Bonds & Bond Markets

A guide for retail investors

EURONEXT

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01 What is a bond?

Definition

A bond is a debt security that can be traded freely on the open market and represents part of a loan.

When an investor decides to invest in a bond, they become a creditor to the bond issuing company. In exchange, they receive remuneration as well as repayment of the nominal amount at maturity.

Governments, banks, and large companies are the primary issuers on the bond market. Retail investors trade on the secondary market, either directly, through a financial intermediary (e.g., bank, broker, or online broker), or indirectly, through schemes like the OPCVM* French investment fund, for example.

* OPCVM (Organisme de Placement Collectif en Valeurs Mobilières) / UCITS: Undertaking for Collective Investment in Transferable Securities

The difference between shares and bonds

A bond is a debt instrument, while a share is an instrument of ownership that represents a share of capital and confers the status of shareholder onto its holder.

This legal distinction is central to the different rights attached to these two types of financial instruments.

Unlike shares, where the dividends paid are dependent on an issuer's finacial results, any interest due on bond investments is set out in advance in an agreement. The same goes for the recovery of invested capital. With shares, this only takes place in the event of a share transfer and at a value that is not predetermined.

Both shares and bonds are tradable on the Stock Exchange, giving investors the opportunity to buy and sell their securities freely on the open market.

The table summarises these points:

	Bonds	Shares
Investor status	Lender	Shareholder
Legal definition	Debt instrument	Instrument of ownership
Revenue type	Interest	Dividends
Return on securities	Predictable	Uncertain (linked to performance)
Payment schedule	Yes (apart from perpetual bonds)	If there is a share transfer
Tradable on the stock market	Yes	Yes

Main characteristics of bonds

Before investing in bonds, it is important to understand their main characteristics to be able to evaluate their features and risks.

A bond prospectus specifies this information for each bond issue*. This information is also listed on our website: live.euronext.com/en/products/fixed-income/list.

Nominal rate: the nominal (or coupon) rate is set when the bond is issued and serves as the basis for periodic interest calculations. It can be fixed or variable. Where a bond has a variable (or floating) rate, the benchmark rate to be used to calculate coupons is set at the time of issue. The applicable interest rate is calculated for each period, taking into account any changes in the benchmark rate.

Nominal value: the nominal (face or par) value is the amount used as a basis for coupon calculations. Depending on the type of investors a bond is intended for, the issuer may choose a higher or lower nominal value.

Coupon: the coupon is the interest the issuer pays the bondholder. Coupon payments may be made on a quarterly, semi-annual, or annual basis. An annual coupon is calculated by multiplying a bond's coupon rate by its face value. The interest accrual date is the initial date used to calculate coupon to be paid on first coupon date. It may fall prior to or after the subscription date, in which cases it will increase or decrease the first coupon payment. After the initial coupon period, coupon is calculated using the coupon dates.

Issue price: the issue price is the price paid by the bond subscriber on issue. It may differ from the nominal value. When the issue price is the same as the nominal value, it is said to have been issued 'at par'. Subscribers benefit from an issue premium when the issue price is less than the nominal value.

Redemption value: the redemption value is the price paid to the bondholder as repayment of the capital lent initially. It may be higher than the nominal value, in which case the bondholder will benefit from a redemption premium. Similarly it may be lower than the nominal value, in which the bondholder will receive less than face value.

Maturity date or due date: the bond prospectus states the duration of the loan and its maturity date. Some bonds include specific early redemption clauses. There are perpetual bonds that do not have a maturity date, for which investors receive an annual coupon.

Yield to maturity or redemption yield: this can be calculated at any time. The yield to maturity is the internal rate of return should the bondholder hold the bond until it matures. It is calculated from the number of coupon payments, their value, and the difference between the current market price of the bond and the redemption value of the capital on maturity.

Remaining time to maturity: the residual maturity of a loan is the time remaining until the due date.

