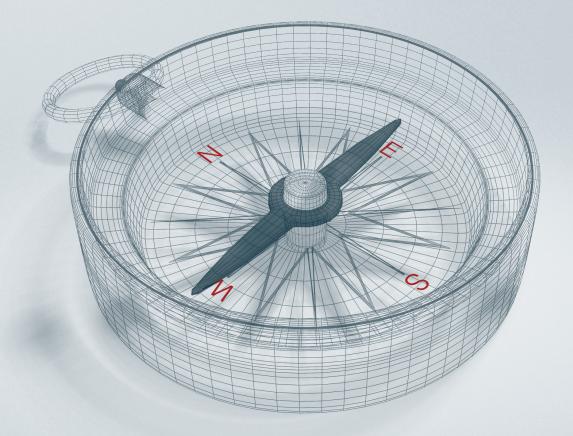


Janus Henderson's fixed income teams provide insights on the key drivers impacting markets to help clients navigate the quarter ahead.



GLOBAL FIX

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Our Fixed Income Capabilities

Janus Henderson Fixed Income provides active asset management solutions to help clients meet their investment objectives. Over the past four decades, our global investment teams have developed a wide range of product solutions to address clients' varied and evolving needs. From core and multi-sector investing to more focused mandates, we offer innovative and differentiated techniques expressly designed to support our clients as they navigate each unique economic cycle. The capabilities of these teams are available through individual strategies or combined in custom-blended solutions.



While shared knowledge across teams and regions encourages collaboration and the debate of investment ideas, our investment teams are not bound by a top-down house view. Instead, each team retains a defined level of flexibility within a disciplined construct. Our portfolio construction processes are governed by a rigorous risk management framework with the intent of delivering stronger risk-adjusted returns. Further, we believe transparency is the foundation of true client partnerships; we seek to earn and maintain our clients' confidence by delivering robust and repeatable investment processes and by providing firsthand insights from our investment professionals.

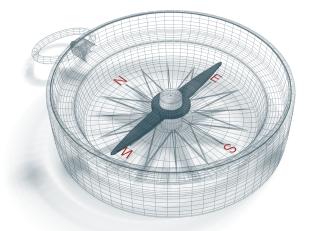


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FIXED INCOME LEADERSHIP THEMES IN FOCUS



Jim Cielinski, CFA Global Head of Fixed Income

Key Takeaways

- The U.S. yield curve has been a good indicator of recession when accompanied by other factors such as a weak consumer, a decline in inflation, falling jobs or weak employment. However, with few of these signs present, the curve appears idiosyncratic at this juncture.
- Negative-yielding debt has soared to roughly \$15 trillion worldwide. This is not merely a symptom of weak economic growth, but is also due to insufficient demand and excessive debt loads, as well as central banks falling short with their policy toolkit.
- Against this backdrop, investors may question whether bonds still have a place in their portfolios. While their income component is clearly diminished, we believe bonds still play a valid role as a source of diversification, particularly in risk-off markets.

Is the U.S. yield curve still a reliable indicator that recession is coming?

The U.S. yield curve has been a good indicator of recession when accompanied by deterioration across other factors such as a weak consumer, falling inflation or weakness in employment data. The evidence here is spotty. At the current juncture, the curve is probably a good indicator of a slowdown, and we are living through that now, but a recession – no.

The curve is a bit idiosyncratic in this particular phase, with some aspects of curve behavior in this cycle driven by central banks. On top of weak inflation expectations and weak growth expectations, we know that the toolkit for central banks tends to be buying more bonds and lowering rates. These things, when you look at them in conjunction with the economic variables, are powerful factors in depressing the yield curve.

Will the ECB's pursuit of negative rates be effective, or is it time for fiscal policy to pick up the stimulus baton?

The markets are telling us that fiscal policy must come to the rescue. Still, the European Central Bank (ECB) will do what it has to, likely by pulling out the same bag of tricks that it did in the last cycle, simply because it cannot do anything else within its remit. Is it likely to be effective? I don't think so, largely for the reasons it was ineffective the first time. Additionally, negative rates have some unfortunate side effects, such as bank profitability. The credit creation function, which originates in the banking system, is broken and breaks down further with negative rates. And ultimately, private credit creation is what is needed to pull the economy out of this weak spot.

How did we arrive at roughly \$15 trillion of negative-yielding debt worldwide?

That is an astonishing figure, but the path to negative rates has been a long one, 30 years in the making. It is not just a symptom of weak growth today. A stretch of insufficient demand coupled with excessive debt loads have hampered the credit creation needed in today's

economy to send rates higher. That coupled with ineffective central bank policy has led to negative rates. We know central banks are lowering rates today, and they don't have a lot of other tools in the toolkit. Once they reach zero, buying debt, capping rates or continuing with quantitative easing (QE) programs for as far as the eye can see is really their only available tactic.

These issues are structural in nature, so it is difficult to see a sudden reversal, except perhaps on a short-term cyclical basis. It seems quite odd to some, but negative rates are here to stay as well.

What are the implications for market liquidity as highly accommodative monetary policy returns?

Easy money is often associated with more liquidity, but that is an economic phenomenon. With markets, accommodative central bank policy often distorts markets. Through QE, supply is absorbed, which, in fact, reduces market liquidity. However, it is important to remember: illiquid does not mean weak. Illiquidity can also mean rising prices as the asset purchases distort markets and drive prices higher.

With QE serving as one of the primary tools at central bankers' disposal, I think market liquidity remains challenging in the coming year. Investors should be ready for volatility spikes, both up and down, but shouldn't overreact. It is quite easy for fear to overwhelm decision making in these periods, but a more prudent approach is to focus on the medium- to long-term horizon. Most of these events you should wade through and ask, "Is it a true shift in fundamentals or is it a market liquidity event?" If it is the latter, stay calm.

The reality is that return expectations should likely be lower. I recommend investors take a hard look at their return expectations, and, equally as important, assess why they own bonds."

Given the landscape, do bonds still have a place in investors' portfolios?

When I look at the valuation of bonds today, it is hard to argue that zero gives a lot of upside potential. That said, bond yields can move more negative, and with that, capital appreciation can still exist. The reality for investors, though, is that return expectations should likely be lower. I recommend investors take a hard look at their return expectations, and, equally as important, assess why they own bonds. As a bond investor myself, I often start by asking how much income do I want, how much volatility can I withstand and how much diversification do I want relative to the other assets in my portfolio?

The income component of bonds is quite low. However, there are still pockets where income can be found, particularly if investors are willing to accept some level of volatility: emerging market debt, investment-grade corporate debt and high yield. Default levels remain low, which helps to keep some of these asset classes appealing. Securitized credit, too, can offer some good, relatively defensive sources of yield. But, without a doubt, nominal return potential across the board is more limited.

In terms of diversification, I have heard for years that bonds no longer offer diversification benefits. Yet, in risk-off environments, bonds rally, leading me to believe they do still serve that purpose. A look across the appropriate outcomes of different fixed income securities suggests that most fixed income products still have a valid role in a broader portfolio.

GLOBAL BONDS INVESTMENT ROUNDTABLE: VIEWS ON THE GLOBAL ECONOMIC OUTLOOK



Nick Maroutsos Co-Head of Global Bonds | Portfolio Manager



Chris Diaz, CFA Co-Head of Global Bonds | Portfolio Manager



Andrew Mulliner, CFA Global Bonds Portfolio Manager

Key Takeaways

- With different regions around the world at various stages of the economic cycle, Co-Head of Global Bonds Nick Maroutsos suggests investors may need to take a global approach to find the most attractive risk-adjusted bond opportunities.
- Currency markets indicate that the U.S. economy is further away from recession than many developing countries, says Co-Head of Global Bonds Chris Diaz, a scenario that should help the dollar remain relatively strong.
- Portfolio Manager Andrew Mulliner urges investors not to focus too closely on the trade war – which he feels is aggravating, not causing, a cyclical slowdown in the global economy – but to concentrate instead on the factors impacting the underlying cycle.

