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**Euronext**

# Fixed Income Basics for Retail Investors

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# Investing in Bonds

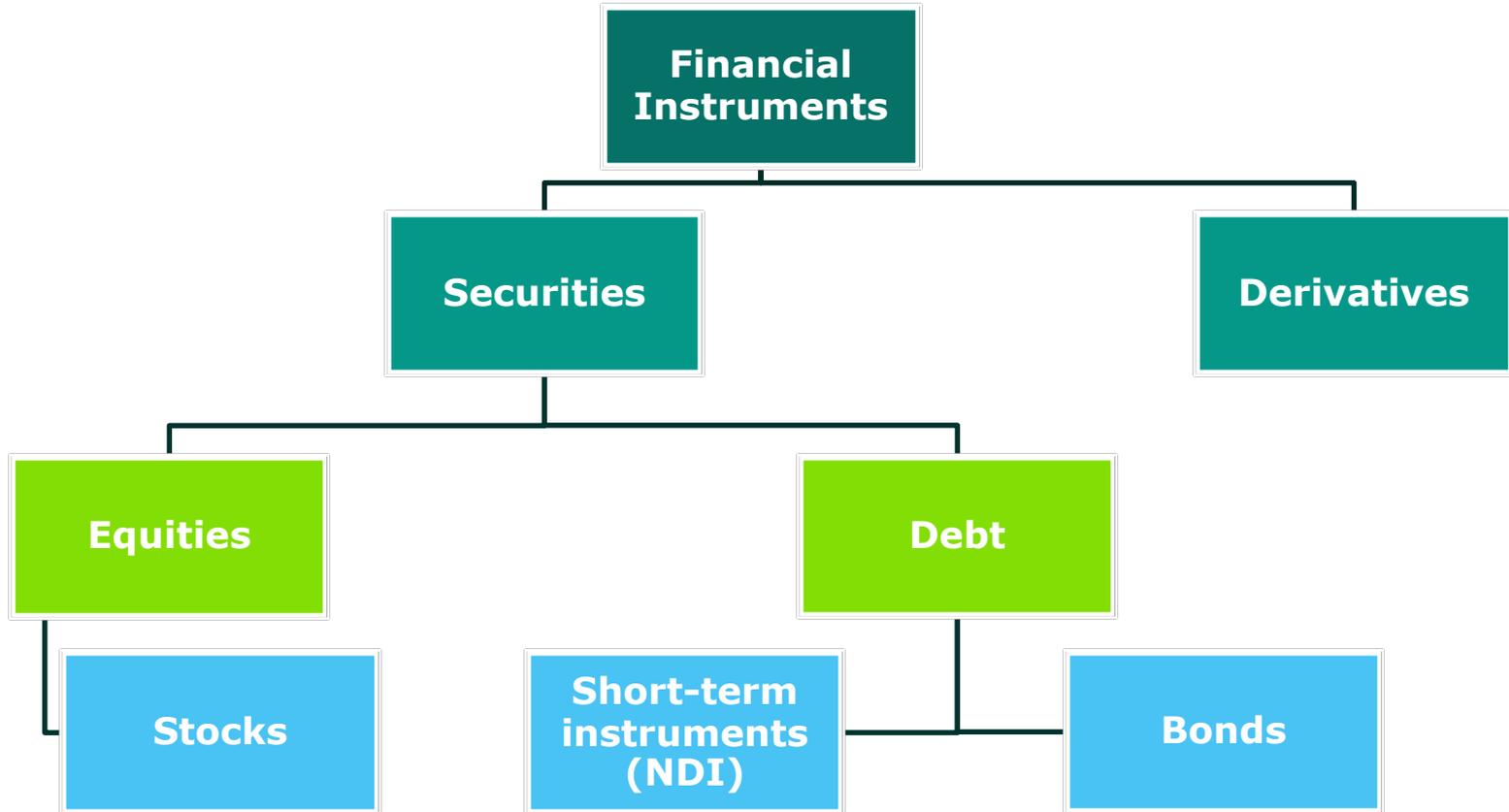
Presentation for individual (retail) investors  
Level: Intermediate