*Companies must publish a bond prospectus prior to a bond issue for public information.

Methods of repayment and amortisation/depreciation: There are several ways that capital lent through a bond can be repaid:

- For bullet bonds, the capital is repaid in one lump sum at maturity. This is the most common repayment method on the bond markets.
- Repayment through amortisation occurs over the life of the bond. A portion of each payment is allocated to repayment of the initial capital. Holders whose bonds are drawn prior to the due date have had all their capital repaid.
- Annuities. The issuer pays a fixed amount each period, and the amount allocated to the repayment of capital progressively increases over the lifetime of the loan.
- Finally there are zero-coupon bonds. These carry no coupon, but are issued at a discount. This discount corresponds to a “coupon” when the bond is repaid on maturity.

02 Why invest in bonds?

Advantages of listing/trading bonds

DIVERSIFICATION

Bonds are an ideal diversification tool for investors. There are a number of reasons why investing in bonds can complement other investment assets in a portfolio:

- bonds are more predictable in terms of yield and more stable than shares,
- the principal determining factors that affect the price of bonds are not necessarily the same as those governing the price of other assets. Portfolio diversification across different asset types means losses in one area can be compensated by a rise in the value of another,
- the main risks of investing in bonds can differ from those of other investments. This enables investors to avoid being overly exposed to the same kind of risk.

PREDICTABLE RETURNS

When investing in a fixed-rate bond, the interest and the repayment at maturity are known in advance. Investors know the yield to maturity when the security is purchased.

TRANSPARENCY AND MONITORING CREDIT RISK

Ratings published by credit agencies, along with the return rate requested by the market for a given issuer, allow investors to evaluate credit risk. Also, credit agencies periodically review their ratings, so issuers' credit risk can be monitored.

However, other factors particular to the sector and organisation must also be taken into account for a full analysis. Agency ratings do not provide any information on the potentially profitable growth of a company, so do not constitute investment advice. They simply provide information in terms of the solvency of an issuer.

AVAILABLE INFORMATION

Information about the instruments listed on Euronext is available on our website and on the issuer's website. The issuer also distributes the bond prospectus.

DIFFERENT SECURITIES TO SUIT DIFFERENT STRATEGIES

Thanks to the wide variety of issuers, yields, maturities and redemption options, bonds allow investors to develop a portfolio that suits their strategy and risk profile.

The more predictable, less risky nature of bonds makes them a good choice for investors who want to diversify their portfolios. Depending on the risk profile of their portfolio, any bonds they hold may exert a greater or lesser influence. Please bear in mind that, although the main characteristics of a bond issue are known in advance, this type of investment is not entirely without risk.

03 Risks associated with bonds

Risk of inflation

Inflation has a negative effect on a bond's return. If inflation is high, revenues received from a fixed rate issue and the repayment of the nominal value at maturity risk depreciation over time. So, it is important to think in terms of the real interest rate. This is a simple way of calculating the real interest rate:

Real interest rate = Nominal interest rate – Inflation rate

To manage the risk of inflation, it is possible to invest in bonds such as OATis (fixed-rate bonds indexed on inflation), issued by the French government. Their principal is indexed on a daily reference rate related to the French consumer price index. So, coupons follow the general price level, as does the nominal value at maturity.

INTEREST RATE RISK

The value of a fixed rate bond is not stable over time and depends on general interest rates. When market interest rates increase, new investment opportunities arise at more competitive rates. The value of the bond will subsequently decrease, so the bond yield levels with that of new issues. Inversely, when the market interest rates decrease, the value of fixed-rate bonds increases.

In adverse market conditions, the loss of capital on the amount invested will only occur in the case of a transfer of securities. When an investor holds fixed-rate bonds to maturity, the return offered by the investment is equal to the yield to maturity. One way of managing interest rate risk is to invest in variable coupon rate bonds.

