

## Convertible bonds – gaining from growth as rates rise

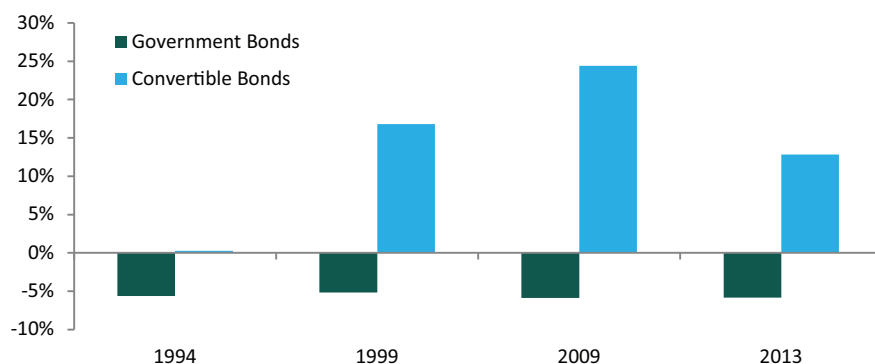
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In a rising rate environment, convertible bonds may offer investors a measure of duration protection and the potential for attractive returns with much lower volatility than equities.

For the past six years following the financial crisis, global central banks have engineered ultra-loose monetary conditions in an attempt initially to avert a collapse of the financial system and subsequently to stimulate growth. Finally there is growing evidence that their efforts are being rewarded with a synchronised economic expansion evident in Asia, Europe, Japan and the United States. With unemployment in the US now falling to pre-crisis levels once again and evidence that wage inflation is growing, the Federal Reserve (Fed) looks likely to be the first major central bank to raise interest rates in this cycle. Yields on core government bonds have risen from their absolute lows but remain significantly lower than their long-term norms. If yields were to rise to long-term averages, this could have a severe impact on the returns on straight bond portfolios. However, such an environment may prove constructive for both credit spread and equity-related products. This paper explores the impact of duration exposure on both high grade and high yield bonds in the current investment environment, and how in our view convertible bonds can provide investors with a measure of duration protection, combined with a better risk-weighted return than equities.

### The impact of rising rates

Fig. 1 Convertible returns versus US Treasuries



Data source: Bloomberg, as at 31 May 2015

Even though yields on US government debt have risen recently they remain close to 50-year lows, with the 10-year Treasury yielding only 2.12% (as at 31 May 2015). However, inflation in the US, as measured by the Consumer Price Index (CPI) ex-Food and Energy, has averaged 1.8% over the last 36 months in comparison to average 10-year bond yields of only 2.2% over the same period. This means that we have been in an environment of near-zero real rates for the

*Convertible bonds can provide investors with a measure of duration protection*

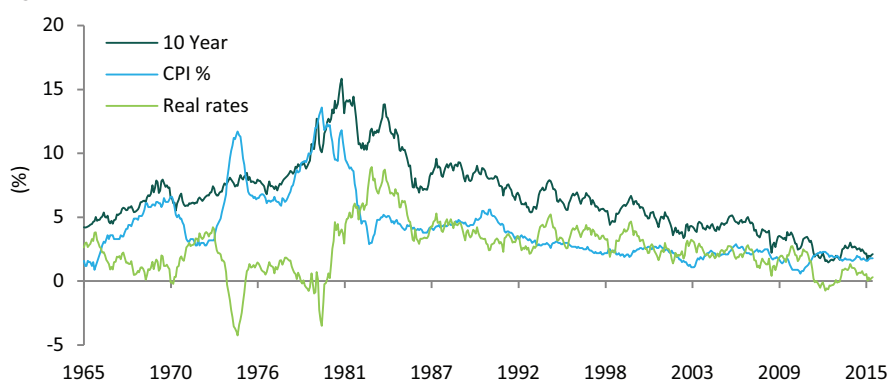
past 3 years, even though the economy has expanded over 2% per annum. This situation has been engineered by the Fed, but is an anomaly by historic standards as bond investors have normally demanded a far greater real rate of return to compensate them for the risks of inflation exceeding central bank targets. With the Fed stating that it is targeting an inflation level of 2%, it is clear long-term bond yields would have to rise substantially if we were to return to a normalised environment. If, for example, US government bond yields were to rise to 4.35% over the next 12 months (their average yield in the 5-year period prior to the financial crisis starting in 2008), this would imply losses of around 14% on 10-year US Treasuries over a 1-year time horizon. Given the low absolute yields on investment grade and high yield debt it is likely that, although they may benefit from credit spread tightening due to sustained economic growth, overall yields could increase; this could lead to significant losses on bond portfolios. Over the last 25 years, in the 4 calendar years when US Treasury bond portfolios have suffered losses of 5% or more (including coupon income), convertible bond indices have returned on average +13.6% (Fig. 1).