# What is a bond?

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# Overview of financial instruments



# What is a bond?

A bond is

- a financial security
- issued by a corporation, bank, state or other entity (local, national or supranational)
- representative of a fraction of a loan
- freely negotiable on the market

**A bond is a debt sold in the financial markets by an entity to finance itself through investors**

Payments\*  
are

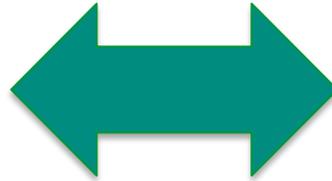
- fixed
- known in advance
- determined according to a predefined formula

\*coupons and redemption at maturity

# What is a bond? (continued)

## The issuer

- **Issues bonds** on the market to **finance its investments**
- **Pays interest** at regular intervals and **commits to repaying** the amount borrowed at maturity, in exchange for the loan made by the investor



## The investor

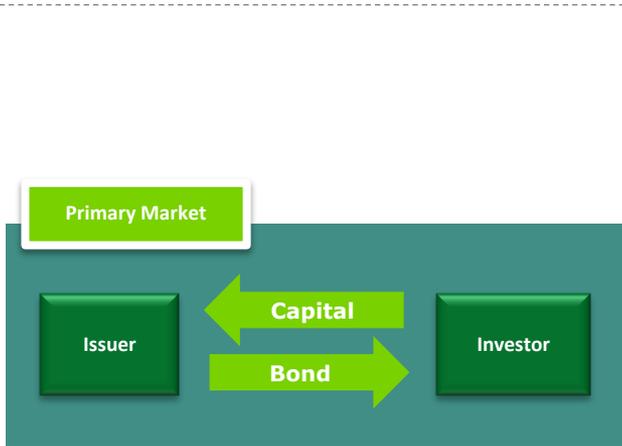
- **Lends** money to the issuer by purchasing the bond
- **Becomes a creditor** of the company that issued the bond
- **Receives** interest in return as well as the repayment of its investment

# The big picture of financial instruments

## How does one hold a bond?

A bond can be:

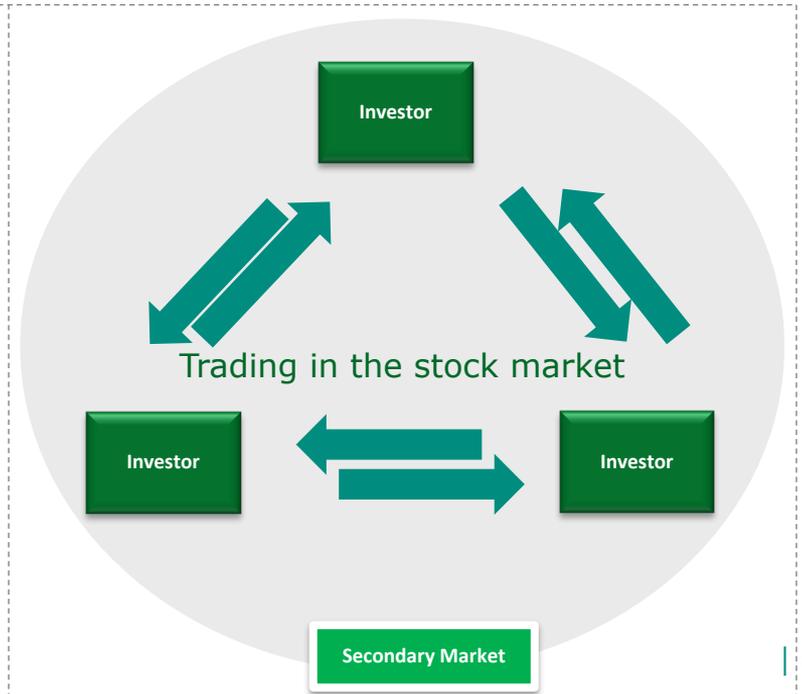
Subscribed to at issue in the primary market



