Fixed income investing explained

Where does a bond's price come from?

FIXED INCOME
DEOGRATIUS WAMALA

The relationship between yield and price is the single most important concept in fixed income. It is not intuitive. It trips up experienced investors. But once understood, it becomes a lens through which every bond market movement makes sense.

A bond's yield is the return demanded. When many investors want the bond, they accept lower yields, and prices rise. PHOTO/FILE

Takeaways

- Long-duration bonds carry more interest rate risk than short ones. A 25-year bond's price is far more sensitive to yield changes than a two-year bond because more of its cash flows are distant, and therefore more heavily affected by changes in the discount rate.
- If you buy a bond at auction and hold it to maturity, price volatility is largely irrelevant. You receive your coupons and your principal back regardless of what happens to bond prices in the secondary market. The yield you locked in at purchase is what you earn.

Most people who encounter government bonds for the first time assume the price is set by the government; that the Bank of Uganda simply announces a number and investors accept it.

While this may appear logical, it is completely wrong.

The price of a Treasury Bond is discovered in the market, through a structured auction process, by the competitive force of thousands of investors signalling what they are willing to accept.

Understanding this process is the foundation of grasping fixed income investing.

Before price, there is structure.

A Treasury Bond is a promise made by the government to an investor: lend us money today, and we shall return the principal at the end of the bond's life, paying you a fixed coupon; a percentage of the face value, at regular intervals in between.

The Ugandan government issues bonds with maturities ranging from 2 years to 25 years. Longer maturities typically carry higher coupon rates, a reflection of the greater uncertainty that investors bear when lending money over a longer horizon.

Calendar where everything begins

Every financial year, the Bank of Uganda publishes an issuance calendar. This is a forward schedule telling the market exactly when bonds will be auctioned, which tenors are coming to market (two-year, five-year, 10-year, 15-year, 20-year, 25-year), when settlement happens, and when coupons will be paid.

Settlement, which is the moment your funds are debited and the bond is credited to your account, typically occurs one business day after the auction closes, a convention known as T+1.

About a week before each auction, the Bank of Uganda releases an Invitation to Tender. This document makes the structure of the upcoming bond explicit: the coupon rate, the size of the offer, the maturity, and the bidding rules.

At this stage, everything is known, except the price. That is what the auction determines.

The auction: where price is discovered

Investors submit bids in two forms: competitive bids and non-competitive bids. These serve different purposes and attract different kinds of investors.

Competitive bid

A competitive bid is one where the investor specifies both the yield they want and the amount they wish to invest. They are, in effect, negotiating.

If the market clears lower than their bid, they may receive no allocation. This approach is commonly used by banks, fund managers, and institutional investors with specific return requirements.

Money auctioned like this is above Shs200 million.

Non-competitive bid

A non-competitive bid is one where the investor specifies only the amount. They agree in advance to accept whatever yield the market determines. This guarantees allocation; subject to the non-competitive limit, usually 20 percent of the total offer.

It is preferred by individual investors, SACCOs, and first-time buyers who want certainty of participation.

This involves amounts below Shs200 million.

The cut-off yield

Once all bids are received, the Bank of Uganda arranges them from lowest yield to highest yield. It then accepts bids, starting from the lowest yield (most expensive for investors, cheapest for government), until the offer is fully subscribed.

The yield at which the offer is fully subscribed is called the cut-off yield. This is the moment a bond gets its price.

Every accepted bid; regardless of what yield was originally requested, receives bonds at the cut-off yield. Non-competitive bidders also receive bonds at this rate.

Bids that demanded a yield higher than the cut-off are rejected outright; those investors receive nothing and no payment is taken.

The one rule that governs everything

The relationship between yield and price is the single most important concept in fixed income. It is not intuitive. It trips up experienced investors. But once understood, it becomes a lens through which every bond market movement makes sense.

When demand is high, yields fall and prices rise. When demand is low, yields rise and prices fall.

Why? Consider the logic from first principles. A bond pays a fixed coupon; say Shs15,500 per year on a Shs100,000 face value bond. If you pay Shs100,000 for it, your yield is 15.50 percent.