*Investors in government bonds may demand a much higher rate of interest to compensate for the corrosive effects of inflation on their capital*

### Protection from rising core rates

We believe investors should consider reallocating a portion of their portfolios into convertible bonds to both protect themselves from rising yields and to potentially gain from this scenario. In 2012 the US Federal Reserve took the historic step of setting an inflation target. The central bank stated that an inflation rate of 2% was “best aligned with its congressionally mandated goals of price stability and full employment”. In our view, this inflation targeting could have serious implications for fixed income investors. Over the past 50 years US 10-year yields have averaged 2.49% more than the CPI. This figure is known as the “real rate of return”, i.e. the rate of return that investors can expect on their investment when adjusted for the effects of inflation. Currently US 10-year government bonds yield only 2.12% (as of 31 May 2015). The latest US CPI figure is 1.8% (May 2015) – this equates to a real return of only 32bps per annum (Fig. 2) more than 200bps lower than the historical average. With inflation approaching the Federal Reserve’s target inflation rate of 2%, it seems likely that investors in government bonds may demand a much higher rate of interest to compensate for the corrosive effects of inflation on their capital.

Fig. 2 Real interest rates

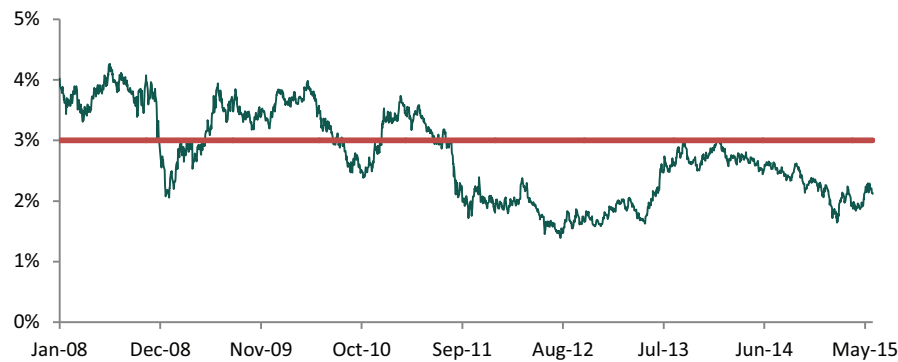


Data source: Bloomberg, as at 31 May 2015

If US 10-year bond yields were to return to their long-term average premium over the Federal Reserve’s inflation target rate of 2% over the next 12 months (implying a 10-year yield of 4.49%), this would cause total losses of around 15% on these securities. Although this appears an unlikely scenario at this juncture, it highlights the current distortion in the government bond markets caused by central bank intervention. However, it is worth bearing in mind that only a 25bps rise in 10-year yields from current levels would lead to negative returns on a 1-year time horizon

for 10-year government bonds. Also, one should be reminded that, even if a return to pre-2008 levels seems unlikely at this point, these securities yielded over 3% in 2009 and 2010, the first 2 years post the crisis, before the deepening of the eurozone crisis in 2011 damaged the risk appetite of investors globally (Fig. 3) and that at the start of 2014 the yield was also over 3%. A return to this level by the end of the year would create losses of around 5% for government bond investors; an absolute return that would be very similar to the performance in 1994, 1999, 2009 or 2013.

**Fig. 3 US 10-year Treasury yields**



Data source: Bloomberg, as at 31 May 2015

**Investment grade bonds are potentially exposed to rising yields**

Over the past 6 years, global equities have recovered all of their losses sustained in the aftermath of the financial crisis and now stand near all-time highs, reflecting record levels of corporate profitability and strong pay-outs to shareholders; S&P 500 listed companies are anticipated to return over US\$1 trillion to investors in 2015 alone. With rapidly improving conditions in the corporate sector and wages on the rise, inflation expectations have risen and are now only 50bps lower than pre-2008 levels; as at 31 May 2015 the implied inflation rate calculated from the prices of 10-year inflation-linked bonds was 1.83% (Fig. 4). However, the yield on US 10-year bonds remains over 150bps lower than in the 5 years preceding Lehman’s default. This is a severe dislocation we believe has been caused by the actions of global central banks, combined with a reluctance of investors to increase their risk appetite following the losses recorded by many in 2008.

