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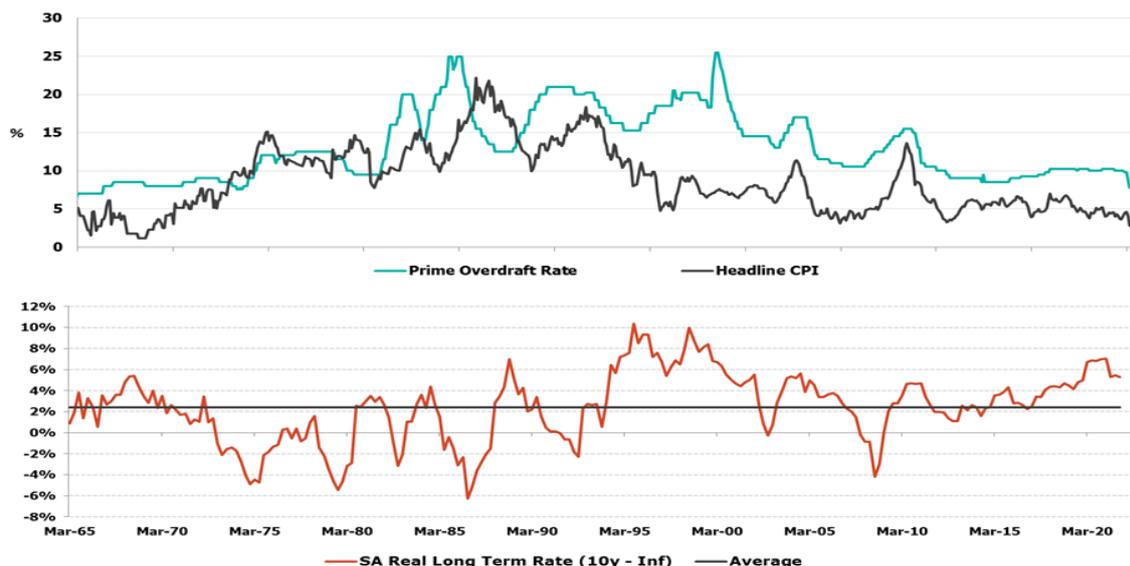
Is more modified duration risk the answer to attaining a higher fund yield in a low interest rate environment?

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The low interest rate backdrop

The South African Reserve Bank reduced the repo rate by a total of 3.25% in the current cycle to a decade low level of 3.50%. Even though the first salvos late last year and early this year were in response to sustained weak economic growth and lower inflation, the bulk of the aggressive easing happened during the last four months as a direct response to the COVID-19-induced crisis. As a result, market rates, specifically at the short end of the yield curve, moved sharply lower. For investors with exposure to low risk products like money market and income-type funds, this implies a potential lower level of future income should the repo rate and closely related market rates stay at the multi-decade low levels. How could this low-yield world be countered and what are the risks?

Figure 1: How low can you go?



Source: Bloomberg, Futuregrowth

A quick peek into the interest rate bearing tool chest

Interest rate bearing funds are mandated to access return sources that are specific to this market. Simplistically, this would encompass access to:

- Higher yielding fixed and variable rate bonds issued by private sector and other non-government entities, the so-called credit market;
- Rotation between the sub-interest rate bearing asset classes, mainly cash, nominal and inflation-linked bonds;
- Rotation between fixed and variable rate instruments;
- Exposure to directional interest rate movements and changes to the shape and level of the interest rate term structure (also referred to as the yield curve).

The mixture of the above would be a function of the risk profile of a particular fund. In the case of income-type funds, exposure tends to be focused on the credit market because this building-block allows for higher, stable income at a lower level of interest rate risk/volatility.

While the higher inherent credit risk (or risk of default) to private sector borrowers compared to government, requires a higher yield to convince lenders to enter the transaction, these non-government bonds are typically also offered at a lower interest rate risk. This is due to the fact that the term to maturity of these bonds are either shorter dated (thus lower modified duration) or the instrument type is a variable rate as opposed to a fixed rate bond. Variable rate bonds are priced off the 3-month JIBAR rate, which implies a lower modified duration even though the actual legal term to maturity of the instrument could stretch out to seven years and in some cases even further out onto the yield curve.

As a consequence, more traditional income funds would tend to have a higher exposure to non-government, variable rate bonds. This would be balanced by a smaller or even a zero holding of longer dated fixed rate bonds, which of course comes with a higher modified duration or interest rate risk.