Market interest rate ↑ Bond market value ↓

Market interest rate ↓ Bond market value ↑

CREDIT RISK

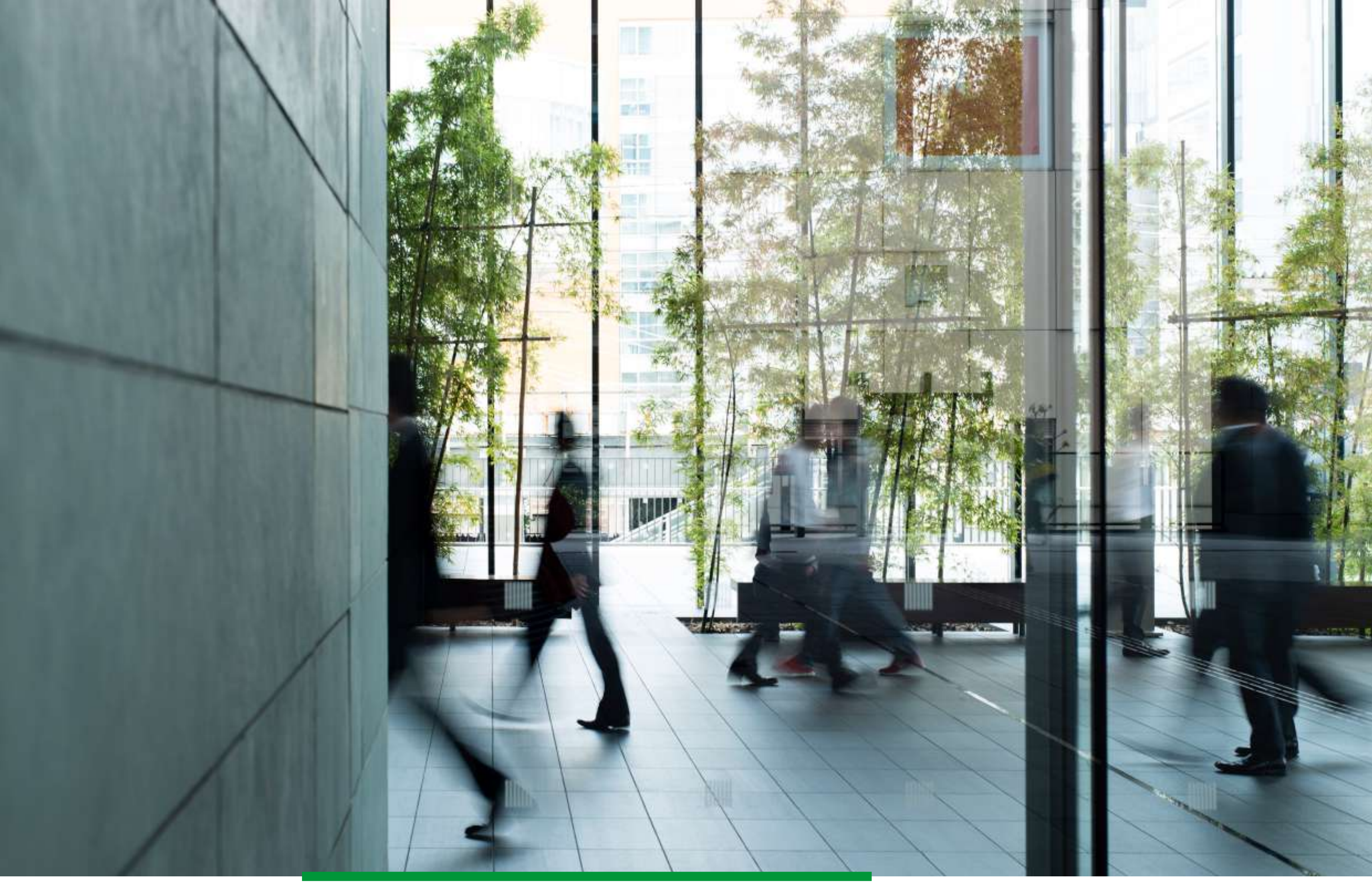
Credit or default risk is when an issuer finds themselves unable to pay interest and/or the capital at maturity. It is difficult for investors to evaluate this kind of risk, so specialised businesses and rating agencies publish lists to give an insight into the capacity of issuers to meet their obligations.