**Fig. 4 Implied inflation rate**



Data source: Bloomberg, as at 31 May 2015

The current low yield levels on investment grade bond portfolios leave them exposed to rising rates. Currently investment grade bonds yield approximately 2.5% (Source: Barclays Global Aggregate Corporate as at 31 May 2015).

*The current low yield levels on investment grade bond portfolios leave them exposed to rising rates*

However, even though credit spreads appear wide in comparison to likely default rates, and we anticipate that they will narrow as the economy gains momentum, the absolute low level of yields means that credit spread tightening may not provide sufficient compensation for investment grade investors going forward as total yields may rise and lead to overall capital losses.

*Convertibles have the potential to generate significant returns in an environment where interest rates 'normalise'.*

### Will high yield bonds perform in a rising rate environment?

High yield bonds have historically had a lower correlation with government bond markets than investment grade bonds. In a normal cycle, when government bond yields are rising from depressed levels, it is because the economy is recovering from recessionary conditions when default rates are generally much higher. Consequently high yield spreads tend to be at their widest. As business conditions improve this leads to better credit metrics and a lower default rate for high yield issuers. Thus the credit spreads on high yield securities, which historically are multiples of those for investment grade issuers, tighten considerably and offset some or all of the increase in risk-free yields. As Fig. 5 illustrates, over the last quarter of a century, during the years when US government bond yields have risen significantly, the rise in risk-free rates has substantially or completely offset the gains generated from tightening credit spreads; the outlier being 2009 where extreme market conditions existed and financial markets staged a post-crash rebound. This has meant that even in the high yield market, duration-related losses have acted as an offset to coupon income to dampen overall returns.

Credit spreads on high yield bonds have already compressed by 240bps over the last 5 years and the absolute yield level now stands below 6.0% (as of 31 May 2015). High yield bonds are now arguably more vulnerable to an improving economy than many investors would anticipate; if the economy continues to improve then, despite improving credit spreads, absolute yield levels may actually increase leading to dampened total returns for high yield bond investors.

Fig. 5 Spread tightening not always enough

|                 | 1994  |       | 1999  |       | 2009  |      | 2013 |      | 2015 |     |
|-----------------|-------|-------|-------|-------|-------|------|------|------|------|-----|
|                 | Jan   | Dec   | Jan   | Dec   | Jan   | Dec  | Jan  | Dec  | Jan  | Dec |
| US % year (%)   | 5.21  | 7.83  | 4.54  | 6.34  | 1.55  | 2.68 | 0.73 | 1.74 | 1.65 | ?   |
| HY spread (bps) | 481   | 388   | 527   | 467   | 1662  | 617  | 511  | 382  | 483  | ?   |
| HY yield (%)    | 10.25 | 12.06 | 10.55 | 11.65 | 18.75 | 9.15 | 5.97 | 5.61 | 6.60 | ?   |

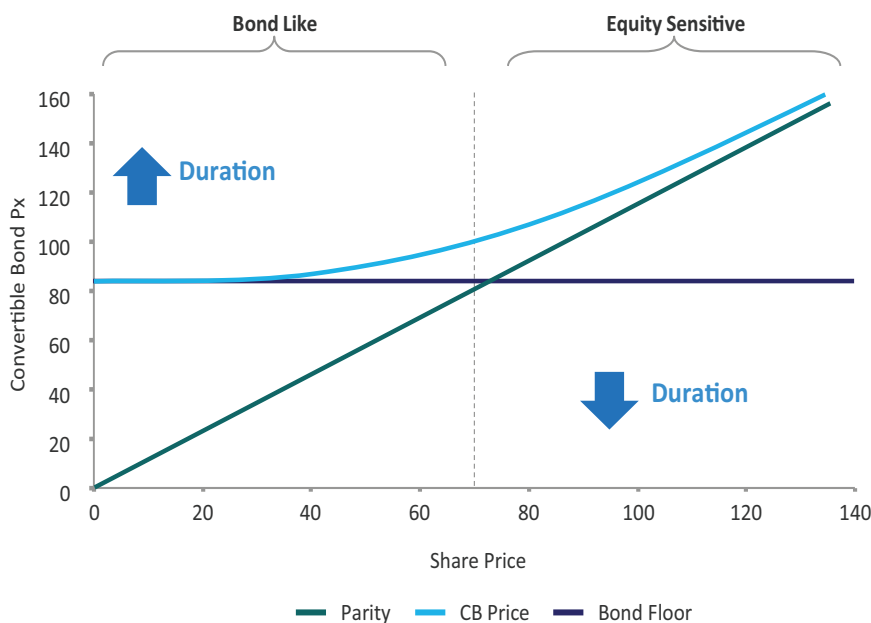
Data source: Bloomberg and Barclays, as at 31 May 2015

