diversified returns from traditional assets and look to exploit sources of risk premia which are difficult to access for the normal investor. There is quite often a trade-off between delivering high quality diversified returns and liquidity.

In addition, it is important to remember that a fund's stated liquidity terms (i.e. monthly, quarterly etc) are only as good as the liquidity of the securities used to implement the strategy within the fund. While some funds advertise daily or weekly liquidity, investors in these funds need to thoroughly understand the liquidity profile of the assets traded in the fund to determine if the stated liquidity profile holds in times of market stress.

Many institutional investors quite often do not require daily access to funds. For investors who are willing to accept monthly liquidity, there are very good returns and risk premia that investors can access across many hedge fund styles. By limiting the universe to hedge fund managers that claim to offer enhanced liquidity, the investable universe of these managers will naturally be restricted: consequently, the return streams offered may be of lower quality than those of other managers who look to exploit risk premia outside of traditional asset classes. Investors should look to see whether a manager has consistently met the stated liquidity terms of the fund - or if the fund has been “gated” – as part of the qualitative due diligence process prior to investing.

Uncertain times call for bold measures

The great Irish statesman and scholar Edmund Burke once wrote, "You can never plan the future by the past." Never were truer words written for investment practitioners. In a world of stagnating growth, rising correlations and lacklustre returns from traditional assets, investors are rightly looking for alternative solutions.

While there is no single answer to the return conundrum that many investors face, we have highlighted the risk parity approach to asset allocation as a potential way to diversify a portfolio and improve its risk adjusted returns. In addition, integrating alternatives more fully into investor portfolios has the potential to offer significant return and diversification benefits. As such, these strategies deserve fresh consideration by investors. At BlackRock, we believe that bold measures are needed in these uncertain times.



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Mr. Griffith's service with the firm dates back to 2006, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. At BGI, he was a senior investment strategist in the Global Markets Strategies Group based in London. Prior to joining BGI, he was a Director and senior research analyst at Principal Global Investors, where he was responsible for the implementation of portfolio strategy, optimisation, risk analysis & portfolio construction. He was also responsible for product design and client advisory on the implementation of currency investment strategies. Previously, Mr. Griffith served as Vice President in the Global Bond and Currency team at BT Funds Management in Sydney. Mr Griffith joined the investment industry in April 1997.

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