As the investing world grapples with the threat of global recession and falling government bond yields, we invited senior members of our global bonds team – Nick Maroutsos, Chris Diaz and Andrew Mulliner – to respond to common investor questions. In the Q&A that follows, they provide their individual outlooks for the U.S., European and UK economies, and discuss the U.S. yield curve, currencies, politics and more.

What is your general outlook for the global economy? Is recession on the horizon?

Nick Maroutsos: We don't see the U.S. entering a recession. Other regions, however, may not be as fortunate. The U.S. consumer remains resilient, aided by continued jobs growth and wages managing respectable gains of just over 3% annually. Further easing by the Federal Reserve (Fed) should help keep both consumers and corporations from pulling back spending. Trade issues have yet to filter through the broader economy – although some sectors, such as manufacturing, have experienced acute stress.

Other regions face grimmer prospects. Europe is particularly dysfunctional, with Brexit looming over the UK and potentially negative economic growth in the eurozone. The region's weakness is not only reflected in economic data, but also in low-to-negative government bond yields. In fact, we believe that the European Central Bank (ECB) has little choice other than to re-engage in extraordinary measures, namely asset purchases.

Looking at Australia, the picture is mixed: While the country faces stresses in its housing market, employment remains strong. For a variety of reasons, we believe that the Reserve Bank of Australia (RBA) will aggressively lower rates, which should help economic growth stay positive.

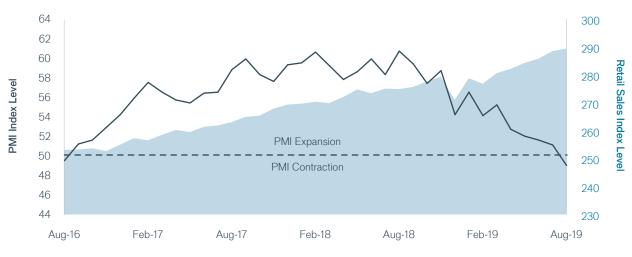
If your base case is that the U.S. is not entering recession, what then should investors make of the U.S. Treasury yield curve inversion?

Chris Diaz: In a world with nearly \$15 trillion worth of negativeyielding government bonds, we are exceptionally wary of seeing risk-free Treasury rates as a reliable indicator of where the economy is

U.S. Manufacturing Purchasing Manager's Index and Retail Sales Diverge

Possibly affected by trade, U.S. PMI signals contraction, while data indicates the U.S. consumer remains strong.





Source: Bloomberg, as of 31 August 2019

going. The sheer volume of negative-yielding debt is a strong signal that there are artificial influences on the yield curve, in large part caused by the significant quantity of government bonds being bought by central banks. Central banks are non-economic buyers; they are buying bonds to support global growth in a disinflationary environment. These are exceptional times, and we should look at the yield curve in that light.

Other indicators suggest that the U.S. economy is in pretty good shape – outside of the trade-related and manufacturing sectors. Unemployment is near a 50-year low, income levels are rising and the stock market is back near the record high set this summer. As the majority of hiring in the U.S. is being done by small- and medium-size companies, and the importexport sectors are not a large part of U.S. gross domestic product (GDP), neither a significant degree of contagion from the U.S.-China trade battle nor economic weakness in Europe is likely to weigh on the U.S. So while the U.S. economy is cooling, we do not expect this stage of the cycle to lead us straight into a recession.

What are the currency markets telling us about the probability of recession?

Diaz: The currency markets are telling us that the U.S. economy is in significantly better shape than other G10¹ countries and is further away from recession than many developing countries. In recent years, I think interest rate differentials have become a less influential factor for currency valuation, a scenario that is unlikely to

change in the current low-yield environment. A valuation of the U.S. dollar anchored in actual or predicted interest rate differentials should be treated with skepticism. Relative economic strength and political concerns – see the UK's pound sterling, for example – have been and are likely to remain more important. As long as the U.S. economy remains stronger than the rest of the world, the dollar should remain relatively strong.

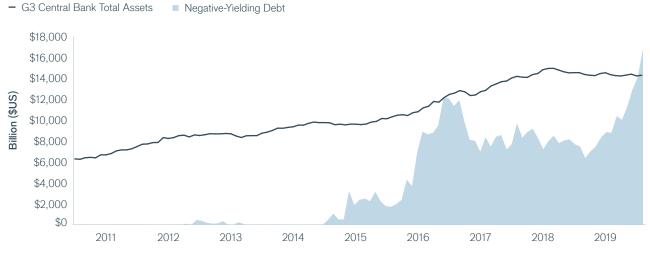
We've established that other regions may not be as fortunate as the U.S. What do eurozone data tell you about the outlook for those economies?

Andrew Mulliner: Current eurozone data is generally weak, particularly in economies with large exposures to manufacturing and trade, such as Germany. The weakness of European growth relative to most other global economies has been a fairly persistent state for most of the last decade, reflecting the hangover from the European sovereign crisis, consistently tight fiscal policy and monetary policy that has tended to lag behind the needs of the economy.

The more recent weakness is a truer reflection of the weakening of the global economic cycle, largely dictated by China and aggravated by the trade war. Europe, and Germany in particular, are much more exposed to global trade than most other large developed economies. This explains why Germany is so clearly the epicenter of economic weakness in the

Negative-Yielding Global Debt and G3 Central Bank Total Assets

With central banks acting as the marginal buyer of bonds globally, a greater amount of debt exhibits negative yields as economies slow.



Source: Bloomberg, as of 30 August 2019

Note: G3 central banks include the U.S. Federal Reserve, the European Central Bank and the Bank of Japan. Negative debt represented by the Bloomberg Barclays Global Aggregate Negative Yielding Debt Market Value USD. Bloomberg Barclays Global Aggregate Bond Index is a broad-based measure of the global investment-grade fixed-rate debt markets.

eurozone. Unfortunately, the depth of pain being experienced by the German manufacturing sector is so significant that a German recession is increasingly likely, and with it, we should expect to see higher unemployment. Typically, with an economy like Germany in recession, the rest of the eurozone would be expected to suffer to a reasonable extent as well. However, the silver lining in this scenario may be a long-awaited turn toward fiscal easing – in Germany in particular, but also in the eurozone as a whole.

Nick alluded to the further challenges Brexit will present. What are the ramifications of a no-deal Brexit for the economies of the UK and Europe?

Mulliner: A true "cliff edge" no-deal Brexit would clearly be extremely disruptive to the UK economy and to the European economy, but to a lesser extent. Given the degree of entanglement between the two built up over the last 40 years, a sudden end to the relationship would potentially disrupt transport links and the supply of medicines and food, as well as result in severe costs to businesses with supply chains that crisscross the channel. The Bank of England recently revised its no-deal Brexit scenario and is now expecting a 5.5% fall in UK GDP with unemployment doubling and inflation rising significantly. The impact on Europe would also be substantial, albeit much smaller than the UK, with certain countries, industries and companies particularly affected. Ireland, specifically, is very vulnerable, as is the auto industry, given the complexity of the supply chain.

Whether a cliff edge no-deal Brexit actually happens is another question, but the reality is that the UK economy is already facing the risk of slipping into a recession. Away from Europe, the direct real economic impact of Brexit would likely be relatively insignificant. However, with market sentiment already fragile, a no-deal Brexit could end up being the straw that breaks the camel's back in terms of risk sentiment and further denting of the UK's already flagging business confidence.

What parts of the world are economically healthiest, and what opportunities do those areas present for taking risk in fixed income?

Maroutsos: Given that different regions are at different stages of the economic cycle, and monetary policies are not easing in lockstep, investors should consider taking a global approach to find the most attractive risk-adjusted bond opportunities. While capital may be flowing to the relatively higher yields of the U.S., other regions that are likely to skirt recession can offer more reasonable valuations. Furthermore, there are several ways to access global issuance in a manner that mitigates risks typically associated with foreign markets. One can hedge local currency issuance back to U.S. dollars or buy dollar-denominated securities issued by U.S. corporations in foreign markets. The incremental

yield one can generate with such tactics limits the need to increase interest rate or credit risk.

More specifically, the ability of Australia and the U.S. to lower interest rates makes the front end of their respective curves attractive, in my view, particularly relative to longer-dated securities. Several non-U.S. issuers may also present opportunity – Australian banks, for example, are considered of such high quality that one can gain additional yield by descending their capital structure without incurring materially higher credit risk.