The fact that a large proportion of the credit component is priced off decades of low short-term rates poses a risk to this strategy. In addition, weak economic growth also poses a risk to the credit quality of these borrowers and their instruments. While we would never advocate a move away from a well-diversified and soundly priced credit portfolio, the above begs the question whether one should allow a bigger contribution to total fund return from pure interest rate risk exposure.

Dissecting interest rate risk

Broadly speaking total return from interest rate exposure could be broken into two sources, capital gains/losses and interest accrual. The former relates to yield/price movements. When the yield of a bond changes, the price moves in an inverted fashion. More specifically, a rise in bond yields causes its price to decrease, which in turn will reflect at an unrealized loss. This will turn into a realized loss if the investor sells at the higher yield/lower price. This explains the reasoning behind selling bonds when yields are expected to rise. Preferably in anticipation of, and not into, an unfolding sell-off scenario because similar to any other financial asset, the same basic trading principle applies. Sell at a high price (low yield), buy at a low price (high yield).

The second building block is the accrual of interest by the holder of the same bond. All bonds pay an interest in the form of a coupon, which mainly gets paid on a bi-annual basis. So, the holder of a bond receives the benefit of daily accrual as soon as the bond is purchased. This principle applies to fixed, variable and inflation-linked bond instruments.

With the above in mind, it is clear that it is not as simple as avoiding capital loss or wanting to benefit from capital gain. It is about finding the balance between the latter and the opportunity cost of lost accrual when not holding the bond.

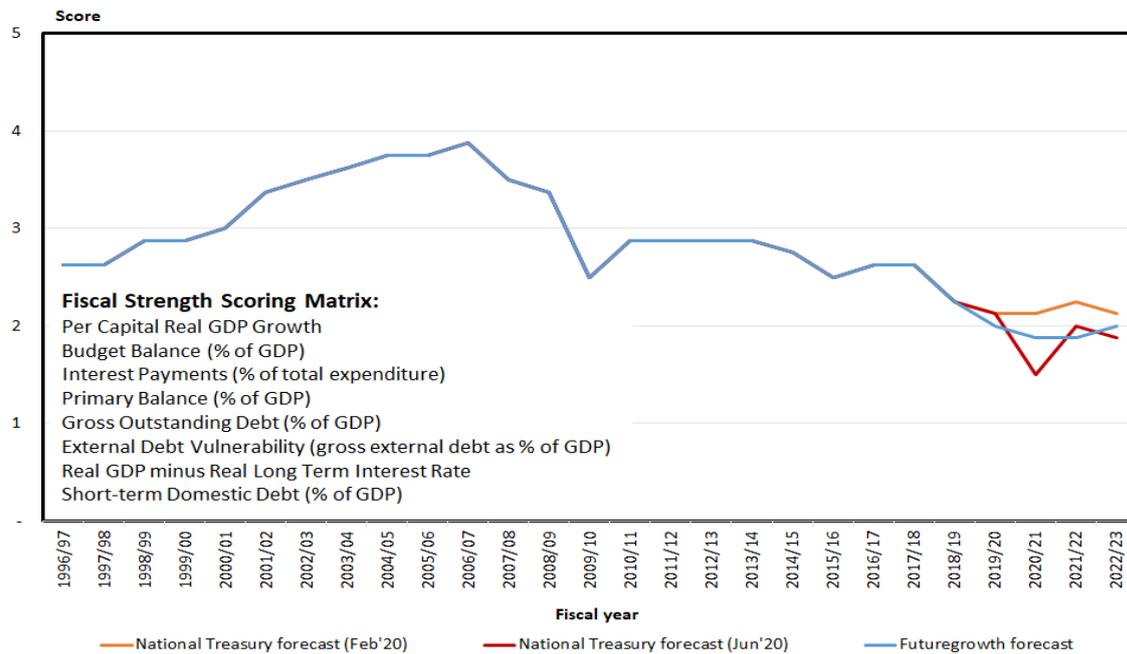
How to manage higher interest rate risk?

Firstly, it is prudent to make the point that one simply cannot have one's cake and eat it. As alluded to above, short-term interest rates are low for a reason. In terms of real returns, the rate of inflation is the lowest in many years even if we ignore the recent sharp drop and rather consider the expected acceleration to a likely range of 3.5% to 4.5% in one year's time. However, we are in the business to maximize returns in a responsible way. With this in mind, the eye will wander up the slope of the yield curve where longer dated, higher duration bonds are offered at seemingly attractive levels.