Traded on the secondary market



The bond is brought to the secondary market by an investor who subscribed to the issue and decides to sell the security



# Characteristics of a bond

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# The differences between a stock and a bond

**A bond is a debt instrument, while a stock is an equity instrument representing ownership of a share of the capital of a company and conferring on its holder the status of owner**

- This legal distinction gives rise to differences in the rights attached to these two types of instruments

|                                     | <b>Bonds</b>                                  | <b>Stocks</b>                        |
|-------------------------------------|---|--------------------------------------|
| <b>Investor Profile</b>             | Lender  | Owner                                |
| <b>Legal definition</b>             | Debt security                                 | Owner                                |
| <b>Types income:</b>                | Interest                                      | Dividends                            |
| <b>Remuneration of securities</b>   | Fixed or Predictable (contractually defined)  | Random (tied to the business)        |
| <b>Repayment at maturity</b>        | Known in advance (except for perpetual bonds) | Only upon transfer of the securities |
| <b>Traded on the stock exchange</b> | Yes   | Yes                                  |



# Characteristics of a bond (continued)

The screenshot displays the Euronext bond details for **CASA2.50%22DEC2026**. The interface includes a header with the bond name and a green 'ACALH' badge. Below the header, market data shows a price of **% 110.29** with a change of **0.00** (0.00%) since the previous close. The bond is currently **CLOSED** as of 21/07/2021 at 16:22 CET. The best bid is 110.29 and the best ask is 110.75.

The main content area is divided into several sections:

- GENERAL INFORMATION:** Type: Bonds; Sub type: linear bonds (OLD); Market: Euronext Paris.
- ISSUER INFORMATION:** Issuer name: CREDIT AGRICOLE S.A.; Issuer Type: Other; Issuer country: FRA.
- TRADING CHARACTERISTICS:** First listing: 22/12/2016; Quantity notation: FMT; Price notation: In %; Trading Lot: 1000; Trading Group: 4C; Trading Type: Continuous; Tick size: Index 03; Trading Hours: Continuous 09:00 - 17:30, Continuous Oslo 09:00 - 16:00, Double auction 11:30 & 16:30 for bonds, Double auction Oslo 09:00 & 16:00, Double auction 12:00 & 17:00 for convertible bonds.
- CLASSIFICATION FINANCIAL INSTRUMENT:** CFI: DBFUFN; D = Debt Instruments; B = Bonds; F = Fixed maturity; U = Unsecured/unguaranteed; N = Bearer/Registered.
- INSTRUMENT INFORMATION:** Issue Price: 100.0; Total number: 469,453; Denomination: 1000.0; Repayment date: 22/12/2026; Repayment type: In fine.
- COUPON INFORMATION:** Interest Rate: 2.5%; Interest rate frequency: Quarterly.

Callouts from the image point to the following elements:

- Name of the bond:** Points to the bond title 'CASA2.50%22DEC2026'.
- Market data:** Points to the 'QUOTES' and 'CHARACTERISTICS' tabs.
- Issue price:** Points to the price '% 110.29'.
- Maturity date:** Points to the 'CLASSIFICATION FINANCIAL INSTRUMENT' section.
- ISIN code:** Points to the 'ACALH' badge.
- First listing date:** Points to the 'First listing' field in the 'TRADING CHARACTERISTICS' section.
- Coupon rate:** Points to the 'Interest Rate' field in the 'COUPON INFORMATION' section.
- Coupon frequency:** Points to the 'Interest rate frequency' field in the 'COUPON INFORMATION' section.