Do you have concerns about valuations as the global economy slows?

Maroutsos: The expectation of additional rate cuts and continued central bank asset purchases is not only keeping downward pressure across the yield curve, but it is also impacting riskier assets. "Fear of missing out" has pushed investors toward higher-yielding corporate bonds in search of carry, or excess income. In this regard, rich valuations reflect investor desperation for yield rather than the underlying health of corporate issuers or broader economies.

That said, we believe the long-term theme of secular stagnation will remain. We expect global interest rates to drift lower, although the path may not be linear. In our view, that buttresses the argument for active management. Implicit in negative bond yields and tight credit spreads are stretched valuations. Amid that landscape, one needs to maintain the ability to trim holdings when prices no longer reflect underlying fundamentals. Yet, if the pendulum swings too far in the other direction, one must maintain the ability to tactically add risk.

Tell us what's top of mind as you analyze the global fixed income opportunity set.

Diaz: We are closely watching the U.S. 10-year, which is approaching 1%, as we believe it could fall to zero in 2020. Weakening global growth and the expectation for sovereign rates to continue their descent puts risk-free sovereign bonds in a favorable light.

As Nick suggested, corporate credit is a little harder to gauge. We are very late in both the business and credit

cycles, companies are highly levered and spreads are tight. On the other hand, defaults are low and debt service should get easier as more accommodative monetary policy leads to lower borrowing costs. We may even see idiosyncratic buying opportunities, perhaps among European corporates, as central bank buying may once again put upward pressure on pricing.

Emerging market sovereigns are even more of a wild card, insofar as they are (broadly) more dependent on trade and on commodity prices, and thus more sensitive to the outcome of the U.S.-China trade dispute.

Has the onslaught of geopolitical headlines caused investors to overlook key aspects of the economic environment?

Mulliner: Our key takeaway of investor behavior over the last year (and to a certain extent even now) has been that the role of the economic cycle has largely been ignored. Trade wars have become the de facto explanation for much of the weakening in economic growth this year. The reality is that the seeds of this slowdown were sown in China in 2017 and 2018, when policy was tightened dramatically as part of a campaign to delever the Chinese economy and especially the shadow banking sector. This was then compounded by the tightening of monetary policy over the same period, primarily by the Fed in the U.S. When you have the second largest economy in the world and the global manufacturing engine engaged in restrictive economic policies, and the largest economy in the world experiencing a material tightening in monetary conditions, it should not be surprising to see a significant impact on global growth and subsequently financial markets.

To be clear, this is not to say that the trade war does not matter. It does and is significant; however, the trade war is aggravating a cyclical slowdown in the global economy, it is not causing the slowdown. Subsequently, while most financial media tends to be highly focused on the next twist and turn in the trade war, investors need to remain focused on the factors impacting the underlying cycle. This means remaining focused on credit provision in places like China, as well as the overall liquidity provision globally to investors, both in the real economy and in financial markets.

Footnotes: Investment Roundtable: Views on the Global Economic Outlook

¹The Group of Ten (G10) refers to the group of countries that agreed to participate in the General Arrangements to Borrow, an agreement to provide the International Monetary Fund with additional funds to increase its lending ability. The list includes Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the UK and the U.S., with Switzerland playing a minor role.

STRATEGIC FIXED INCOME THE PERCEIVED LUNACY OF NEGATIVE YIELDS



John Pattullo Co-Head of Strategic Fixed Income | Portfolio Manager

Key Takeaways

- Huge growth of negativeyielding debt has triggered a predictably simplistic narrative about bond bubbles.
- Negative interest rates are a logical symptom of a deep structural malaise in those countries that are experiencing them and a flawed policy response – an overreliance on monetary policy and, political impediments to fiscal spending. Richard Koo provides the framework for this economic stagnation through his "balance sheet recession" framework. It will be slow to change.
- Negative-yielding government bonds are attractive for investors in countries with positive interest rates (ie, America) after the currency hedging benefit is taken into account. They often yield more than the government bonds in their domestic economies.
- It is therefore attractive for foreigners to buy these bonds for their return profile.
 Domestic investors are forced buyers for reasons of negative bank deposit rates and regulations.

Creeping march of a bizarre asset class

It has been said that the bond markets have entered a financial twilight zone with no obvious way out. In August, Germany issued its first 30-year zero coupon bond (it had already issued a negativeyielding 10-year bond with zero coupon in July), which means that you are certain to get back less than you paid if you hold the bond to maturity. Elsewhere in Europe, as a late consequence of the negative interest rates, some banks in Switzerland and Denmark have begun taxing wealthy depositors to hold their money. One Danish bank has also become the first to offer a 10-year mortgage rate, where they seemingly pay the borrower 0.5% for taking out a loan!¹ (Where were they when I took out my mortgage?)

At the end of August, \$17 trillion of bonds around the globe – that is about a third of the tradeable bonds in the world – were trading with a negative yield, of which around \$1 trillion were corporate bonds. By geography, the majority of this debt sits in Europe and Japan.

The huge growth of negative-yielding debt has triggered a predictably simplistic narrative about bond bubbles: "The bottom is in for bond yields ... inflation is coming down the pipe", CNBC Talking Heads tell us.

We could not disagree more.

How did we get to sub-zero yields?

The story began in the aftermath of the Global Financial Crisis. Hoping to spur borrowing (that could lead to economic growth) and bring back inflation (which generally goes hand in hand with a strong economy), quantitative easing (QE) and monetary policies by global central banks sent interest rates cascading down and eventually into negative territory in some countries.

However, while they managed to inflate asset prices, higher inflation remained a challenge. The inability of QE to stoke normal inflation has meant that central banks have gone beyond the zero bound. In Europe, given the restriction of using fiscal policy, the central bank broke through the lower zero bound as it strived to equate savings and investments (the theory goes that if you lower rates enough, you will reach an equilibrium level where demand will pick up). Unfortunately, looking at the Japanese² experience, lowering rates only makes



The proliferation of negative-yielding debt

Source: Bloomberg, data from 5 September 2018 to 5 September 2019 Note: Bloomberg Barclays Global Aggregate Negative-Yielding Debt Market Value USD. Bloomberg Barclays Global Aggregate Bond Index is a broad-based measure of the global investment grade fixed-rate debt markets.

people save more and not borrow more. My colleague, Jenna Barnard, has talked about the lobster pot of QE – rates fall (in) but cannot climb back (up)! See economist Richard Koo's article on how vanishing borrowers reveal the flaw of aggressive easing³.

In recent months fears for a dramatic global economic slowdown – primarily caused by the US Federal Reserve (Fed)'s overtightening policy but compounded by a slowing Chinese economy, the US-China trade war, US tariffs on autos, and Brexit – have propelled investors towards safe-haven assets, driving sovereign bond yields to extreme lows and even into negative territory.

Why buy a bond that pays you less in the end?

Buying a negative-yielding bond is not as illogical as it seems. So where is the logic?

• Expectations that yields will become even more negative — yields are still too high to equate savers and borrowers. With dovish signals from central banks, one can expect yields to become even more negative as interest rates are lowered further, so the bonds will rise in price. Additionally in Europe, with the European Central Bank's revived asset purchase programme, there would be a ready buyer to take them off your hand.

Favourable yield pickup to dollar based investors

— negative-yielding government bonds are attractive for investors in countries with positive interest rates after the currency hedging benefit is taken into account, which makes them yield more than the government bonds in their domestic economies. It is therefore logical for foreigners to buy these bonds for their 'return' profile. Domestic investors, on the other hand, are forced buyers because of negative bank deposit rates and regulations⁴.