The term structure of South African market rates currently reflects a steep positive slope. Yields at the short end of the yield curve have been dragged lower by the aggressive monetary policy response referred to above. Similarly, the worsening fiscal situation, the result of years of poor fiscal management, which have been exacerbated by the impact of the pandemic, pushed the country to the brink of a possible public sector debt trap (refer to Figure 2 below). With sovereign creditworthiness at risk, longer dated bond yields should be reflective of this.

For instance, the yield spread between the 3-month JIBAR rate and the longest dated fixed rate RSA government bond, the R2048 (maturity 2048), hovered at around 8% at the time of writing. With the 3-month JIBAR rate at 3.8% and the R2048 trading at a yield of around 11.7%, it would come as no surprise that the novice may feel tempted to jump at the opportunity of holding the R2048 bond.

Figure 2: The South African Fiscal Strength Score: At the lowest level in many years



Source: National Treasury, Bloomberg, Futuregrowth

What is the catch to holding a bond with a seemingly attractive yield?

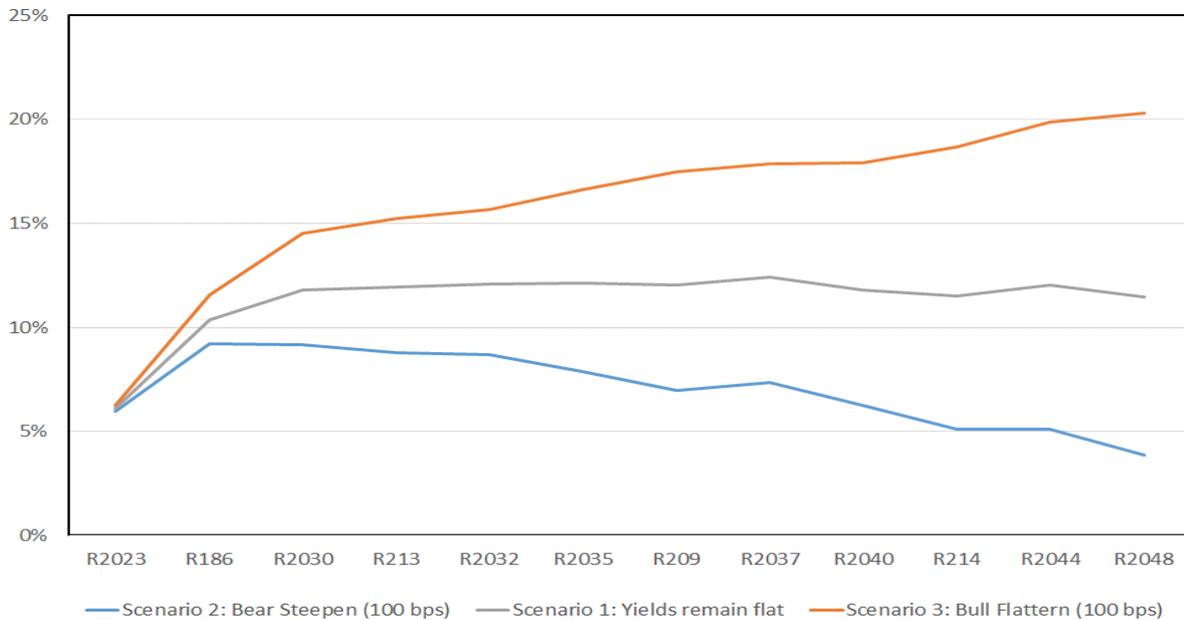
Simplistically speaking, the market yield of a bond is not a true reflection of expected return over a shorter time horizon. These bonds are actively traded in a liquid secondary market where investors express their respective views based on the many underlying variables that determine the level of yields. The longer the term to maturity of a bond, the higher its modified duration, which is a useful measure of capital risk. Of course, the inverse applies to shorter dated bonds.

Let's illustrate this by way of three potential yield curves and thus stock return scenarios. The following assumptions were applied:

- The calculations applied to a twelve-month period.
- The repo rate remained unchanged.
- All income is re-invested.
- Scenario 1 assumes unchanged bond yields for the entire period.
- Scenario 2 (Bear Steepen) assumes rising bond yields, with the yield of the longest dated R2048 1% higher at the end of the period.
- Scenario 3 (Bull Flatten) assumes falling bond yields, with the yield of the longest dated R2048 1% lower at the end of the period.

