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Bonds Course 2 - How is a Bond Structured?

In this module, we'll describe what happens when a bond first comes into existence. It is called the bond's issuance and there are a number of decisions that have to be made around the process. We'll discuss the decision making process and consider the key elements of a bond that influence those decisions. Important aspects of a bond are its:

- Coupon
- Maturity
- Documentation
- Security collateral
- And credit rating.

We'll look at how bonds are structured to make them attractive to investors and how all of these considerations are taken into account.

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The Bond Process



Before we get into the actual decisions around the issuance of a bond, let's take a quick look at what is called the auction process. We have learnt in our first introduction to bonds that they are issued by governments, municipalities, corporations and banks. Corporations and banks typically issue bonds through an investment bank and sell them directly to investors at one price. Investment banks charge hefty fees for this service but even after the fees have been paid it is still the cheapest form of borrowing for most big companies.

On the other hand governments borrow much larger sums of money than companies and governments are very sensitive about how much it costs them to borrow these vast sums of money – understandably. To keep costs to a minimum governments sell bonds through an auction process which enables them to borrow at the cheapest possible cost.

The Bond Process

The auction process is an established issuance procedure through which governments issue bonds. The Treasury or Central Bank of a country advises the bond market that they are about to issue a new bond for x amount. The bond market and its investors are invited to tender bids based on the interest rate that the government will have to pay for this new borrowing.

The government will obviously borrow from those investors who bid the lowest interest rate which achieves their objective of borrowing as cheaply as possible.

The auction process introduces us to a major aspect of bond trading and investment. Governments want to borrow as cheaply as possible and investors want to receive the highest interest rate on their investment. The level of the interest rate that turns out to be an acceptable borrowing cost for the government as well as an acceptable return for the investor is the price or yield in the bond market at which a particular bond trades.

This situation applies to all bonds as long as they are for the same maturity and credit risk. You will see later why these two factors are critically important in the structuring and pricing of bonds.



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Issuing a Bond

We now know that that governments issue bonds through the auction process and that banks and corporates issue new bonds through investment banks. All bonds have an established issuance procedure with each new issue structured using well established market conventions. Auctioned government bonds are issued through what are known as primary dealers. These are major banks and financial institutions of a country that have been appointed to distribute a new bond issue, on behalf of the government, to the investors who have made successful bids for a new issue.

Whenever you buy a bond your broker will ensure that you have all the rights to which an owner of that bond would be entitled. This registration process is important making it easy for the investor to sell the bonds at any time in the future if they so wish.



What are Bond Investors Looking For?

The typical bond investor will invest in bonds at some point in time after the issue date. However, whether they are investing in a new issue or a bond that has been in existence for a period of time investors want to be reassured about a number of important issues. What are they concerned about?.

- What is the interest rate they are going to earn on the bond?
- What is the maturity of this bond? How many years before the capital will be repaid?
- Is the borrower, the bond issuer, creditworthy? Will they get their interest payments and receive their capital back at maturity, on time, and without problems?
- Are they legally protected should the borrower not meet their obligations to pay them?
- What is the seniority of the bond? Does the bond have any collateral that would mean better repayment protection for me?

These points are key issues in the structure of a bond. So in the next few pages, let's examine them one by one.



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Interest, Coupons and Payments



One of the key questions for investors is; ‘how will I make money?’

So, we’ll take you through:

- the interest rate on a bond
- What the ‘coupon’ is and what it means for investors
- How much cash you might receive
- And an example of buying a bond.

So, let’s explore these concepts.

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What Interest Rate will I Receive?

Question: What is the interest rate I am going to earn on the bond?

The interest that that is regularly received on a bond is known as the coupon. Using the word coupon to describe this regular interest rate is an historical custom. It relates to the days when a bond holder had to claim their interest payments from the issuer by tearing off a coupon attached to the bond certificate and sending it to a paying agent to claim the interest.

Nowadays a custodian such as Euroclear makes sure that coupon interest payments are made directly to the registered investor on the due dates. Coupons on government bonds are typically paid every six months and coupons on corporate bonds are paid annually.



The Coupon

The coupon interest amount is fixed on the date that the bond is issued and it does not change throughout the life of the bond.