- Play the 'steep' negative yield curve it is all relative to base rates; try not to think absolutely but relatively. If base rates are negative (meaning you will have to pay to keep a deposit at the bank), suddenly a corporate bond yielding one percent becomes an attractive option. A steep yield curve (ie, short-term rates lower than longer term rates), regardless of being negative, makes it possible to pick up yield.
- Potential for generating 'positive' real yields

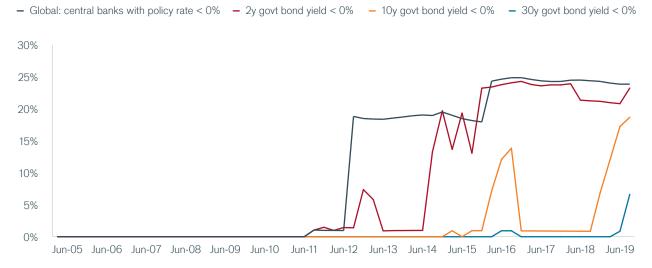
 depending on how far inflation will fall versus where it is currently, you can still generate a positive real yield. We retweeted an interesting note on this on 21 August on why buy a German 10-year bond at -0.6%.
- Asset/liability matching if you need to match assets and liabilities in, say, 30 years' time, at least you know the German government will repay you (university fees anyone?). Return of capital supersedes return on capital in these strange times.

Where is all this heading?

Our base case, for the last eight years, has been that the world is turning Japanese, struggling to find growth and/or inflation.

The reasons can be found in theories such as Richard Koo's balance sheet recession, where individuals and corporates change their behaviour after a trauma of experiencing negative equity, preferring to save and pay down debt rather than borrow and consume. Larry Summers' secular stagnation theory is another, where excessive savings act as a drag on demand, reducing growth.

Sub-zero interest rates around the globe today



Source: Bank of America Merrill Lynch, The European Credit Strategist research report, 23 August 2019 Note: Quarterly data, percentage of world gross domestic product (GDP) with interest rates below zero

There are other dynamics at work confounding growth and inflation, including factors such as the effects of globalisation, the transparency that the internet brings to pricing competitiveness, internet giant companies such as Amazon destroying the pricing power of others, demographic forces and new trends in employment such as zero hour contract work – all helping to push down prices and mute inflation.

In addition, we feel that since only low inflation could be generated, base rates have had to come below inflation to reflate the economies and reduce debt. This is financial repression by governments and one way to deleverage an economy (see our article in June: Do you remember the Global Financial Crisis?).

Further, the more recent dovish pivot by central banks has not only lowered interest rates further, but also resulted in lowering 'real' interest rate expectations. We still have woefully low business investment relative to the demand glut for savings. Thus the 'neutral'⁵ real rate of interest remains too high. Most research today suggests that the real neutral rate should be around zero or possibly even negative (as it is in Europe and the UK).

Our expectations are that this trend will continue; base rates will go even lower and inflation expectation fall further. This is why gold bugs are frothing at the mouth, as lower real yields are positive for the gold price (gold could be considered quite 'yieldy' at zero!⁶). While the oil price rise is an unfortunate tax on the consumer, we now have inverted yield curves and a strong dollar. Added to this, a US central bank that is miles behind the curve on some bizarre concept that inflation is going to break out. Monetary policy is like pushing on a string and if the Fed does not cut very aggressively, very soon, they will not be able to steepen yield curves and reflate the economies.



1 Jenna & John Retweeted

David Rosenberg @EconguyRosie · Aug 21 Why buy German 10-years at -60 bps? Well, core inflation in Germany typically falls 330 bps in a recession. The current core is 1.2%. So that means deflation lies ahead and as such generates a de facto expected "real" yield of +1.5%. That's why.

Jenna & John @StrategicBond

♀ 90 1, 207 ♥ 718

Source: Janus Henderson Investors, @StrategicBond Twitter, 21 August 2019

Negative yields are, then, here to stay

They are a consequence of negative interest rates, which themselves are a logical symptom of a deep structural malaise in countries that are experiencing them and the flawed policy response – an overreliance on monetary policy and, political impediments to fiscal spending.

Base rates will become more negative in the future as central banks try to steepen yield curves. In addition, they will continue repressing us to reduce debt levels. Financial repression and modern monetary theory (MMT) are the next paradigm shifts, so get ready.

A different 'economic' lens

We look at the world through a different lens. Sitting in Europe, looking at America through a Japanese lens, gives you a very different perspective on bond yields. While our esteemed competitors tell us bond valuations are off the charts, and so many have been in short duration and high yield assets, we have chosen very long duration and quality investment grade investments that have proven to be rewarding. We continue to think capital can be made, especially in Australia, the UK and America, and like quality large-cap US global titans who pay a positive real yield. The bonds of the latter will likely become even more scarce in the future as investors soak up their debt issues.

Footnotes: The Perceived Lunacy of Negative Yields

¹ In practice, including the fees for the loan structure, there is still a positive cost to the borrower.

² Japan's near 30-year battle with deflation and anaemic growth as extraordinary but ineffective monetary policy stimulus saw bond yields hurtling lower.

³ Why aggressive monetary easing is pushing on a string. Richard Koo, chief economist at the Nomura Research Institute. Financial Times. 10 September 2019.

⁴ Regulations such as asset/liability matching for pension funds and insurance companies.

⁵ Neutral rate: the rate at which monetary policy is neither contractionary nor expansionary; this is a rate that should exist when an economy is at full

employment and has stable inflation. By setting benchmark rates above or below the neutral rate, central banks can cool or stimulate the economy.

⁶ There is a modest storage cost to factor in.

Duration measures a bond price's sensitivity to changes in interest rates. The longer a bond's duration, the higher its sensitivity to changes in interest rates and vice versa.

SECURITIZED PRODUCTS LOW YIELD IS NOT NO YIELD: OPPORTUNITIES IN STRUCTURED CREDIT



John Kerschner, CFA Head of U.S. Securitized Products | Portfolio Manager



Nick Childs, CFA Portfolio Manager | Securitized Products Analyst



Ian Bettney Structured Debt Portfolio Manager

Key Takeaways

- Structured credit offers attractive yields with relatively short duration, high-quality credit ratings and low correlation to other fixed income assets.
- MBS have historically performed well in periods of falling, and rising, interest rates, providing income and diversity in an uncertain environment.
- ABS and CLOs in both the U.S. and Europe provide further diversity, with low correlations to corporate bonds.

Investors who want their bond portfolios to both provide diversity from more volatile markets and produce yield (income) should consider the structured credit markets. U.S. mortgage-backed securities (MBS) and asset-backed securities (ABS), and U.S. and EU collateralized loan obligations (CLOs) offer relatively short durations and high-quality credit ratings, while still offering attractive yields.

Low (and increasingly negative) government bond yields accompanied by slowing global growth justify a closer look at where investors can find a blend of the "defensive" exposure they expect from bonds, while still having the potential for attractive return. As tempting as it may be to add duration, move down the credit curve, or take larger and more concentrated security or country-specific positions to improve returns, none of these options are very "defensive."

For investors that are not looking to add risk to their portfolios, the options may appear limited: buy U.S. T-bills, keep their money in a money market account, or stash it in a savings account. But none of these options provide much income. We think investors have another option to hold defensive allocations while earning yields greater than the prevailing cash rates: structured credit.

High-Quality, Defensive Assets

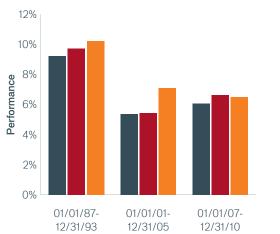
Structured credit markets are credit markets in the sense that they are loans to non-government entities, whether companies (ABS and CLOs) or people (MBS). Agency MBS securities are backed by the U.S. government, and thus share the same high-quality credit rating, and both ABS and CLOs can be bought across a range of credit ratings, including AAA. Thus, an investor can build a diverse portfolio of structured credit that is all rated AAA – the highest credit rating available.

Structured credit has been defensive in relation to other "riskier" fixed income asset classes such as investment-grade corporate bonds, high yield corporate bonds, and emerging markets. While the absolute return may not be as high as is available in high yield or emerging markets, the volatility is typically lower. As such, structured credit offers investors a more "defensive" carry (the excess yield over the benchmark) by providing a potentially higher risk-adjusted return.

MBS has performed relatively well amid rising rates and benefited amid falling rates.