But if many investors want the same bond, competition drives the price up, say to Shs105,000. Now that same fixed coupon of Shs15,500 represents a lower yield on your higher investment: roughly 14.76 percent. The cash flow has not changed. The price has.

Think of a market stall selling maize flour. When demand is high and buyers are many, the price rises. When fewer buyers show up, the price drops.

A bond's yield is the return demanded; when many investors want the bond, they accept lower yields, and prices rise. When few want it, yields must rise to attract buyers, and prices fall.

The coupon is fixed forever. What changes with market conditions is the price you pay, and therefore, the yield you earn.

The three price levels: par, premium, and discount.

Every bond has a face value; think of it as the bond's "official price tag." In Uganda's market, that is usually Shs100,000 per unit. But what you pay for a bond can be different from that tag, depending on what the market decides.

There are three ways this can go.

The first is at par. This is the straightforward one; you pay exactly Shs100,000 for a bond worth Shs100,000. This happens when the yield the market settles on is exactly equal to the bond's coupon rate.

The second is at a premium – when you pay more than the face value. Imagine a concert ticket that officially costs Shs50,000, but because everyone wants to go, people are willing to pay Shs65,000 for it. Same idea here.

The third is at a discount. This is the opposite. You pay less than the face value. Think of a shop putting items on sale because nobody is buying them.

The face value never changes. The coupon never changes. What changes is the price people are willing to pay, and that price moves up or down depending on how much investors want the bond and what return they are willing to accept.

Driver of cut-off yield

The cut-off yield does not emerge in isolation. It is shaped by the macroeconomic environment in which the auction takes place. Several forces drive it higher or lower over time:

Central bank policy. When the Bank of Uganda raises its benchmark interest rate; the Central Bank Rate, to control inflation, the cost of money rises across the economy. Investors demand higher yields to compensate, pushing bond prices down.

Inflation expectations. Bonds pay a fixed nominal coupon. If inflation is expected to be high, the real purchasing power of those fixed coupons erodes. Investors demand a higher yield to protect themselves, lowering bond prices.

Government borrowing needs. When a government borrows aggressively by issuing a large volume of bonds over a short period, supply increases. If demand does not rise proportionally, yields must rise to attract buyers.

Investor confidence. A government perceived as fiscally disciplined; managing deficits, maintaining reserves, honouring debt, attracts investors who accept lower yields. Deteriorating fiscal conditions require higher yields to compensate for perceived risk.

Global capital flows. In a connected world, Ugandan bond yields compete with yields in other markets. If US Treasury yields rise significantly, some international investors redirect capital away from emerging markets, reducing demand and pushing local yields up.

Why this matters for an investor

If you buy a bond at auction and hold it to maturity, price volatility is largely irrelevant. You receive your coupons and your principal back regardless of what happens to bond prices in the secondary market. The yield you locked in at purchase is what you earn.

But if you ever need to sell a bond before maturity; or if you are watching the value of your portfolio, you must understand that rising interest rates will reduce the market value of your existing bonds.

The coupon has not changed. The price has fallen because new bonds now offer higher yields, making your older bond comparatively less attractive. This is why long-duration bonds carry more interest rate risk than short ones.

A 25-year bond's price is far more sensitive to yield changes than a two-year bond; because more of its cash flows are distant, and therefore more heavily affected by changes in the discount rate.

The non-competitive bid exists precisely for investors who do not want to navigate this complexity. By accepting the market-clearing yield, they trade away the chance to negotiate for the certainty of participation, a rational trade-off for long-term investors who plan to hold to maturity.

Understanding how price is discovered; through the auction, through the cut-off yield, through the iron relationship between yield and price, is the foundation on which all other bond market knowledge rests.

This article draws on the issuance framework of the Bank of Uganda and the auction mechanics documented in the Dyer & Blair Dyer Dispatch, Issue No.20.

Yields

'When demand is high, yields fall and prices rise. When demand is low, yields rise and prices fall.'