This means that the investor knows exactly what the cash flows on the bond will be right up to its maturity. On the date of issue, the coupon interest rate will be close to what the bond market considers to be the interest rates, or the fair return, for a bond with this particular maturity and credit risk.

These factors are key considerations when establishing a coupon interest rate. If the coupon rate is higher than these factors indicate then the borrower is probably paying too much for their debt. If the coupon rate is below what these factors indicate then investors will not buy the bond because it does not pay them a high enough interest rate.



Coupons and Payments

We know that the coupon is an interest rate but when will the coupon be paid how much actual cash will I receive?

To answer these questions we must understand what is meant by the Face Value or Par Value of a bond.

When bonds are issued they can be broken down into smaller denominations to make it easy for investors to find a bond amount that suits them. A bond issued for a total amount of KHR 1,000 million could perhaps be subdivided amounts of 10 million, 1 million, 100,000 and other amounts depending on the requirements of a particular bond market. In today's bond market a broker will try to find a denomination that suits an investor's needs. However, significant, high volume trading is a characteristic of bond market trading and the minimum size could easily be around KHR 100,000. The face value or par value of an individual bond is for one of these traded amounts. The investor will receive a coupon payment that is based on the face value of the bond. Lets' take a look at an example on the next page...



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Buying a Bond - An Example



On 3rd October 2016 we buy a bond for KHR 100,000 (100,000) in Alpha Bank on the day it is issued. It is a five year bond maturing on 3rd October 2021 and pays a coupon of 5.00% annually. We pay KHR100,000 cash to our broker who buys the bond on our behalf. We are now the owner of the bond.

Given this information we can now work out how much the coupon payment will be and when we will receive it. The bond matures on 3rd October 2021. This tells us that the annual coupons will be paid on the 3rd October each year starting on 3rd October 2017. If this bond had paid semi annual coupons you would receive half the coupon on 3rd April 2017 and the other half on the 3rd October 2017. Once you know the maturity date of the bond you can easily work out the coupon payment dates.

So how much will we receive each year?

This is also easy to calculate. It is simply the face value of the bond times the coupon amount. In this case it would be KHR 100,000 x 5.00% which is KHR 5,000. We will receive this amount every year on 3rd October until the bond matures on 3rd October 2021 when we will receive the last coupon and also our KHR 100,000 initial investment will be returned. Once again if the bond had a semi annual coupon we would receive KHR2,500 in April and KHR2,500 in October.

This brings us to an important fact about bonds that we must remember. The coupon amounts and the face value of the bond never change during its life. The bond's price can change but the coupon and face value never change. We will look at how bond prices change in the next topic.

The facts:

On 3rd October 2016:
BUY - KHR 100,000 in XY Bank
5 year bond maturing on 3rd October 2021
Coupon = 5.00% annually.

Annual coupons - paid on the 3rd October each year

So how much will we receive each year?
KHR 100,000 x 5.00% = KHR 5,000.

At maturity date?
Last coupon payment + KHR 100,000 initial investment

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Maturity, Capital, Creditworthiness of the Issuer

As an investor, all facets of an investment are essential to research and both the ‘maturity’ and the creditworthiness of the issuer are both key. We’ll now take a look at:

- Capital and interest rate risk
- The maturity of the Bond
- How an investor can assess the risk, related to an issuer

Maturity and Capital - How many years before Repayment?

So, does it matter what the maturity of the bond is? How many years before the capital will be repaid?

Most investors consider that the longer the term of an investment the greater the risk that they might not get their money back. Essentially, longer term debt creates a greater probability of something unexpected happening. Because of this, for a particular borrower, investors expect higher coupons on bonds with longer maturities compared to those with shorter maturities issued by that borrower.

At this point we should mention interest rate risk. Interest rate risk is by far the most significant risk faced by a bond investor. Once a bond has been bought changes to market interest rates will have an impact on the bond’s price. What actually happens and how the risk is measured will be explained in our next topic on Bond Prices. For the moment remember that interest rate risk exists in bond investment and must be considered by the bond investor at all times.