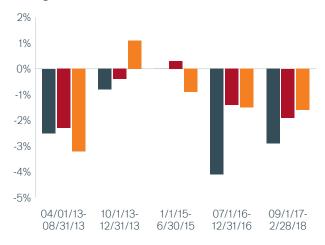
Bloomberg Barclays U.S. Treasury Index TR USD
 Bloomberg Barclays U.S. MBS Index TR USD

Bloomberg Barclays US Coporate Bond Index TR USD



Falling Rate Scenarios

Rising Rate Scenarios over the Past Five Years



Source: Bloomberg Barclays

Notes: Mortgage-backed securities (MBS) may be more sensitive to interest rate changes. They are subject to extension risk, where borrowers extend the duration of their mortgages as interest rates rise, and prepayment risk, where borrowers pay off their mortgages earlier as interest rates fall. These risks may reduce returns.

An Opportunity to Add Value

Structured credit often offers a wide opportunity set for active management. Within the mortgage-backed sector, the diversity of loan terms, loan sizes, property types, geographic regions, and numerous other variables driving the valuation of mortgages help provide more opportunity for active management. Similarly, the ABS and CLO markets are evolving with new and innovative structures while CLOs are serving a relatively small investor base, providing opportunities to find inefficiencies, and sometimes an attractive liquidity premium. In sum, structured credit provides more opportunity for generating incremental return (alpha) over the benchmark return (beta). Alpha opportunities not only offer an additional source of income, but often serve as a diverse source of income, which could help diminish portfolio volatility and improve risk-adjusted returns. In our view, structured credit is an asset class that offers a strong opportunity to add value, particularly through active management.

Asset-Backed Securities

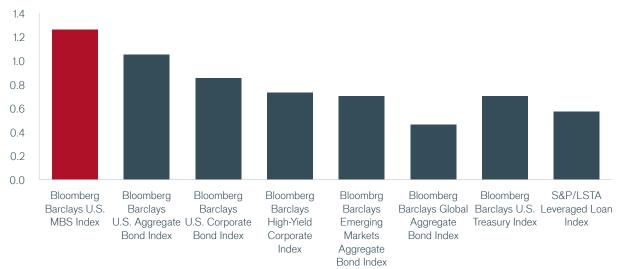
While the ABS market contains both volatility and credit risk, the majority of ABS issuance is centered on the U.S. consumer – in the form of credit cards and auto loans – which is welcome news insofar as the U.S. consumer remains the strongest sector of the U.S. economy. The fundamentals that matter most to this segment of the ABS sector remain strong: employment, income and household leverage. Additionally, ABS structures have improved over the past decade, to the point where we believe the credit quality of ABS is often understated. The rating agencies are more conservative now than they were in 2008, having recalibrated their models to account for the extreme volatility seen in the Global Financial Crisis. However, credit enhancements or structures that provide increased buffers against losses are now more commonplace, and substantial improvements in underwriting at the origination phase generally raises the quality of the loans that comprise the structures. Finally, more securities have built-in "deleveraging" features, which can lead to the securities' credit quality increasing over time. This deleveraging effect often results in rating upgrades in a relatively short span of time, such as within one to two years of issuance.

As a component of a broader portfolio, ABS' low correlations to other credit markets offer welcome diversity: AAA Prime Auto, for example, has a 0.07 correlation to MBS and a 0.26 correlation to U.S. investment-grade corporate bonds¹. These features may help the asset class dampen overall volatility in an investor's global portfolio.

And the opportunity set extends outside of the U.S., with European asset-backed securities offering additional prospects for defensive carry. With an annualized 5-year return of 2.3% and annualized volatility of only 0.9%, EU ABS has an equally impressive Sharpe ratio of 1.3.² They also have historically been weakly correlated with other credit

Fixed Income Sharpe Ratios

MBS has offered the highest Sharpe ratio among major fixed income asset classes since the Global Financial Crisis.



Source: Morningstar, Inc., 1 January 2008 through 30 June 2019

Note: Sharpe Ratio is a measure that indicates the average return minus the risk-free return divided by the standard deviation of return on an investment. Past performance is no guarantee of future results.

markets, as well as with U.S. ABS. Negative Euro Interbank Offered Rate (Euribor) rates have made floating-rate EU ABS particularly intriguing at this juncture. Normally when the reference rate (Euribor in this case) becomes more negative, the yield on a security continues to decrease. But for these floatingrate securities that have a floor at 0%, their premium actually increases as government yields become further negative. For U.S. investors, hedging the bonds back into U.S. dollars currently results in a positive yield pickup, presenting another attractive characteristic.

Mortgage-Backed Securities

U.S. Agency MBS has demonstrated its defensive capabilities across a variety of market conditions, making it an attractive asset class in today's environment. MBS have kept pace with U.S. Treasuries over the last 10 years, generating an annualized return of 3.22% compared to Treasuries at 3.25%³, and in the major periods of declining rates⁴, MBS has outperformed.

MBS has also held up well in rising-rate environments, thus providing some comfort to investors worried Treasury rates could correct higher. MBS has performed well relative to U.S. Treasuries and investment-grade corporate credit in each of the rising rate scenarios over the past five years.

Mortgages, as measured by the Bloomberg Barclays U.S. MBS Index, have also performed relatively well during periods of more severe financial stress, such as 2008 (MBS rose 8.3% that year), the 2011 European

government debt crisis (MBS rose 2.4% during the worst quarter), and most recently in the final quarter of 2018 when many markets were volatile, MBS returned 2.1%. As such it should not be surprising that MBS has offered the highest Sharpe ratio among major fixed income asset classes since the Global Financial Crisis.

MBS is most susceptible to underperformance during periods of high interest-rate volatility, particularly sudden changes in volatility. However, these periods rarely last long because rate-of-change does, eventually, have to revert to the mean. And while it may feel like interest rate volatility has been high in recent years, Treasury volatility has been slowly declining over the long term.

We believe the decline in interest-rate volatility is structural, resulting from steady improvements in Federal Reserve (Fed) transparency - their communications about monetary policy are much more explicit, regular, and clarified now than they were in prior decades. This fundamental change in how the Fed manages the economy is not something we expect will change in the foreseeable future, and thus we expect long-term interest rate volatility will remain low relative to its long-term average, providing a favorable enviornment for MBS.

Collateralized Loan Obligations

The U.S. CLO market is large – at near \$600 billion – and growing. Yet the market is often overlooked by "fixed income" investors in both the U.S. and Europe because these pools of largely senior-secured corporate loans are all floating rate. This feature lowers the securities' interest-rate duration, which tends to turn off those investors who see duration as a key reason to own bonds. However, we like U.S. CLOs for their absolute yield, even if it is floating, and believe – particularly in a diverse portfolio of fixed income securities – there are many other instruments managers can use to lengthen their overall duration.

While CLOs contain credit risk, they come in a range of credit ratings, similar to ABS. The highest-rated AAA tranches tend to offer the most "defensive" yield, but AA tranches can provide more income for investors willing to take some additional credit risk.

Similarly to ABS, there are opportunities to be found globally. The European CLO market is smaller than in the U.S., currently at around \$300 billion, but offers further diversification, primarily by providing access to origination managers that are not active in the United States. Additionally, the European CLO market is restricted to institutional investors, which helps mitigate the asset class' volatility, as institutional investors tend to be longer-term holders. While the securities do have floating interest rates, they (like EU ABS) also have floors at 0%. As such, the trend toward greater negative interest rates in Europe is not concerning for the asset class, but rather makes the instruments steadily more appealing: Their interest rates cannot go negative, and will rise should government rates rise back above zero. And, when hedged back into U.S. dollars, European CLOs provide a further yield pickup due to the coupon floor. Both U.S. and EU CLOs are relatively defensive in terms of their volatility, with 5-year Sharpe ratios for U.S. CLOs near 1.0 and Europe closer to 1.8.

Structured Credit Offers Defensive Carry

The current "low yield" environment does not equate to no yield. We believe there are numerous areas within fixed income where yield can be found, without sacrificing the defensive nature of a traditional bond portfolio. Structured credit offers those attractive yields, with a number of other appealing characteristics: relatively short durations (which helps to mitigate volatility), high-quality credit ratings and low correlation to other fixed income markets. When held in a diversified portfolio, we think these securities provide "defensive carry."

Footnotes: Low Yield is not No Yield: Opportunities in Structured Credit

Source: JP Morgan Markets, as of 31 July 2019. Correlations are calculated on 10 years of data.