### How do convertibles perform in this scenario?

Due to their hybrid nature, convertibles have the potential to generate significant returns in an environment where interest rates 'normalise'. The interaction between the equity and credit elements has historically allowed convertibles to post positive returns in years when government bonds have experienced losses (See Fig. 1). Although they are fixed income instruments, convertibles have a shorter duration than equivalent straight bonds due to the equity optionality embedded in their structure.

When a convertible bond is deep in-the-money (i.e. the underlying equity is trading well above the conversion price) the valuation of the convertible is highly dependent on the equity price. It also has little sensitivity to the present value of the redemption amount as it is likely that at maturity a holder will convert into equity rather than redeem at the principal amount. The further in-the-money the equity option element gets, the shorter the duration becomes (Fig. 6). We believe improving economic growth should lead to revenue and profit expansion for many companies and this may drive equity prices higher. If equity prices rise the embedded options present in convertible bonds would move further in-the-money, which would lead to rising convertible bond prices and an average shortening in duration of existing portfolios; a desirable attribute in a situation where risk-free rates are rising.

Fig. 6 Convertible duration



*If the economy 'normalises' this could lead to a rise in equity prices, which would naturally benefit the valuation of convertible securities*

Data source: Thomson Reuters and BlueBay Asset Management

When analysing convertible securities, there are two elements that come into play when interest rates rise.

Firstly on a purely mathematical level, as interest rates go up the rise in the risk-free rate increases the 'risk-free forward value' of the equity; i.e. using risk-free rates the expected price of the equity in the future, rises with increasing yields. This has the effect of increasing the value of the equity option and shortening duration.

However, what is more important to consider is the second factor – what is happening in the 'real world'? If the economy 'normalises' then we would anticipate that interest rates are likely to rise towards long-term averages as investors reduce their allocation to 'safe haven investments', such as cash and government bonds and reallocate to areas that may benefit from global growth, such as equities and credit-spread products. This could lead to a rise in equity prices, which would naturally benefit the valuation of convertible securities. Therefore in periods such as 1994, 1999, 2009 and 2013 when US 10-year government bond yields rose, and both investment grade and high yield corporate bonds had dampened returns despite narrowing credit spreads, convertible bonds generated positive returns.

## Why not invest directly in equities?

Historically investing in convertible bonds has offered advantages over direct equity investment. Convertible bonds have benefited from their exposure to equities during positive markets, but their downside participation in weaker equity markets has generally been much lower because they are fixed income securities with known maturities and redemption schedules. The position of convertible bonds in the capital structure of a company is also beneficial as they rank above equities and are generally pari passu with other senior unsecured straight debt. This gives rise to the convex price behaviour of convertible bonds, which means that historically convertibles have realised price volatility of less than half that of equities. This has meant that over the medium term convertible bonds have produced better risk-weighted returns, as can be seen from their superior Sharpe ratios over 3, 5 and 10 year timeframes (Fig.7).

*We believe the introduction of convertible bonds into a portfolio can provide investors with a measure of duration protection and the potential for positive returns*

Fig. 7 Convertible bonds have had better risk/reward than equities

|         | Annualised Return |          | Volatility |          | Sharpe Ratio |          |
|---------|-------------------|----------|------------|----------|--------------|----------|
|         | Equities          | Converts | Equities   | Converts | Equities     | Converts |
| 3 Year  | 17.03%            | 8.74%    | 10.31%     | 5.13%    | 1.65         | 1.70     |
| 5 Year  | 12.96%            | 7.74%    | 14.00%     | 6.57%    | 0.92         | 1.17     |
| 10 Year | 5.60%             | 6.54%    | 17.40%     | 7.62%    | 0.25         | 0.69     |

Data source: Bloomberg, Thomson Reuters, BlueBay as at 31 May 2015

## Conclusion – duration protection and an attractive return profile

As we have demonstrated, government bonds are currently offering low real rates of return that are significantly below the long-term average. Meanwhile, investment grade and high yield bonds may not be able to offer investors capital protection in the event of interest rates rising from their current low levels. As a result, we believe the introduction of convertible bonds – a fixed income instrument with historically higher Sharpe ratios than equities – into a portfolio can provide investors with a measure of duration protection and the potential for positive returns.

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