XTBs and the impact of rate rises

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FACT SHEET

Fixed-coupon bonds generally fall in value when interest rates rise, so too will XTBs over them. The obvious question therefore, is why invest in fixed-coupon bonds or XTBs if you think rates are at the bottom of the cycle and are about to rise.

- The first Classes of XTBs commenced trading on ASX on 14 May 2015.
- Each XTB offers exposure to the returns from a different senior corporate bond issued by some of the largest ASX listed companies, or their subsidiaries.
- XTBs are not a fund investment, they are individual securities trading on ASX, each based on a different bond. XTBs pay out 100% of the underlying bond's coupons and principal.
- The first tranches of XTBs on ASX all related to fixed-coupon senior bonds. XTBs over floating rate senior bonds are one of the next developments in the XTB range.
- Some advisers and investors may have the view that interest rates could increase soon. If so, it's natural to query whether they're better off staying in short-dated Term Deposits (TDs) versus investing in fixed-coupon bonds or XTBs over them.
- To test this – the following analysis compares returns on fixed-coupon XTBs with returns on two short-dated TDs, assuming rates do rise soon.
- In most of the scenarios we look at, XTBs offer a level of protection from rising interest rates. This is because of the greater return from the XTB income compared to the income on short-dated TDs. In other scenarios where rates rise more aggressively, the TD returns are better.

Where to invest for fixed income?

This XTB Fact Sheet examines a range of interest rate scenarios to see the impact of staying in shorter-dated TDs (and benefitting from rolling into new higher rates if interest rates rise), versus investing in XTBs over fixed-coupon corporate bonds.

How will TDs, fixed coupon bonds and floating coupon bonds behave in a changing environment?

Given the uncertain future path of interest rates, how should investors build the Fixed Income part of their portfolio? There are a range of different fixed income products available and getting advice from a qualified adviser is always recommended. In this XTB Fact Sheet we only consider fixed income investments that mature and have no conversion potential into equities.

Some investments that have a repayment of the principal at maturity (subject to credit performance) are:

- Term Deposits (and At Call Cash Deposits)
- Fixed Coupon Senior Bonds
- Floating Coupon Senior Bonds (FRNs)

Short term Cash and Term Deposits

Investors can leave their cash in at-call cash accounts (e.g., cash management accounts or cash management trusts – CMAs and CMTs) and hope the average daily rate they'll earn will be a better outcome than the other options available if rates move up. There are other reasons people use CMAs or CMTs such as paying bills and trading shares.

Short term (1 month etc.) TDs may have equivalent or slightly higher rates than at-call accounts because you can't access the money for that period of time. The longer term you choose, the higher the rate you'd generally expect to receive. However you also have reduced capacity to react to rising interest rates the longer you lock yourself in. As an example, lending money (which is what you're doing by putting money in a bank) for six months gives you far less cash mobility or liquidity than lending it overnight (cash account).

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Fixed coupon bonds

Investors can buy fixed coupon bonds or XTBs over them. In the examples used below – fixed coupon senior corporate bonds – these instruments pay a fixed coupon every six months, for the life of the investment. They return the principal to investors at the end of the term.

XTBs over those bonds provide access to the economic features of the bond – i.e., the coupons and principal flow through to the XTB investor, and XTBs should trade in line with their bonds on a post-fee basis. In other words a bond trading at 4% yield becomes an XTB trading on ASX at approximately 3.6% (depending on the price you buy it at) as the XTB manager's fee has an impact of approximately 40bps on the yield of the XTB.

Corporate bonds with fixed coupons allow borrowers and lenders to have certainty on their cash flows over the life of the bond. Like a long-term 5-year TD, you've locked your return in for 5 years if you buy a 5-year fixed coupon corporate bond or XTB. However, you can sell the corporate bond or XTB over it. This is a key distinction from TDs. The **XTB Fact Sheet** comparing and contrasting XTBs with TDs more broadly can be found at **www.xtbs.com.au/advisers**

Basic features

As a general proposition, fixed-coupon bonds will generally fall in value (price) when rates increase. When they do fall – so too will XTBs over them.

Investors can generally expect to lock in a higher yield the longer the term of the bond or XTB.

Floating Rate Notes (FRNs)

If an investor buys an FRN, they have lent money for extended periods, but they also have cash flows that automatically adjust relative to the prevailing level of interest rates.

As noted in the **XTBs versus TDs Fact Sheet**, it is important to remember that both floating and fixed-coupon senior bonds are "tradable". With the advent of XTBs, investors can now buy and sell exposure to those underlying bonds on ASX.

Scenario analysis – XTBs over fixed coupon corporate bonds vs TDs

The numerical analysis below looks at how these investments should perform in different rate environments. Here, we analyse TDs and XTBs on fixed-coupon corporate bonds.

The analysis will allow us to address the fundamental question posed at the beginning of this XTB Fact sheet – if rates rise at some stage soon, am I better off staying in short-dated TDs, or fixed-coupon bonds? The short answer is – it depends.