For mid to long term operations, S&P (Standard & Poor's) and Fitch ratings run from AAA to C, and Moody's from Aaa to C. The higher the rating (i.e., the closer to AAA) the lower the credit risk. Bonds with BBB ratings or above are known as Investment Grade bonds. Bonds rated lower than this are known as Speculative Grade investments. Below is a table showing the ratings used by Standard & Poor's, Moody's, and Fitch*:

STANDARD & POOR'S	MOODY'S	FITCH	
AAA	Aaa	AAA	**Investment Grade** Issuers with low default risk
AA	Aa	AA	
A	A	A	
BBB	Bbb	BBB	
BB	Bb	BB	**Speculative Grade** Issuers with high default risk
B	B	B	
CCC	Ccc	CCC	
CC	Cc	CC	
CC	C	C	

The rating given to a bond issue may differ from that given to an issuer for a number of reasons including bond type and external guarantees, etc.

An issuer's rating is not stable over time and can vary if its economic and financial situation worsens. The interest rate paid by a bond will be higher or lower according to the issuer's creditworthiness. The lower the rating, the higher the interest rate offered will be. Similarly, change in rating during the life of a bond, will influence the premium/discount that the bond is traded at in the market.



LIQUIDITY RISK

On a financial market, the liquidity of an asset is the ability of an investor to buy or sell that asset without having to pay a premium or discount their price due to large numbers of investors. When you invest in bonds, you are not guaranteed to be able to resell your securities in favourable conditions.

To remedy this, some issuers with bonds listed on Euronext enter into Market Making Agreements with one or a number of financial institutions. These institutions commit to continuously offer buying and/or selling prices to ensure daily liquidity of the bonds on the regulated market.

04 Different types of bonds

There are many different types of bonds that allow investors to develop a portfolio that suits their needs. The redemption/risk profile of a security depends on the issuer type.

Types of issuers

Bonds are often categorised according to their issuer type. There are supranational organisations, governments, state-owned businesses, private businesses, and semi-public businesses. These classifications give an initial indication of the creditworthiness of the issuer.

GOVERNMENT BONDS

Governments enjoy a relatively high credit rating. The French government issues long-term bonds called OATs *(Obligations Assimilables du Trésor)*.

Other governments such as the Netherlands, Portugal, Belgium, Norway, Italy, Ireland, Austria, and Argentina also issue bonds which are listed on Euronext.

CORPORATE BONDS

Businesses can use the market for medium to long term finance by issuing bonds. Business bonds generally offer returns that are higher than government-issued bonds. Some financial instruments issued by public entities or businesses in good financial health benefit from a higher rating. Businesses also issue high yield bonds with a higher risk of default. These businesses may be in financial difficulty with a downgraded rating, young businesses, or businesses undergoing an LBO*. These riskier bonds require comprehensive financial knowledge. Between these two extremes, there are many different yields and issuers, so investors can locate opportunities that suit their risk profile.

* LBO (leveraged buy-out) is a business acquisition type with a leveraging effect.

05 Bond Yields

Different to the nominal rate listed in the bond prospectus, the yield to maturity gives investors a better idea of the return on their investment.

The definition of the yield to maturity, which may appear quite complex, uses a central concept in finance - that of time value of money. This discounting concept allows time to be taken into account when evaluating an asset.

€1 today will be worth, taking investment return rate t of one year into account, €1 x(1+r) in one year (discounting principle). On the other hand, if I am certain of receiving €1 in one year, the equivalent amount to this sum is worth €1 /(1+r) today. In finance, the current value of an asset is the discounted sum of the future cash flows it will generate over time. If the market value of a security is lower than its present value, it indicates that the investor expects the security to return more than their initial investment.