²Source: Janus Henderson, and Barclays Pan European ABS Bond Index, as of 31 July 2019

³Source: Morningstar, Barclays 10-year, as of 30 August 2019

Basis Point (bp) equals 1/100 of a percentage point. 1 bp = 0.01%, 100 bps = 1%.

Diversification neither assures a profit nor eliminates the risk of experiencing investment losses.

⁴Measured as periods of declining policy rates

Bond ratings are measured on a scale that generally ranges from AAA (highest) to D (lowest).

Duration measures a bond price's sensitivity to changes in interest rates. The longer a bond's duration, the higher its sensitivity to changes in interest rates and vice versa.

Alpha compares risk-adjusted performance relative to an index. Positive alpha means outperformance on a risk-adjusted basis.

Beta measures the volatility of a security or portfolio relative to an index. Less than one means lower volatility than the index; more than one means greater volatility. Sharpe Ratio measures risk-adjusted performance using excess returns versus the "risk-free" rate and the volatility of those returns. A higher ratio means better return per unit of risk.

CORPORATE CREDIT ENERGY: A SECTOR IN TRANSITION



Jason Groom Credit Analyst



Ryan Phillips, CFA Credit Analyst



Seth Meyer, CFA Portfolio Manager



Tom Ross, CFA Portfolio Manager

Key Takeaways

- A large number of issuers in the energy sector have suffered year-to-date declines of 40% to 90% in their bonds' total return, and the energy sector as a whole has been the weakest-performing global high-yield sector, with a total return in U.S. dollars of 6.0% against a high-yield average of 10.4%.¹
- The driving factor is company-specific – not all energy companies are in decline – though with a common theme: the tradition of operating energy businesses with no free cash flow and high leverage is running afoul of an increasingly skeptical market.
- We expect the universe of high-yield energy issuers to continue to shrink as companies combine to bolster their returns and to become more relevant to investors, and thus believe investors should treat indextracking products with commensurate skepticism.

Peak oil – the theory that there would be a point in time when the maximum rate of oil extraction was reached – was first theorized by geologist M. King Hubbert. His prediction that U.S. oil production would peak around 1970 seemed convincing for a time, until hydraulic fracturing in recent years caused supply to rebound and surpass previous records. Globally, the world is producing more oil than ever. What Hubbert overlooked, however, was whether we are heading for peak demand. Energy is in a transition and as investors we need to recognize this.

Within the first eight months of the year, energy was the weakestperforming global high-yield sector, with a total return in U.S. dollars of 6.0% against a high-yield average of 10.4%. What is more, a large number of issuers suffered declines of 40% to 90% in their bonds' year-to-date total return.¹

Company-Specific Factors Driving Returns

A challenging backdrop that includes soft commodity prices, increasing regulatory pressure and a trend toward cleaner fuels are all contributing to the malaise. But the driving factor is company-specific – not all energy companies are in decline – though with a common theme: the tradition of operating energy businesses with no free cash flow and high leverage is running afoul of an increasingly skeptical market.

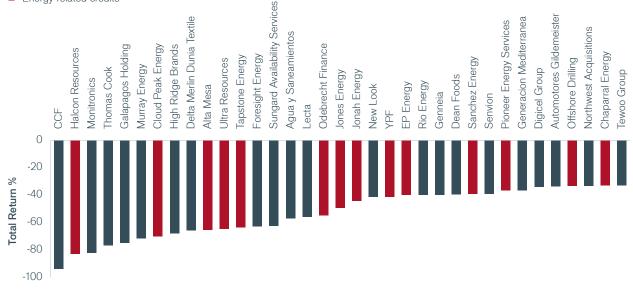
Energy companies are, ultimately, operating in a commoditized sector, so are typically "price takers." They cannot demand the earth provide their raw goods at a lower rate, and the price of their finished goods are determined in a highly efficient global market. This makes their earnings more volatile (in line with the volatility of commodity prices), and their profitability more dependent on the quality of their assets and the aptitude of their management. In the past decade, too many energy-related companies have produced meager profits. And the energy sector has a long history of being more focused on their growth than their free cash flow. Finally, as issuers in the high-yield market, they are typically highly leveraged companies. It is a toxic (pun intended) combination.

Yet that does not mean that all energy companies should be avoided. As with any type of investing – selectivity is key. Companies with a good expected production profile, low cost structure and proven management exhibit positive characteristics. For example, Aker BP, a

Worst-Performing Bonds in the Global High-Yield Bond Index

A large number of energy issuers suffered declines of 40% to 90% in their bonds' year-to-date total return.

Energy-related credits



Source: Factset, ICE BofAML, Janus Henderson Investors, year to date as of 31 August 2019. Notes: Index used is the ICE BofAML Global High Yield Constrained Index (HWOC), total returns in U.S. dollars. Past performance is no guide to future performance. References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security.

Janus Henderson makes no representation as to whether any illustration/example mentioned is now or was ever held in any portfolio. Illustrations are only for the limited purpose of analyzing general market or economic conditions and demonstrating the research process. References to specific securities should not be construed as recommendations to buy, sell or hold any security, or as an indication of holdings.

Norwegian oil company, rated Ba1 by Moody's and BB+ by S&P has had recent success with discoveries and a field in which it has a stake is set to come onstream. This gives visibility to the production pipeline, and is one of the reasons Fitch, the credit rating agency, has given the company an investment grade credit rating.

Structural Shifts

There are structural changes afoot within the energy sector. Some integrated oil companies and oil majors are moving to short cycle crude projects such as U.S. shale basins (the Permian is a particular focus for ExxonMobil and Occidental) and away from longer duration crude projects with higher up-front costs, such as deepwater wells. Others are seeking greater exposure to gas assets and liquefied natural gas (LNG), for example, the purchase of BG Group by Royal Dutch Shell was primarily to lift its gas exposure.

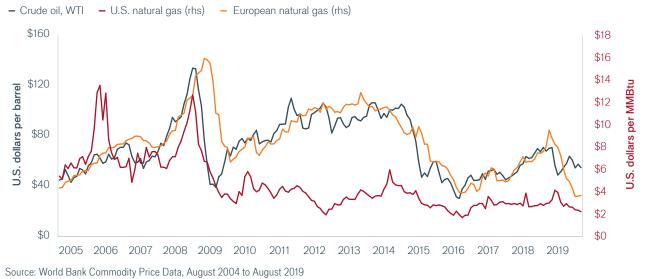
Utilities have generally preferred gas in the past decade. It has helped that gas prices have been falling in the U.S., but the primary driver globally has been gas being viewed as a "bridge" between reducing reliance on carbon-intensive coal power generation and the move to scaling up renewable energy. Gas emits less CO_2 during power generation and fewer particulates than oil and coal and thus the transition is part of a

steady, structural trend toward cleaner fuels. What is more, gas can be brought on line quickly, which is important as the more erratic renewable energy sources feed into the grid and become a larger part of the energy mix. That said, rapidly declining renewables prices mean some commentators are calling into question the longevity of the bridge. There is even a blurring of the lines between energy companies and utilities, for example, Royal Dutch Shell, through Shell Energy in the UK, is supplying electricity generated by renewables direct to households.

What is clear is that the regulatory environment is turning more aggressive and the political atmosphere outside of the U.S. is becoming increasingly green. European regulations taking effect in January 2020 will require carmakers to lower average CO₂ from their new cars to 95g per kilometer or risk a fine, hence the surge in so many electric and hybrid models from European carmakers for the coming year. We do not expect the shift to electric vehicles to happen overnight (although Norway is leading the march) but the direction of travel is becoming clear and could one day lead to stranded hydrocarbons as demand for oil fades. The timeline for monetizing reserves therefore becomes an ever more important consideration.

Oil and Natural Gas Pricing

Cleaner credentials and a declining price are making gas the fuel of choice.



Notes: Based on monthly prices. Crude oil represents West Texas Intermediate (WTI). MMBtu is metric million British thermal units.