- Simple extrapolation is applied in scenarios 2 and 3.
- The market yield of the R2048 was 11.5% at the time of running these scenarios.

Figure 3: Yield Curve Scenarios (total bond returns: 12-month period)



Source: Bloomberg, Futuregrowth

Figure 3 clearly demonstrates that the yield of an instrument is a poor indicator of future returns. In the case of the longest dated R2048, total expected returns over a 12-month period varies significantly. The closest match between the market yield and total returns is in the case of the stable market rate scenario; a highly unlikely outcome. While the R2048 will render a mouth-watering return of around 20% in a bullish scenario, the same bond will barely match the cash return should its market yield end the 12-month period 100bps higher at 12.5%.

Does this imply that bonds with a high modified duration should be avoided even though it is offered at an attractive market yield? Most certainly not. It is about understanding the inherent risk to an instrument with a higher modified duration, careful stock selection and consideration of the fund risk profile.

In the ASISA SA Interest-Bearing categories, the collection of relatively conservative yield enhancing income solutions are found in the IB Short Term category. Many of these solutions aim to produce yield enhancement over money market funds without taking on materially higher levels of interest rate risk. There are however also solutions with a contained, but slightly more aggressive duration benchmark, aiming to provide a higher total return than money market funds or enhanced money market funds, while staying clear of any direct offshore exposure or exposure to listed property and equity.

How to go about duration selection

In the case of lower risk funds like traditional income funds, investing in higher duration fixed rate bonds require a greater emphasis on stock selection. The various issued bonds along the yield curve all differ in some way. At Futuregrowth, we look at a number of variables to assist in what we term yield curve mapping. This analytical tool enables us to better quantify and consider the risks inherent to investing in higher duration instruments. Of course, this goes hand in hand with the latest understanding and view of yield curve and how this may change on a forward-looking view.

To demonstrate, please refer to Table 1 below. The table lists all the nominal fixed rate RSA government bonds currently in issue and listed in the various local market indices. On the left we have listed the six variables used to rate each of the bonds. The sum total would then be used as a guide to stock selection. It should be emphasized that this is merely a guide and has to be applied in conjunction with the broader investment view and specifically its impact on future yield curve changes as well as the risk profile of a particular mandate.

For instance, our investment view favours a yield curve anchored by a stable repo rate, with a risk of another repo rate cut, while the worsening fiscal situation will continue to add upward pressure on long-dated bond yields or at least contribute to back end volatility. Add this to the conservative risk profile of income type funds with lower appetite for interest rate volatility, then the score of 44 for the R186 appears more appropriate than the score of 50 of the 20-year bond (R2040) – even though higher.

Table 1: Yield Curve Heat Map

Yield Curve heatmap	Date 05/07/2020											
	R2023	R186	R2030	R213	R2032	R2035	R209	R2037	R2040	R214	R2044	R2048
Cash breakeven	1	5	6	4	9	12	3	11	10	2	8	7
Carry per unit MD	12	11	10	6	9	8	2	7	5	1	4	3
Roll Down return	8	12	11	10	9	7	6	5	4	3	2	1
Spread (vs fitted Curve)	9	1	3	6	10	12	5	11	8	2	7	4
Coupon	4	13	5	3	6	10	1	7	11	2	8	8
Spread vs US equivalent	1	2	3	4	5	8	6	10	12	7	11	9
Total Score	35	44	38	33	48	57	23	51	50	17	40	32