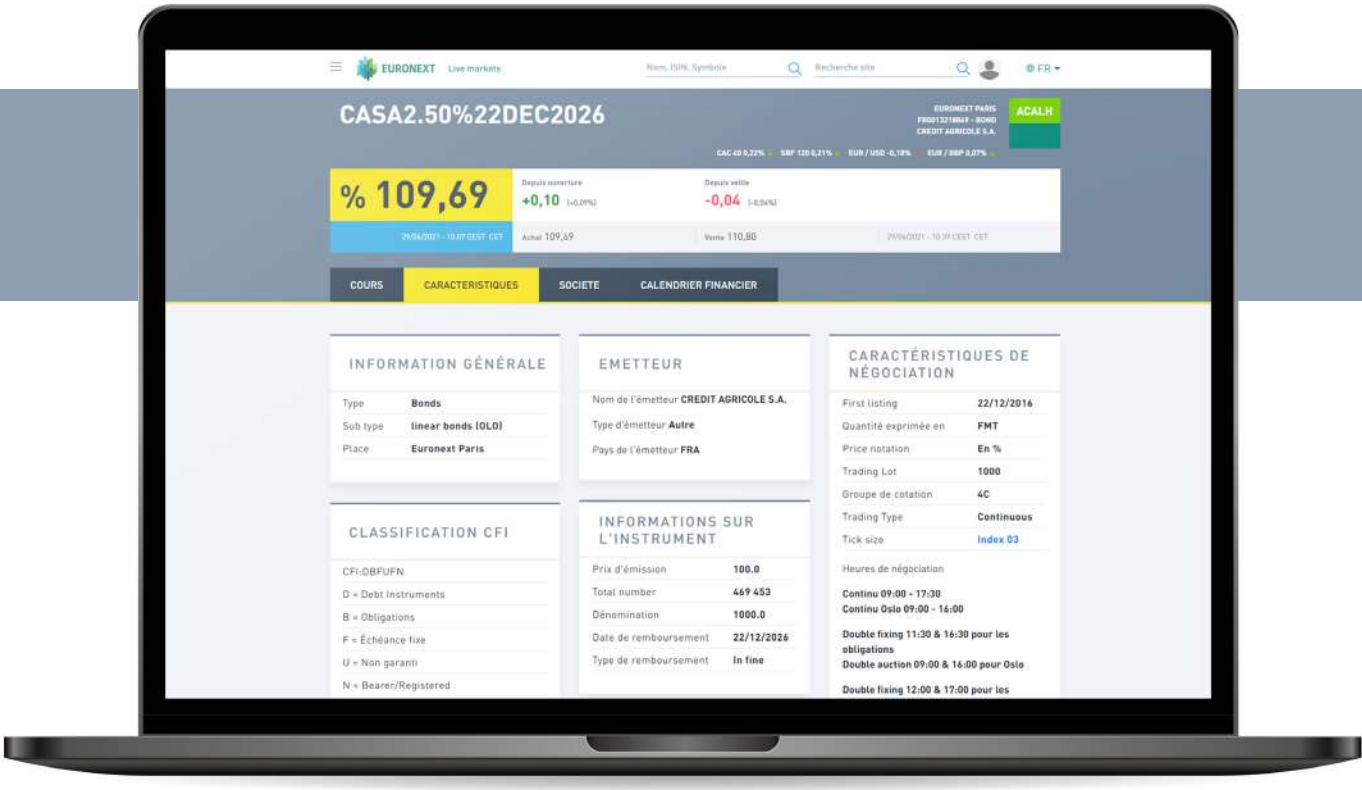
In an example, a bond with nominal N and a 10-year maturity. We call C1 the coupon paid the first year, C2, that paid in the second year, C3 in the third year and r is the required rate of return. The net present value of the bond is:

$$\textbf{Net present Value} = \frac{C1}{(1+r)} + \frac{C2}{(1+r)^2} + \frac{C3}{(1+r)^3} + \cdots + \frac{C10+N}{(1+r)^{10}}$$

The bond yield rate is the rate at which the amount invested (the issue or purchase price) levels with the current value of the bond's future cash flow.