We'll look first at a simple theoretical example to outline the approach:

- Take a 6-month TD earning 2.50%, and a 2-year XTB yielding 3.15%, with a coupon also of 3.15% and therefore a price of $100.
- Look at performance over 1 Year, and assume the Cash Rate rises by 0.25% 6 months into the year.
- Invest $100 in the TD at 2.50% and after 6 months we invest $100 at the new TD rate of 2.75% (the old rate plus the Cash Rate rise).

To calculate our returns:

SIX MONTH PERIODS	MONEY AT START	TD RATE	INTEREST	MONEY AT END
1	$100.00	2.50%	$100.00*(2.50%/2) = **$1.25**	$101.25
2	$100.00	2.75%	$100.00*(2.75%/2) = **$1.375**	$101.375
END OF YEAR				**$102.625**

* Note – we have not reinvested the income from the TD above, or the XTBs in any part of this analysis.

The return on $100 in the two six-month TD investments over the course of the full year is $2.625.

Similarly, we invest $100 in the 2-year XTB and over the course of the first year we earn two coupons, each of $1.575 ($100 x 3.15%/2). This gives us a $3.15 income on the $100 invested. But that's just the income component of the total return. What about any capital or XTB price change? If we sell our XTBs at the end of the first year, what should the price be?

We bought the XTB at a yield of 3.15% and the Cash Rate is now 0.25% higher – so let's assume the yield on the XTB is also 0.25% higher (i.e. 3.40%), which means its price will have dropped and our return will be reduced by any fall in price.

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Reduction in term premium

But the change in interest rates is not the only factor that will impact the change in price of XTBs. Someone looking to borrow for two years is expected to pay more interest than someone looking to borrow for one year – this is called term premium. Lenders charge an increasing premium for the uncertainty of the future.

Term premium – the premium investors expect for lending for the longer term – does not remain static over time. A 5-year bond becomes a 4-year bond, and a 2-year bond becomes a 1-year bond, and term premium reduces as the bond maturity becomes shorter. The effect of a reducing term premium also needs to be taken into account when estimating the new price of the XTB.

The 2 year XTB began its life with 2 years' of term premium. Given it's now a 1 year XTB, it's reasonable to expect the 'term premium' component of its yield to reduce. In this example, we assume the reduction in 'term premium' on our XTB was 0.15% (At time of writing, the term premium for corporate bonds issued by banks was approximately 0.15% between a 1 year bond and a 2 year bond. This amount of reduction in term premium is used in the examples even though the term premium may be higher for other corporate issuers).

So the yield on the XTB at the end of the period would be 3.40% – 0.15% = 3.25%. While the change in interest rates caused the XTB yield to increase by 0.25%, the reducing term premium reduced it by 0.15%.

With 1 year to maturity, the XTB now has a yield of 3.25% and it still has a coupon rate of 3.15%. The standard bond pricing formula will give you a price of $99.90. As we initially invested $100 – by selling at this price, we lose 10 cents of capital value.

The total return from owning the XTB is: $3.15 (income) – $0.10 (capital) = $3.05. Comparing the return on the two investments, we made $2.625 on the TD and $3.05 on the XTB. Even though the TD rate was 0.25% higher for the second period and we lost 10 cents on the price of the XTB, the XTB performance is higher than the rolling TDs performance.

This simplified example shows the benefits of extra **'carry'** or return from the income on the XTB. The higher coupons from the XTB's underlying bond have provided a level of protection for the investment even though rates increased.

In this example, the deposit rate would have to rise above 2.80% before it is better to have remained in term deposits.

Using the same methodology, the following summary is taken from a broader analysis over two years, taking two typical TDs and three XTBs and looking at performance under a range of possible Cash Rate scenarios.

Cash Rate scenarios

The table below shows seven possible future scenarios for the Cash Rate over two years.

- **Scenario 1** – no change.
- **Scenarios 2, 3, & 4** – three rising rate approaches.
- **Scenarios 5, 6, & 7** – a range of 'down first then up', or, 'not up for a while' approaches.

CASH RATE AT START OF PERIOD	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7
0-6 months	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
6-12 months	2.00%	2.25%	2.25%	2.25%	1.75%	1.75%	2.00%
12-18 months	2.00%	2.25%	2.50%	2.75%	1.50%	2.00%	2.00%
18-24 months	2.00%	2.50%	2.75%	3.50%	1.75%	2.25%	2.25%
24-30 months	2.00%	2.50%	3.00%	4.25%	2.00%	2.50%	2.25%

The six month time periods coincide with both bond coupons and 6 month TD payments.
The Cash Rate shown is the Cash Rate in place at the start of the period.

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Term Deposit rates

We have taken two 6 month TD rates. The first – TD-1 is the actual published rate for a six month TD from the website of one of the four major Australian banks on 20 August 2015. Interest is paid at the end of the period (as opposed to monthly, where the rates on offer are generally lower).

For the second – TD 2, we have added a further 20bps based on an assumption that banks will offer better terms than their published rates from time to time, and some banks will offer better deals than others because the TD market, like all markets, is a competitive one.

- **TD 1:** 6 Months at 2.30% (published rate as at 20 August 2015)
- **TD 2:** 6 Months at 2.50%

We also assume each Cash Rate rise or fall in the seven scenarios above are passed on to TDs.

