## Chapter 11: The bond market

# Textbook Questions

### Review questions

*The following questions appear in the textbook on page 353.*

*Answer the following questions.*

**Name and discuss the three elements that a bond contract will include.**

* ***Principal.* This is the amount that the issuer will repay to the bondholder when the bond expires. It is sometimes also called the face value, par value or nominal value of a bond.**
* ***Coupon rate.* This is the *interest* that the issuer promises to pay to the bondholder during the lifespan of the bond. The interest rate is normally expressed as a percentage per annum, and may be fixed or variable. There is usually also an indication of the dates on which interest will be paid, usually semi-annually, or sometimes annually. This is referred to as the *coupon frequency*. The interest payments are called *coupons*.**
* ***Maturity date.* This is the date on which the bond will expire, thus the date at which the issuer will repay the principal to the bondholder. A bond is usually a capital market instrument – it is issued for periods longer than a year. The lifespan of a bond can be any length of time, for example five years, 10 years, 30 years, etc.**

**Explain why there is an inverse relationship between the price of a bond and its yield.**

**The coupon amount on a bond is normally fixed. The yield rate is calculated by expressing the coupon amount as a percentage of the market price, therefore the higher the market price, the lower the yield rate.**

**Explain how accrued interest affects the all-in price of a bond bought**

1. **15 days before the Ldr**
2. **15 days after the Ldr, but before the nCd.**
3. **If a bond is bought 15 days before the LDR, the buyer will hold the bond on the LDR, and will therefore receive the full coupon on the next coupon payment date. The seller held the bond from the previous coupon date until the transaction date (15 days before LDR) and should therefore receive the coupon for this period. The pro rata coupon amount for this period will therefore be added to the clean price – the bond trades cum interest.**
4. **If a bond is bought 15 days after the LDR, the seller would have held the bond on the LDR and therefore will receive the full coupon on the next coupon payment date. The buyer will hold the bond from the transaction date (15 days after the LDR) until the next coupon payment date and should therefore receive the coupon for this period. The pro rata coupon amount for this period will therefore be subtracted from the clean price – the bond trades ex interest.**

**Explain how the price volatility of a bond will be affected by**

1. **the maturity of the bond**
2. **the level of the coupon rate on the bond.**
3. **The price volatility of a bond for a given change in yield rate *increases* as the maturity of the bond *increases*.**
4. **Price volatility of a bond also *increases* as the coupon rate *decreases*.**

**Describe the various types of bond issued by the South African government.**

* ***Fixed rate bonds* are bonds on which a fixed coupon rate is paid and most have a single redemption or maturity date. They can, however, also be of the *sinking fund variety* where the entire principal will not be repaid on one date, but according to a set schedule. No interest is payable after each redemption date on the amount of the bond that has been redeemed already, and new bonds with new loan numbers are issued for the residual amounts.**
* ***Zero-coupon bonds* are bonds that make only one cash payment, which is the nominal or principal amount, on the maturity date. These bonds are issued and traded at a (significant) discount, and are therefore, except for their long lifespan, similar to Treasury bills (TBs).**
* ***Inflation-linked bonds* are government bonds that will offer investors an inflation-protected investment opportunity by compensating holders for inflation. The capital value on these bonds is adjusted according to the current inflation rate. The coupon rate on such bonds is fixed and the coupon is calculated as a percentage of the capital value.**
* ***Variable-rate bonds* are bonds on which the coupon interest varies with some predetermined benchmark rate, for example the ruling effective interest rate on 91-day TBs.**
* ***Foreign currency bonds* are bonds issued in a foreign country in the currency of that country. They can be issued by means of private placement or by listing on a foreign bond exchange.**
* ***Strips* are formed when the interest payments and the principal payments on a standard coupon bond are split into separate instruments called strips. When a bond is stripped, each of these payments becomes an individual zero-coupon bond (a strip), which can be traded separately.**

**Discuss the corporate bond market in South Africa.**

**The market for corporate bonds in South Africa is smaller than the government bond market, but it has been growing substantially in recent years. Compared to the equity market, the corporate bond market is also small. In general, South African firms are underleveraged. Benefits attached to developing an effective corporate bond market include the following:**

* **Bond markets provide a reliable source of long-term debt financing to companies.**
* **Effective bond markets decrease the contagion effect when a certain bank or banks are in distress.**
* **Bond market financing diversifies the risk of the issuer because it is spread among many investors, and is not carried by only one bank, thus mitigating financial risk to the economy as a whole.**
* **To established firms, the cost of bond financing may be lower than that of banks.**
* **An effective secondary market in corporate bonds enhances the efficient allocation of financial resources.**
* **If bonds with a wide range of maturities are available, this enhances the establishment of effective derivatives market, enabling participants in the economy to hedge their risks effectively, thus promoting deeper markets.**

**Factors that affect the development of a corporate debt market would involve the following:**

**Supply factors**

* **The number and quality of the corporates in the economy that can issue marketable debt are important factors.**
* **It is also important that enough information is available on these companies so that they can be properly rated by trustworthy rating agencies.**
* **There must also be a need on the part of corporates for an alternative source of financing.**

**Demand factors**

* **There must be enough interested investors for a corporate bond market to develop. This demand will be affected by the level of saving in an economy, and by the particular preferences of the investors regarding liquidity and risk.**
* **If the government bond market is particularly large compared to the demand for investment vehicles, it is also likely that public debt will crowd out private debt.**
* **Regulatory factors may also affect the demand for corporate bonds – if institutional investors are required by law to invest a large part of their assets in corporate bond markets, or if the regulations influencing their risk profiles are particularly restrictive, this may dampen the interest of this sector in investing in corporate bonds.**
* **Interest by foreign investors in a particular economy will also influence the demand for corporate bonds.**

**Institutional factors**

**These are the cost of issuing bonds and the regulation involved with the procedure.**

**Development of the financial markets**

* **A well-developed banking sector, payment system and government debt market will all make it easier to establish a corporate debt market.**
* **An effective payment system will enhance the development of any financial market as it ensures an effective flow of funds between the different parties.**
* **A well-developed government debt market enhances the possibility of growing the corporate debt market as it provides a benchmark against which to measure new issues.**

**Explain the following terms relating to the bond market:**

1. **Securitisation**
2. **medium-term note programme**
3. **Catastrophe-linked bond**
4. ***Securitisation* is a process where untradable assets, such as bank loans or the cash flows from them, become tradable. Bonds are issued to provide the finance for such loans. (This topic is covered in more detail in Chapter 16.)**
5. **A *medium-term note programme* is a debt instrument that is offered to investors on a continuous basis without having to list each bond separately. The issuing company goes through the whole listing procedure once to list the medium-term note programme. The information contained in the listing statement and other documentation is kept up to date, and bonds may be offered regularly to investors. The advantage of medium-term note programmes is that they provide flexible access to the bond market and decrease the delays inherent in the listing procedure.**
6. ***Catastrophe-linked (CAT) bonds* may be issued to increase the capacity of the insurance industry by allowing investors from outside that industry to “underwrite” some of the risks faced by insurers and reinsurance companies.** **If the catastrophe does not occur during the lifespan of such a bond, the funds in the collateral account will be used to repay the bondholders at maturity. If the catastrophe does occur, funds from the collateral account will be disbursed to the issuer, and the special purpose institution (SPI) will not be able to make the full interest payments and/or the full payment of the principal at maturity.**