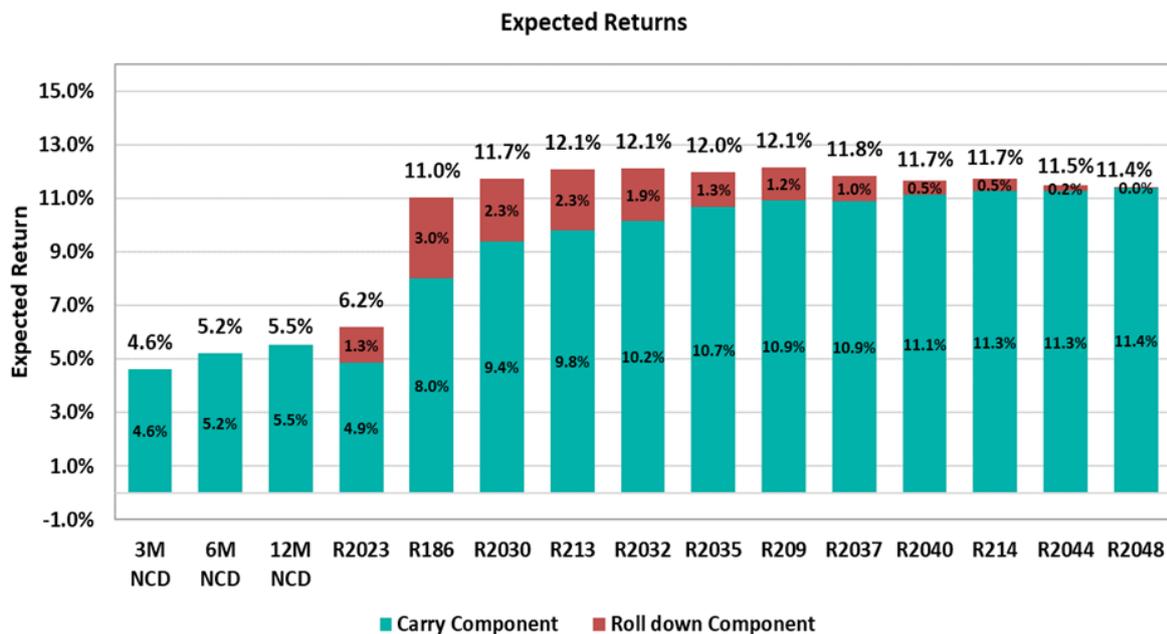
Source: Futuregrowth

From this, it is telling that a bond like the R186 (maturity 2026), which at the time of writing yielded 7.5%, scores better than the longest dated R2048, which yielded 11.5%. This is the strongest possible demonstration that total expected return is not just a function of the market yield at which it is offered, but a function of a number of bond specific contributors. In the case of the R186, this bond's coupon rate of 10.5% as well as its position on the yield curve are particularly noteworthy.

The yield curve position brings us to the term “roll-down return”. Considering current yield curve dynamics, this is a particularly dominant dynamic. The combination of the decades lower repo rate, the steep downward slope between this and the rest of the yield curve and the fact that all these bonds have a fixed maturity date, all combine to raise the importance of the roll down component in the current environment. Refer to Figure 4 below for an indication of this “passive” contribution to total return. In the case of the R186, this comprises a whopping 3.0%,

of an expected 11% total return. In contrast, it is insignificant in the case of the R2048. Of course, this dynamic is very specific to the point in the interest cycle and how this is reflected by the shape of the yield curve.

Figure 4: Potential total stock return, inclusive of roll-down (market yields are assumed to remain static for the next 12 months)



Source: Bloomberg, Futuregrowth

Even though the expected return of the R186 in this unrealistic “static yields” scenario is 0.4% below that of the R2048, this is not a risk-adjusted return. The modified duration variance between the two bonds is significant; 4.7 versus 8.9. Unless one can produce a convincing bullish yield curve scenario, there is little urgency in chasing bonds offered at the highest yield.

Conclusion

Adding duration risk to a more conservative mandate is appropriate. However, this has to be backed by careful and considered stock selection. Rushing out and targeting the bond with the highest market yield is not necessarily an appropriate strategy.

Glacier Research would like to thank Wikus Furstenberg for his contribution to this week's Funds on Friday.



Wikus Furstenberg

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Wikus manages a range of institutional and retail fixed income portfolios which include income, core bond and flexible interest rate funds. He manages the following retail funds: Old Mutual Income Fund, Namibia Income Fund, Namibia Enhanced Income Fund and the interest-bearing component of the Old Mutual Real Income Fund. He also heads up the Interest Rate team at Futuregrowth.

Wikus started his career at the Economics Department of the South African Reserve Bank. In 1995 he joined ABSA Bank Treasury as a Treasury Economist until 1997 when he joined ABN AMRO Securities as a bond analyst. In August 1999 Wikus left ABN AMRO to take up a position as a fixed interest portfolio manager for the Old Mutual Investment Group (SA) (previously OMAM). In 2008 the OMIGSA Fixed Income Boutique merged with Futuregrowth.