# The main types of bonds

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# Classification of bonds

## By type of issue

### Plain vanilla bonds

- Simple bonds: coupons pay a fixed rate for the duration of the loan (retail bonds are largely "plain vanilla" bonds)
  - Example: ABN AMRO BANK N.V., **XS0543370430** - AAB 3.5%SEP2022

### Zero coupon bonds

- Bonds that do not pay a coupon to the holder. They pay a one-time pre-determined amount at maturity
  - Example: The French government issue, **FR0011962497** - OAT0%1123

### Covered bonds

- Bonds whose repayment is secured by mortgages or receivables. The collateral is recorded on the balance sheet of the issuing company
  - Example: The issue SpareBank 1 Boligkreditt, **NO0010917487** - Spb 1 Boligkreditt AS 21/26 FRN COVD

### Convertible bonds

- Bonds that give the bearer, during the conversion period, the option to exchange the bond for one or more equity shares of the issuing company. It is a classic bond with a call option on the issuer's shares
  - Example: The issue of CARREFOUR, **FR0013326204** - CARROCZC27MAR24

# Classification of Bonds (continued)

## By type of issuer

### Different types of bond issuers

#### Government Borrowing (government bonds)

Bonds issued by the French government are called OATs (*Obligations Assimilables du Trésor*), that is, government bonds, or gilts.

Several types of OATs

##### Fixed rate OAT

**OATi**: the nominal value is indexed to the French consumer price index (excluding tobacco)

**OAT€i**: the nominal value is indexed to the harmonized consumer price index for the eurozone

**Zero-coupon OAT**: pays no annual coupon during the term of the loan and is redeemed at maturity

#### Corporate Bonds

Bonds issued by non-governmental entities. They generally offer a relatively higher return than government debt since credit and liquidity risk may be greater.

It is necessary to distinguish between

Corporate bonds, highly rated by the rating agencies (**investment grade bonds**)

High-yield corporate bonds, issued by companies with a high risk of default (**speculative grade bonds**)

# Classification of Bonds (continued)

## Plain Vanilla bonds

### Fixed rate bonds

**Fixed rate bonds** are bonds whose coupons pay a fixed rate for the duration of the loan. These are called **Classic bonds**

### Floating rate bonds

**Floating rate bonds** are bonds whose coupons are indexed to a reference rate but the redemption price at maturity is not indexed. The coupon is calculated mainly on money market rates or fixed rate notes (FRN) inflation indexed on EONIA; FRN indexed on EURIBOR 1, 3, 6 months; etc.

## Structured Bonds

### Indexed bonds

**Indexed bonds** are bonds whose coupons or principal, or both, are pegged to an ever-changing index determined at the time the bond is issued

### Structured bonds

**Structured bonds** are bonds with an optional coupon structure and/or with a redemption at maturity pegged to the performance of a security or a basket of securities.

# Risks associated with bonds

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# Risks associated with bonds

- **Credit risk**

- This is the risk that the issuer will default on its obligation to pay interest and repay the amount borrowed on time
  - Default risk, credit spread risk, credit rating risk - risk that the rating agencies downgrade the issuer's long-term credit rating
- The lower the issuer's rating, the higher the credit risk and vice versa
  - The investment grade category corresponds to AAA - BBB, the speculative grade category ranges from BB - to D

| STANDARD & POOR'S | MOODY'S | FITCH |
|-------------------|---------|-------|
| AAA               | Aaa     | AAA   |
| AA                | Aa      | AA    |
| A                 | A       | A     |
| BBB               | Bbb     | BBB   |
| BB                | Bb      | BB    |
| B                 | B       | B     |
| CCC               | Ccc     | CCC   |
| CC                | Cc      | CC    |
| CC                | C       | C     |

**Investment Grade**  
Issuers with low default risk

**Speculative Grade**  
Issuers with high default risk

# Risks associated with bonds (continued)

## Interest rate risk

- The price of a bond and interest rates are inversely related

Market interest rate  Bond market value 

Market interest rate  Bond market value 

Interest rate risk is not correlated with the issuer's performance. It depends solely on changing interest rates.

# Analysis of a bond

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# How does one analyse a bond?