06 Reading a bond listing on Euronext

On live.euronext.com, investors can find all the characteristics of the bonds admitted to negotiation, such as CREDIT AGRICOLE S.A. loan to private individuals issued on 22 December 2016 for an amount of €469 million. To do this, click on the search field at the top of the screen and enter the name of the issuer (CREDIT AGRICOLE S.A.) or the ISIN code (FR0013218849). After clicking on the security of their choice, investors can find the following information under the Characteristics tab.



Screenshot of website live.euronext.com/en/product/bonds/FR0012891992-XPAR/market-information

Essential details provided include:

- ISIN code (in this case, FR0013218849), which identifies the financial instrument so it can be easily located on our site using the search facility on the home page.
- Issuer name.
- The rating allows you to check the issuer's credit rating. However, some issued bonds can benefit from a different rating compared to the one of their issuers. For CREDIT AGRICOLE S.A., the bond prospectus indicates that the issuance has not been subject to a rating request.
- The issue price corresponds to the initial subscription price. In the case of CREDIT AGRICOLE S.A., the issuance was at par, i.e., at the nominal value (100%). An investor looking to buy bonds must pay 100%*1000=1000 Euro.
- The nominal rate allows the investor to predict the coupon they will receive periodically. Here it is a fixed rate bond of 2.5% with a coupon of 2.5%/4 x 1000, meaning €6.25 every three months or €25 annually. **Calculating the coupon involves the nominal value, interest type and coupon frequency.**

Screenshot of website live.euronext.com/en/product/bonds/FR0012891992-XPAR

PRICE

Most financial instruments on Euronext are quoted as a percentage of par and the price is presented in relation to the nominal value of the bond. So, on 29/06/2021 at 10:57 am, the CREDIT AGRICOLE S.A. bond is quoted at 109.69 %, which corresponds to a price of 109.69% x 1000 = €1096.9. However, this does not correspond to the actual purchase price, as bonds have a 'clean' price, so accrued interest is not included in the quote.

An investor interested in buying the CREDIT AGRICOLE S.A. bond on this date also needs to redeem to the seller of the bond the portion of the coupon corresponding to the accumulated interest between the last coupon date and the settlement date. In this example, the accrued coupon is 0.049 %. The buyer pays a total of (109.69% + 0.049%*) x 1000 meaning €1097.4.