XTBs on fixed-coupon corporate bonds

We have taken three XTBs (each with an assumed purchase price of $100.00) with different yields:

- **XTB on a three year bond ("3Y XTB"):** bought at $100.00, with a yield to maturity of 3.25% and coupons of 3.25% p.a. paid 6 monthly.
- **XTB on a five year bond ("5Y XTB"):** bought at $100.00, with a yield to maturity of 3.50% and coupons of 3.50% p.a. paid 6 monthly.
- **XTB on a seven year bond ("7Y XTB"):** bought at $100.00, with a yield to maturity of 3.70% and coupons of 3.70% p.a. paid 6 monthly.

Also, as previously discussed, the XTBs will have some reduction in 'Term Premium' over the two years. The assumptions for this are:

- **3Y XTB: reduced by 0.15%** (3Y XTB yielding 3.25% becomes a one year XTB yielding 3.10%)
- **5Y XTB: reduced by 0.25%** (5Y XTB yielding 3.50% becomes a three year XTB yielding 3.25%)
- **7Y XTB: reduced by 0.20%** (7Y XTB yielding 3.70% becomes a five year XTB yielding 3.50%)

Note – this example illustrates how term premium changes over time. Note that all else being equal, the 5 year XTB has the same yield as the 3 year XTB after 2 years.

Results of analysis

Following the same returns methodology for each scenario, TD and XTB, we arrive at the following total returns over two years based on a $100 investment in each investment product:

SCENARIO	TD 1	TD 2	3Y XTB	5Y XTB	7Y XTB
1	$4.60	$5.00	$6.65	$7.71	$8.31
2	$5.10	$5.50	$6.16	$6.30	$6.05
3	$5.35	$5.75	$5.68	$4.91	$3.85
4	$5.85	$6.25	$4.48	$1.54	($1.40)
5	$4.10	$4.50	$6.65	$7.71	$8.31
6	$4.60	$5.00	$6.16	$6.30	$6.05
7	$4.73	$5.13	$6.40	$7.00	$7.17

The results show:

SCENARIO 1

As expected when rates don't change – the greater income or carry on all 3 XTBs results in total returns that are better than both TDs.

SCENARIO 2

TD rates have risen by 50bps over the two years. Notwithstanding this, the greater income or carry on all 3 XTBs provides protection to these investments and the XTB total returns are above TD total returns.

SCENARIO 3

TD rates have risen by 100bps in the two years and investors would have been better off in TD 2. Returns on the 3Y XTB exceed TD 1, but the 5Y and 7Y XTB total returns are less than both TDs.

SCENARIO 4

Rates have more than doubled, rising 225bps in the two years. Investors would have generated a higher total return in the rolling TD investments. The 7Y XTB has a negative total return because the fall in its capital value (or price) has eclipsed the income from coupons. It is worth noting a 4% plus cash rate in two years is not supported or implied by the current Government Bond curve.

SCENARIOS 5 AND 6

Rates fall first before they begin to rise in these two scenarios, which is close to the scenario implied by trading in the 30 Day Interbank Cash Rate Futures contract on ASX (see XTB Fact Sheet **"Where next for interest rates?"**). Investors in all three XTBs enjoy higher total returns than both TD investments.

SCENARIO 7

Rates rise but only at the end of the investment period and investors in all three XTBs enjoy higher total returns than the TD investments.

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A key takeaway from this analysis is that fixed coupon corporate bonds or XTBs over them that have a higher yield than the rates on shorter term TDs, have a built-in level of protection against a rising rate environment – but only up to a point. The source of this protection is the extra 'Carry' or income you get from these bonds/XTBs relative to short term TDs.

Another useful observation you can see playing out in this analysis is that the returns on the longer-dated XTBs and the bonds they cover are more sensitive to the changes in rates than the shorter dated XTBs, which means there is greater potential for reduced or negative capital returns in a rising interest rate environment.

Keep in mind as well – this analysis is all about Total Returns (income + capital gain or loss), which assumes you exit your XTB investment at some stage prior to maturity. If you buy a bond or XTB and you intend to hold it to maturity, and do so, then your return is the Yield to Maturity you bought at. Essentially you'll be in-different to the gains and losses in the XTB price that occur along the way.

Conclusion

The future is uncertain – this is why investors diversify their portfolios. Investors may be asking themselves in 2015 whether they should just stay in short-term TDs ahead of any potential increase in the Cash Rate, or whether they should invest in higher yielding corporate bonds via XTBs on ASX.

Through a simple scenario returns analysis, this XTB Fact Sheet demonstrates that in a number of scenarios where interest rates either:

- don't change
- go down, then back up
- do not rise significantly;

then an XTB over a fixed coupon corporate bond can outperform a series of investments in short-dated TDs.

XTBs only start to underperform TDs in the analysis when rates rise significantly over the near term, which market trading is not implying in August 2015 (see XTB Fact Sheet **"Where next for interest rates?"**). The higher carry or income of XTBs provides a level of portfolio protection in a moderately rising environment.

To view the range of available XTBs visit **xtbs.com.au/available-xtbs**.

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