## Investment decision-making process:

1. **Establish an investment horizon** (which will determine the maturity date of the bond)
2. **Develop a risk profile** (analyze the risks associated with holding the bond)
3. **Formulate pricing parameters**



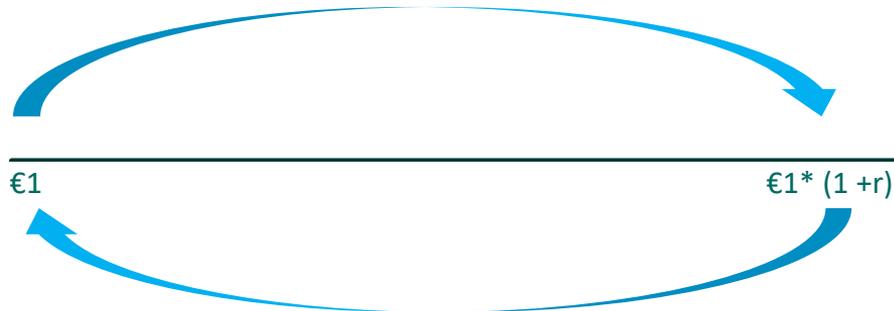
# Focus on pricing - Bond yield

## The notion of discounting: a key concept in finance

- The concept of discounting **takes time** into account in the valuation of an asset

The principle: €1 received today is worth more than €1 received in the future

- The rate of return is  $r$ :
  - Taking  $r$  into account, in one year, €1 will be worth €1 x (1 +  $r$ ). This is called the principle of capitalization
  - Conversely, if I know with certainty, that I am going to receive €1 in a year, the value of the amount I will receive is €1 / (1 +  $r$ )
- The actuarial value of an asset is the discounted sum of the future cash flows it will generate over time