Cross-Sector Investing

In fact, regulation is an area where a strong global research team can share information and come to more informed decisions. The International Maritime Organization (IMO) 2020 regulation is a case in point. From 1 January 2020, the updated MARPOL Annex VI regulation, to give it its full name, will limit sulphur content in marine bunker fuel to 0.5%, down from a current level of 3.5%. This applies to vessels operating outside Emission Control Areas, where sulphur content remains limited to 0.1%. Ship owners have three choices: use cleaner compliant fuels, buy more expensive low sulphur fuel or invest in exhaust gas cleaning systems (so-called scrubbers).

This regulation is clearly beneficial to energy companies that produce or refine low sulphur fuel or compliant marine gas oil, but it also has cost implications for the transport sector. The costs of implementing IMO 2020, coupled with a slowdown in global trade caused by the U.S.-China trade war, mean the prospects for shipping companies look weak and raise question marks over free-cash-flow generation in that sector.

The Future of the HY Energy Sector

Despite the dramatic collapse in some corporate bonds, the energy sector has seen harder times, as evidenced in the upgrade/downgrade ratio. Compared to the carnage in 2015 and 2016, the first half of 2019 looks fairly average, although the improvement of recent years has deteriorated. Recently announced mergers of equals have resulted in favorable responses from the rating agencies for high-yield companies, including positive watches from both Moody's and Standard & Poor's for PDC Energy's (B1/BB-) merger with fellow Denver-Julesberg basin producer SRC Energy (B3/B+).

The spike in energy prices caused by the attacks on Aramco facilities in Saudi Arabia may give a short-term fillip to energy companies profits and the aim to reduce leverage among high yield energy companies is to be welcomed but this needs to be weighed against evidence of more shareholder-friendly financial policy or mergers and acquisitions among investment-grade rated integrated oil and gas companies, the impacts (good and bad) of consolidation on both investment-grade and high-yield rated energy companies, and some poor pricing power in oil field services.

There are signs that management of energy-related companies are already adapting. We are seeing changes in executive compensation plans that incentivize managers to value better cash flow, lower debt (leverage) and higher corporate returns over company growth. For example, at this year's annual shareholder meeting, Range Resources adopted a new executive incentive compensation metric of "absolute debt reduction" – which is additive to their current debt/ EBITDAX² performance hurdle.

Nevertheless, we expect the universe of high-yield energy issuers to continue to shrink as companies combine to become more relevant to investors or seek to improve corporate level returns via cost synergies. In 2019, three mergers involving high-yield issuers in the energy sector have been announced, including Comstock Resources' acquisition of Covey Park Energy, Callon Petroleum Company's acquisition of Carrizo Oil & Gas (pending shareholder approval), as well as the aforementioned PDC Energy and SRC Energy merger of equals (pending shareholder approval).

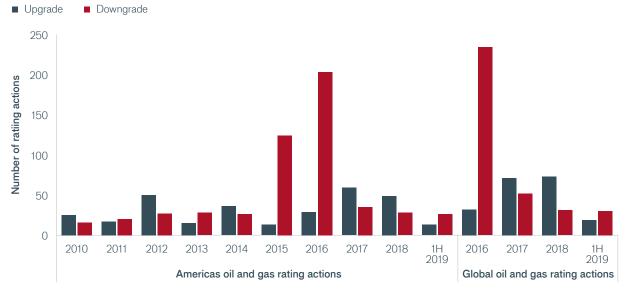
What are the Lessons for Fixed Income Investors?

The world is changing, and the energy sector is in the thick of that change. Whether that change is driven by regulators, consumers, investors, or a drive to remain relevant, energy companies will continue to evolve. Investors should remain mindful of these larger trends, and not lose sight of the intersections of industries, even as diverse as shipping and energy.

Yet credit markets, like equity markets, are made up of company-specific risks. While companies within an asset market (like global high yield) are usually correlated, and companies within an industry are typically more highly correlated, the risk of a corporate default often originates within its walls. We believe investors should treat index-tracking products with commensurate skepticism. Name-by-name fundamental research may reveal less obvious benefits when one company does slightly better than another, but within fixed income, where returns are asymmetric, such research combined with active management is paramount to avoiding the losses that can have such an impact on portfolio returns.

Upgrades and Downgrades in the Energy Sector

Downgrades outpace upgrades in the first half of 2019.



Source: Moody's, as of 5 July 2019

Footnotes: Energy: A Sector in Transition

¹Source: Factset, ICE BofAML Global High-Yield Constrained Index, total return in U.S. dollars, 31 December 2018 to 31 August 2019. ²EBITDAX= earnings before interest, taxes, depreciation, amortization and exploration expense. **Bond ratings** are measured on a scale that generally ranges from AAA (highest) to D (lowest).

THE ROLE OF BONDS IN A NEGATIVE RATE WORLD



Jim Cielinski, CFA Global Head of Fixed Income

Key Takeaways

- Today's ultra-low interest rate environment requires a heightened focus on what type of bond strategy to employ.
- Investors will need to understand both the target outcome for the fixed income portion of their portfolio, as well as the path for getting there. At the same time, active managers must make it clear how their products will deliver this outcome in a riskadjusted manner.
- With the yield cushion gone, the costs of mistakes in fixed income will be magnified.

With the recent dip in global yields, some old questions are resurfacing. Do low yields preclude bonds from hedging risk effectively? As bond yields move below zero, what is their return potential, and are they worth the risk?

Fixed income has always deserved a meaningful allocation in broad investment portfolios. Not only have bonds provided solid returns, they have been a source of diversification, typically rising in value as riskier assets declined. This role is seemingly challenged in our new ultra-low interest rate world.

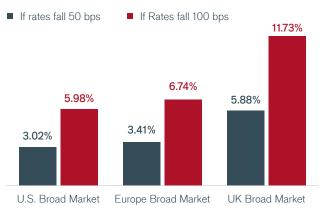
Bond returns are traditionally more stable than most asset classes, stemming from the certainty of the nominal return if held to maturity. It is possible to earn more in return than this initial yield to maturity over interim periods, of course, if rates fall and capital appreciation is realized. But to fulfil this higher return, the holder must sell the bond. If not, the return in subsequent periods must be lower than the initial yield to maturity.

For example, a 10-year German Bund will yield -0.6% if purchased today, and the cumulative return if held to maturity over this 10-year period will be -5.8%.¹ To earn more than this, returns must be pulled forward, either by transferring returns from the later years or relying on negative yields moving even lower. But just how much room is left in this "pull it forward" trade? As yields move to zero, the capacity for bonds to post high nominal returns over the medium to long term has disappeared. As potential returns suffer, so too does their role as a portfolio diversifier.

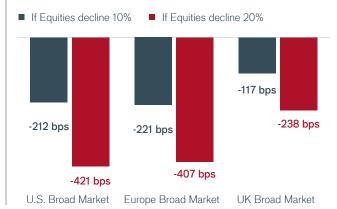
Bonds have posted strong returns over the last 12 months, with certain aggregate indices returning over 10%². But as the above example illustrates, this does not portend strong future returns, except perhaps over shorter-term time horizons. To see what bonds might be able to deliver in a soft economic environment, we look at what returns are possible from today's starting point in the chart that follows.

Bonds can still produce attractive returns, but it may require new record-low interest rates and a pull-forward of returns through capital appreciation. However, with a lower "income" component, returns will be more muted, making historical returns for the asset class poor indicators of the future. This has important implications for their role in diversified portfolios. Consider what a 60/40 portfolio of stocks and bonds might do in a recession. If equities fall by 20%, in my view,

Hypothetical One-year Total Return Following a Rate Decline



Yield Decline Required to Offset an Equity Decline in a 60/40 Portfolio



Source: Janus Henderson, Bloomberg Barclays Indices, Yields as of 1 October 2019

Note: Yield declines represent the drop required to achieve zero return. Yield declines are shown in basis points. Basis Point (bp) equals 1/100 of a percentage point. 1 bp = 0.01%, 100 bps = 1%. Indices shown are ICE Bank of America Merrill Lynch broad market indices for the U.S. (US00), Europe (EMU0) and the UK (UK00). Examples assume an immediate drop in rates/equity indices and are calculated using current duration and yield for the indices. Examples assume U.S. index duration of 6.01 years and yield of 2.15, Europe index duration of 6.8 years and yield of -0.05 and UK index duration of 11.8 years and yield of 1.01. The examples provided are intended to illustrate how varying current yield and duration could impact total return. Examples are hypothetical and not based on, or a projection of, actual performance, markets are dynamic and there are many other factors that will occur which are not considered. Actual results will vary.

bond yields in aggregate will be hard pressed to fall by more than 75 basis points (bps) globally or 125 bps in the U.S., resulting in poor returns in a balanced portfolio of equities and bonds. And with each lurch lower in yields, the picture for future returns becomes even more challenging.