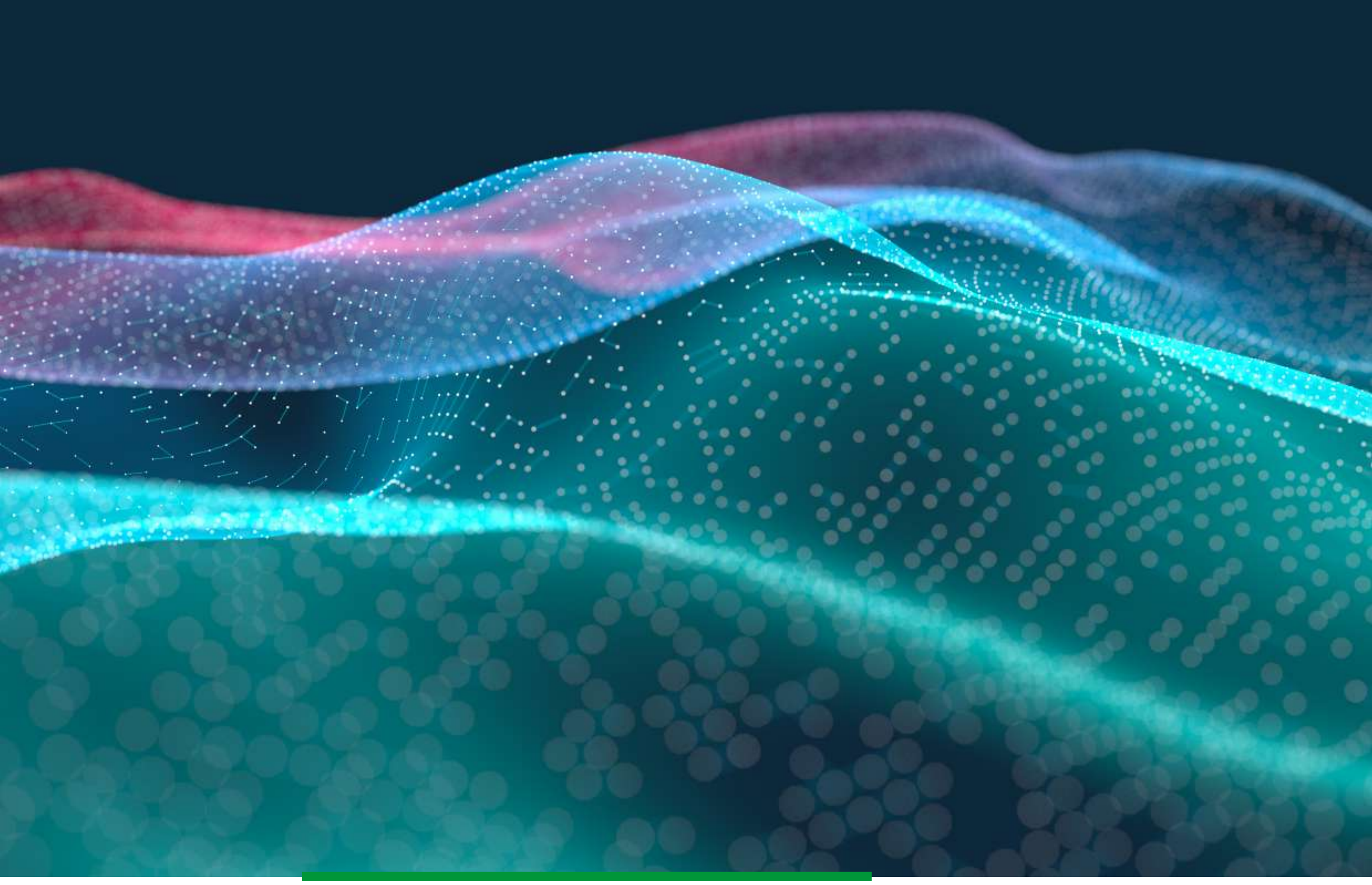
* the market convention 360 was used for calculation, it is referred to in the prospectus

07 Environmental, Social and Governance (ESG) Investment

Environment, Social and Governance (ESG) investing involves investing in bonds issued by a company that respect certain environmental, social and governance criteria.

It is an approach that goes beyond the usual decision-making based solely on financial criteria as it considers the behaviour and approach of economic agents in relation to ESG concerns before committing to an investment.

Green bonds are part of ESG investments. They are a type of fixed income security issued only to finance or refinance new and/or existing sustainability projects. Green projects can include renewable energy, sustainable use of resources, conservation, clean transport, and climate change adaptation.



08 MiFID II regulations

The Markets in Financial Instruments Directive (MiFID) and Markets in Financial Instruments Regulation (MiFIR) together make up MiFID II. This new European legislative framework came into force on 3 January 2018.

Its aim is to improve the security, transparency, and efficiency of the financial markets and to facilitate better protection of investors.

A new pre-and post-trade transparency regime for bonds means an increase in the amount of information that investment companies make available to clients.

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Contact

For more information on buying and selling bonds, please contact your financial intermediary or get in touch at **live.euronext.com**