# Focus on Pricing - Calculating the price of a bond

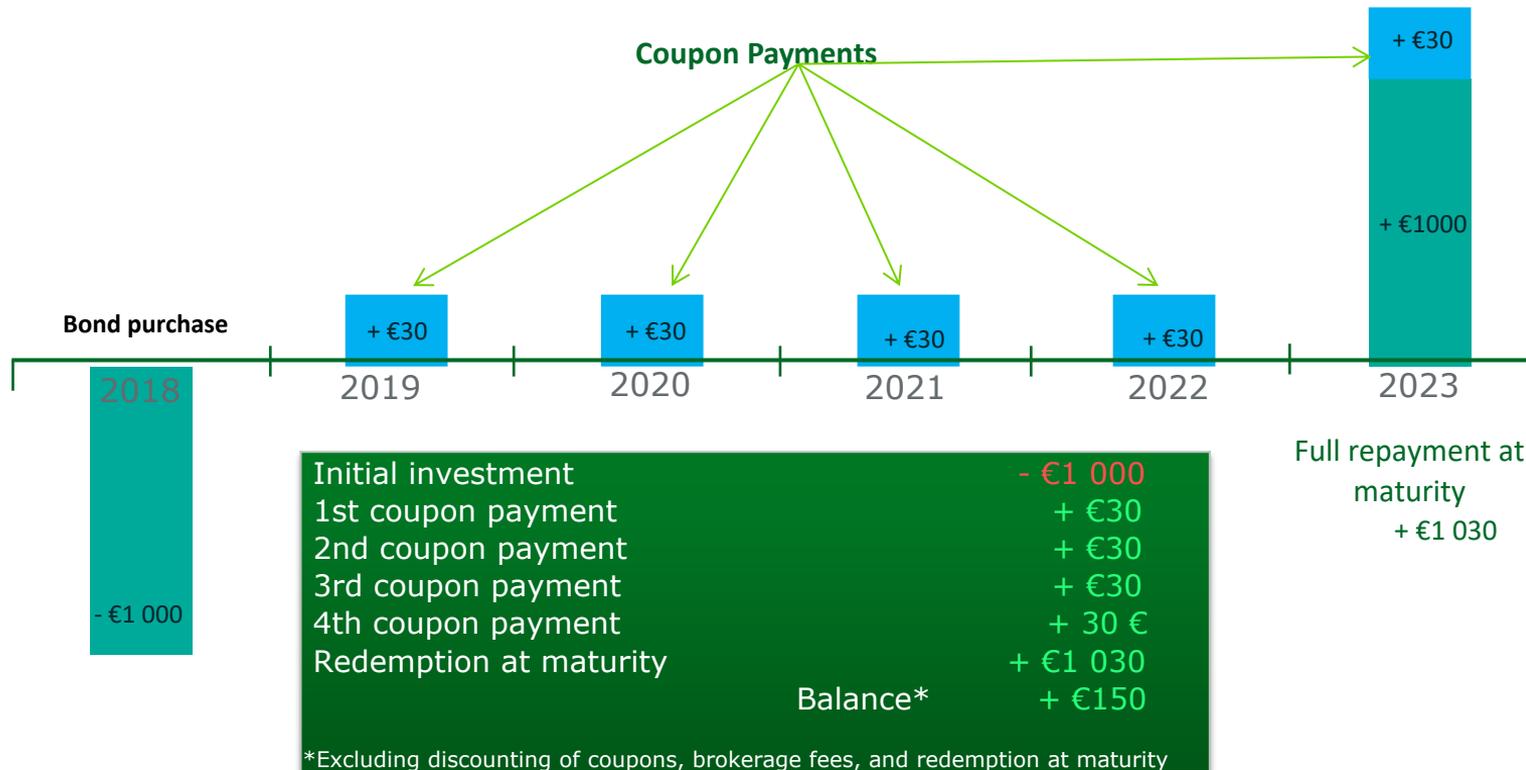
## ➤ Discounting cash flows

$$P_0 = \sum_{t=1}^T \frac{CF_t}{(1 + YTM)^t}$$

- $P_0$ : price of the bond at time 0
- $T$ : number of years
- $CF_t$ : cash flow paid in  $t$
- $YTM$ : Yield to Maturity (YTM provides an indication of the actual return on investment)

# The yield on a bond

## The structure of payments



# Additional information

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# Environmental, Social and Governance investing

**ESG investing** means investing in the bonds of a company that respects certain environmental, social and governance criteria.

This strategy aims to evaluate not only classic financial criteria, but also the behavior and actions of an economic player from an environmental, social and governance perspective before embarking on an investment.

**Green Bonds** are a type of fixed income instrument that has been issued solely to finance or refinance new and existing green projects. Green projects can include renewable energy, sustainable resource use, conservation, clean transportation and climate change adaptation.

# MiFID II regulation

- ❑ MiFID comprises Markets in Financial Instruments Directive (MiFID) and Markets in Financial Instruments Regulation (MiFIR). MiFID II represents a new European legislative framework which came into force on 3 January 2018.
- ❑ Its objective is to improve the security, transparency and functioning of the financial markets, as well as to strengthen protection of investors.
- ❑ In particular, it introduces a pre- and post-trade transparency system for bonds and a broadening of the scope of information that investment firms must provide to clients.

# Conclusion

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# Why invest in bonds?

## The advantages of bond investing

### Diversification

- Bonds have greater predictability of income distribution and more stable prices than stocks
- The main determinants affecting bond prices are not necessarily those that predominate in formulating the price of other assets
- Risk diversification: the investor is not exposed to the same type of risk

### Predictability of performance

- In the case of a fixed-rate bond, the interest and repayment at maturity are fixed and known in advance

### Transparency and monitoring of credit risk

- The credit agencies regularly monitor issuer risk

### A wide variety of securities adapted to various strategies

**Investing in bonds means helping companies, states, regions and municipalities to finance development. This funding is even more essential in times of crisis.**

# How does one invest in bonds?

- As a retail investor, **you do not qualify to be a direct member of** a Stock Exchange.
  - Nevertheless, **you can easily access bonds listed on the market** through your online-broker or your bank.
- 
- Because your broker or bank is **a professional firm allowed to access** to Stock Exchanges and other platforms.
  - For example, **Interactive Brokers** is a member of Euronext markets and **intermediates Retail investors** wishing to buy or sell bonds on this market.

# Questions

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