While their role as a diversifier has diminished, bonds still have their place in broad portfolios. Investors must adapt by:

- Accepting lower returns most likely on bonds and other assets
- Clearly defining the desired outcome of their fixed income products
- Understanding the nuances of fixed income products, sectors and risk factors

Lower credit spreads also portend a shrinking probability of strong returns. In crisis years such as 2008, some strategies exhibited as much of an equity bias as a fixed income bias. This wasn't as damaging for high-quality portfolios as rates had room to fall even as credit spreads widened. This is no longer the backdrop, and capital losses from credit will likely be more painful.

Take an Outcome-Oriented Approach

Investors need to identify the role of fixed income in their portfolios. We find that investors demand different things from their portfolios.

Bond fund allocators have traditionally made choices of "income vs. portfolio diversification" strategies, or a choice of "safe core" portfolio vs. "risky satellite." Ultra-low yields make these simplistic definitions less meaningful. As the evidence in countries such as Japan and Germany indicate, most investors find negative yields intolerable, leading to a more nuanced approach. Today's investors seek income but with better defined downside protection.

Income strategies rely on yield, which is in scarce supply today. These products will likely experience positive correlations with equities if exposures to high yield and emerging markets are elevated. Some clients seek out beta of a particular asset class. Others seek the diversifying qualities that bonds have traditionally offered. Finally, some investors want low volatility, protection from rising rates, or perhaps genuinely uncorrelated returns.

Diversification and Hedging Ability

A good diversifier is not the same thing as a good hedge. Diversifiers reduce volatility, which applies to a stand-alone bond portfolio or to a bond strategy within a multi-asset portfolio. A hedge, on the other hand, requires a negative correlation. A robust bond hedge is one that goes up in value as other risk assets are going down. This leads to the following points:

- As a portfolio hedge, protection levels from bonds are close to their weakest in history; this reflects low or negative starting yields
- Bonds remain a good diversifier, and still serve an important role in a portfolio

Investors Demand Different Things from their Fixed Income Portfolios

	INCOME	BETA & TARGET ALPHA	DIVERSIFICATION	UNCORRELATED RETURNS
Approach:	Credit Bias	Benchmark Plus	Full Maturity, Higher Quality	Absolute Return Short Duration
Typical Chatacteristics:	More income = more risk	Relatively static beta exposure	Less downside risk, but less income	Low volatility, but lower return

Alpha compares risk-adjusted performance relative to an index. Positive alpha means outperformance on a risk-adjusted basis. Beta measures the volatility of a security or portfolio relative to an index. Less than one means lower volatility than the index; more than one means greater volatility. Duration measures a bond price's sensitivity to changes in interest rates. The longer a bond's duration, the higher its sensitivity to changes in interest rates and vice versa.

First, bonds offer lower volatility than other asset classes. The inclusion of bonds in a broader portfolio of equities, bonds and real estate reduces overall portfolio return volatility. Second, low but positive correlations still permit bonds to act as a de-correlator in portfolios. Bonds will not be perfectly synched with other risk assets. They may still exhibit negative correlations in some environments. Investors can also choose to allocate to higher quality areas of bonds, seeking to maximize the odds of a negative correlation outcome.

Portfolio theory is clashing with human behavior on the subject of diversification. Low rates encourage more risk taking and selling of high-quality bonds to buy riskier assets. Moreover, this "portfolio shift" is exactly the outcome central banks are pursuing through quantitative easing. But there are limits, and this will occur when valuations become severely stretched.

The portfolio theory response to a combination of high valuations on risk assets, coupled with poor hedging ability from "safe assets," leads to a simple conclusion – investors should de-risk portfolios and accept unexciting returns. This is unlikely to happen willingly. Central banks are trying too hard to prevent it, and investors are loathe to forego return. Like most cycles, this is likely to end badly.

Know Your Bond Strategies

Investors must know what their bond portfolio will do across different environments. Bonds and credit spreads have been rallying for most of the last decade. This has created a false impression that many fixed income products can do it all with limited downside. But the "beta tailwind" may no longer be with us. There are several tools for assisting in this decision. One is the outcome focus. Two, an investor can perform due diligence on a range of managers, seeking to understand style, factor biases, risk tolerances and other metrics before committing. Both of these options are fraught with difficulty. They are labor intensive and require much data and time to properly analyze.

A third approach is to place bond strategies in specific categories. Morningstar, Lipper and several investment management associations create categories to aid fund selection. These have proven immensely popular as a means of understanding underlying strategy.

The categories are in some cases meaningful, but others much less so. Categories are robust if they group participants playing the same game and targeting similar outcomes. Large deviations in portfolio characteristics, as shown in the "reality" column of the following exhibit, can be appropriate if they represent active views. The evidence, however, suggests these deviations are more likely to reflect different outcome focuses, investment approaches and risk tolerances. Managers within the same category display radically different approaches to downside protection, and markedly different factor exposures. A top-ranking manager may be truly skilled, or they may simply be playing a different game. A low-rate environment has forced many to stretch for yield within their category, further blurring these distinctions.

Fund categories have long been embedded in the fund selection process – particularly in the U.S. – and this will not wane anytime soon. They provide a useful starting point. But those seeking to truly understand the role of their fixed income assets will need to go a few steps further.

Bond Strategy Categories

Categories created to aid investors in product selection often mask the radically different approaches managers can adopt within each.

	Generic Perception	Reality
INTERMEDIATE BOND	Predominantly investment grade; "bond-like"	High-yield range from 0-43%; duration from 3.11 to 6.26 years
MULTISECTOR BOND	Benchmark agnostic, income-focus	High-yield range from 19-85%; duration from 1.14 to 5.77 years
NON-TRADITIONAL BOND	Absolute return, "go-anywhere"	High-yield range from 0-97%; duration from -2.2 to 5.51 years
GLOBAL BOND	Diversified, predominantly investment grade	High-yield range from 0-53%; duration from 3.25 to 8.97 years

Source: Morningstar, as of 8 October 2019

Notes: Notes: Intermediate bond includes Intermediate Core and Intermediate Core Plus categories. Global Bond includes World Bond and World Bond - USD Hedged categories. Data is for the 5th and 95th percentiles to exclude outliers; actual ranges may be more extreme. Duration ranges are average effective duration for the categories named. High-yield ranges are based on calculated results and include non-rated bonds.

Play Smart Offense; Play Smart Defense

High-quality bonds should still be able to generate attractive short term returns in a risk-off environment, largely for the same reasons they have been doing so for many years. Such a move, however, will require even more negative yields, and will do nothing to combat the poor long-term prognosis.

Lower prospective returns will not prompt investors to abandon bonds. An asset class that produces positive but unexciting returns in a bear market is a desirable outcome. It is a far better option than owning more of an asset that goes down. Moreover, high-quality bonds

provide a consistent diversifier, a critical component in risk management. Bonds, as a critical asset class, are as important as ever.

Today's environment will require a heightened focus on what type of bond strategy to employ. Investors must understand both the target outcome and the path for getting there. Active managers today must make it clear how their products will deliver this outcome in a riskadjusted manner. They should expand opportunity sets to allow for more choices of diversifiers, and they must focus on portfolio construction. The yield cushion is gone, and the costs of mistakes in fixed income will be magnified.

Footnotes: The Role of Bonds in a Negative Rate World

¹Assumes a zero coupon bond, held for 10 years, bought at 106.2 and maturing at 100.

²Bloomberg Barclays U.S. Aggregate Bond Index and Bloomberg Barclays Global Aggregate Bond Index USD hedged Diversification neither assures a profit nor eliminates the risk of experiencing investment losses.

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