The Maturity of the Bond

The choice of maturity for a bond has an impact on both the borrower and the investor. The borrower knows that issuing bonds for a longer maturity will cost more because the coupon will be that much higher. The borrower may decide to issue a bond for a shorter maturity to keep costs down. Remember that once the coupon is set the borrower’s interest rate cost is fixed for the life of the bond. The investor, on the other hand, may not want to invest in a short term bond and may only be interested in the higher coupon on a longer term bond. Once again we will discover that the supply and demand created by borrowers and investors will find common ground in a maturity and coupon that suits everyone. Investment banks structuring a bond for a corporate client must ensure that the bond will be sold. It is essential that the issue is attractive to potential investors. It is the job of the investment bank to research and identify the coupon that fits market requirements for a particular issue.

We should emphasize here that even if you buy a bond on the issue date you can subsequently sell it at anytime. However, as with all traded instruments its price can change.

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the Issuer Creditworthy?



Is the borrower, the bond issuer, creditworthy?

How does the investor assess the risk of a borrower not paying interest or returning capital? We need to know what the credit rating is for this class and maturity of bond. A public rating by S&P, Moody's or Fitch will usually be required for corporate and government bonds. These ratings take the form of letters from A to C and D for default. A bond with an AAA rating would be considered to be an excellent credit risk. As the credit risk of an issuer increases the credit ratings decrease falling to AA, then A, then BBB, then BB and so on down to a single D.

The bond market considers that bonds rated AAA down to BBB are High Grade bonds. Bonds rated BB and below are considered as High Yield bonds. As an investor you are entitled to expect that the coupons on High Yield bonds would be higher than the coupons on High Grade bonds. If High Yield coupons were the same as High Grade coupons you would consider that the return on the High Yield bond does not compensate you for the increased risk of issuer default and neither you nor any other investor would buy them.

You could, of course, research an issuer yourself and come to your own conclusions as to their credit worthiness. However, this involves a lot of work and no small amount of expertise. The vast majority of bond investors use the ratings supplied by the credit agencies to give them an idea of the credit risk for particular bond issue.

Bottom line is that the lower the credit rating the higher the return expected by investors.

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Legal Obligations

Are we legally protected should the borrower not meet their obligations to pay us?

Bond defaults are rare but when they do happen it can be an unpleasant experience for the bond investor. Will I get all my money back? Or perhaps only part of it or in some cases none at all.

Bonds issued by governments and corporate bonds issued through banks are supported by extensive legal documentation. If anything does go wrong there are appointed trustees who will work on behalf of the bond investors to ensure that their interests are protected and that everything possible is done to secure repayment of principal and interest.



Protection

What is the seniority of the bond? Does the bond have any collateral that would mean better repayment protection for me?

In the event of a company becoming bankrupt or defaulting on its debt equity investors are the last investors to get their money back. Bond holders have priority and would receive their cash back before the equity investors. This is one of the major attractions of bond investment over equity investment. However, there is a pecking order even within bonds issued by a company. For example senior bond holders receive their money back before junior bond holders.

Additionally many high grade bonds have added security or collateral to further protect the bond investor's capital. Amongst other approaches this could take the form of a guarantee from a bank or other company or the bond holder could have first claim on certain assets of the company. There are many ways to structure this type of security or collateral in a bond.

The investor has the choice of seniority or collateral in the bonds in which they invest. However, safety has its cost. The more collateral or security a bond has the lower the coupon; less security or collateral means higher coupons but more risk





Summary

Let's summarize what we have learnt about the issue and structure of bonds in this topic. Any investor will require this essential information in order to be confident about buying a particular bond:



Government bonds are issued through primary dealers using an auction process. Investors can buy government bonds from the primary dealers.



Corporate bonds are issued by investment banks taking into account the credit rating, coupon and maturity of the bond so as to make the issue attractive to investors. Many banks have trading desks that buy and sell corporate bonds



Documentation: An investor is assured that the contractual documentation will be in order if the bond is issued by a government or investment bank.



Coupon: What is the coupon amount and how often is it paid? Do investors consider that the bond coupon adequately compensates them for possible issuer default?



Credit rating: What is the public credit rating of the bond? An investor needs this information in order to assess the risk in the investment.



Maturity: Are investors interested in the specific maturity term of the bond? Would they prefer a longer or shorter maturity?



Security: Does the bond have and security or collateral that minimises issuer default risk?

The last thing that we need to examine to complete our understanding of bond structure is the price of the bond. How it is quoted and why it changes is the subject of our next topic.