



**INVESTING**  
A GUIDE FOR  
INVESTORS



**SPUERKEESS**

Äert Liewen. Är Bank.

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# INVESTING

## A GUIDE FOR INVESTORS

When it comes to transactions in financial instruments, it is impossible to generate a financial gain without the risk of suffering a loss. Investors must make informed investment decisions based on knowledge of the products, their characteristics and their inherent risks.

This document is intended to provide you with information to help you better understand the main types of financial products that Banque et Caisse d'Épargne de l'État, Luxembourg (the "Bank") most commonly offers its customers. A particular emphasis is placed on the risks that may be associated with these financial instruments.

Our branch network advisors and Private Banking experts are, of course, available to provide you with additional information about any financial products or instruments.

**For all the technical terms used in this brochure, please see the glossary on page 33.**



## PART I: THE PRINCIPLES OF INVESTMENT

### Know your category

Before providing you with an investment service, the Bank is required to categorise you as a retail or professional customer.

You will typically be included in the “retail customer” category, which includes the majority of individual investors.

As a retail customer, you receive the highest level of protection.

More protection is given to retail investors, who have less investment knowledge and experience, than to professional investors, who have more investment knowledge and experience.

Under certain specific circumstances, you may be treated as a professional customer, in particular if you would like to access certain products that are not available to retail customers.

Professional customers are customers that have the experience, knowledge and expertise required to make their own investment decisions and properly assess the risks involved.

The Bank will only switch you to the “professional customer” category after conducting an assessment. The purpose of this assessment of your expertise, experience and knowledge of the nature of the transactions or services envisaged is to determine whether you are able to make investment decisions and understand the risks involved.

The Bank will categorise you as a professional customer only if you meet at least two of the following conditions:

- you have carried out large-scale transactions on the relevant market at an average frequency of 10 per quarter over the previous four quarters;
- your financial instrument portfolio (including bank deposits and financial instruments) exceeds EUR 500.000;
- you work or have worked in the financial sector for at least one year in a professional position that requires knowledge of the transactions or services envisaged.

You will therefore receive a lower level of protection than that provided to retail customers:

- with respect to investment advice, the Bank is entitled to assume that you are able financially to bear any related investment risks, in view of your investment objectives;
- with respect to other investment services, our institution will not be required to assess the appropriateness of the investment products and services that you request or that we offer;
- with respect to the provision of information, the applicable requirements are not as strict as those applicable to retail customers (the degree of detail of the information about the nature of financial instruments and the risks associated with investing in them, of the information included in certain disclosure reports, and of the information about the safeguarding of financial instruments may vary depending on the category to which the customer belongs, etc.);
- with respect to executing transactions under the most favourable conditions, where the criteria determining the importance of the factors taken into account may vary depending on the category to which the customer belongs.

## Understand your investment needs

The Bank's investment services include the following:

- investment advice, which means the provision of personal recommendations in respect of one or more transactions relating to financial instruments;
- portfolio management, which means managing portfolios in accordance with mandates given by clients on a discretionary client-by-client basis where such portfolios include one or more financial instruments;
- reception, transmission and execution of orders on behalf of the client, in relation to one or more financial instruments.

### Investment advice

When you request investment advice, you are relying more heavily on the Bank. The Bank therefore needs to understand your needs and your individual circumstances to be able to recommend the right financial instruments for you.

An investor profile is created by asking you about your investment objectives, including your risk tolerance; your financial situation, including your ability to sustain losses; and your investment knowledge and experience in the investment field.

If the Bank does not, or cannot, obtain the necessary information, then it cannot make a recommendation.

### Portfolio management

With this service, you entrust the management of your portfolio to the Bank, which will make investment decisions in your name. The Bank creates an investor profile, just as it does for the investment advice service. If you do not provide the necessary information, the Bank will not be able to provide its portfolio management service. Not providing enough information will therefore affect the nature of the services that the Bank will be entitled to provide to you.

### Reception, transmission and execution of orders on behalf of clients

If you do not request investment advice or portfolio management services, you take responsibility for your own investment decisions.

If you simply give the Bank an order to buy or sell a financial instrument, you receive a different set of protections.

An appropriateness test is carried out with the aim of protecting investors who may not understand or not be aware of the implications of and level of risk involved in a transaction, in particular when the products are complex (products designed for informed investors who are aware of the significant risks associated with these products).

As part of the appropriateness test, you will be asked questions about your investment knowledge and experience:

- if the Bank concludes that you have the necessary knowledge and experience to understand the risks involved, it will simply execute the transaction;
- if the Bank concludes that you do not have the necessary knowledge and experience, or if you have not supplied enough information to enable it to form an opinion, then you will receive a warning from the Bank saying that either the proposed transaction is not appropriate or that the information is not enough to enable it to determine appropriateness;
- if you insist that the transaction be executed, you must accept the risk.

The appropriateness test does not apply to the purchase of non-complex financial instruments. The Bank does not express an opinion on the transaction and it is therefore up to you to decide whether it is appropriate.

### Your investor profile and your investment horizon

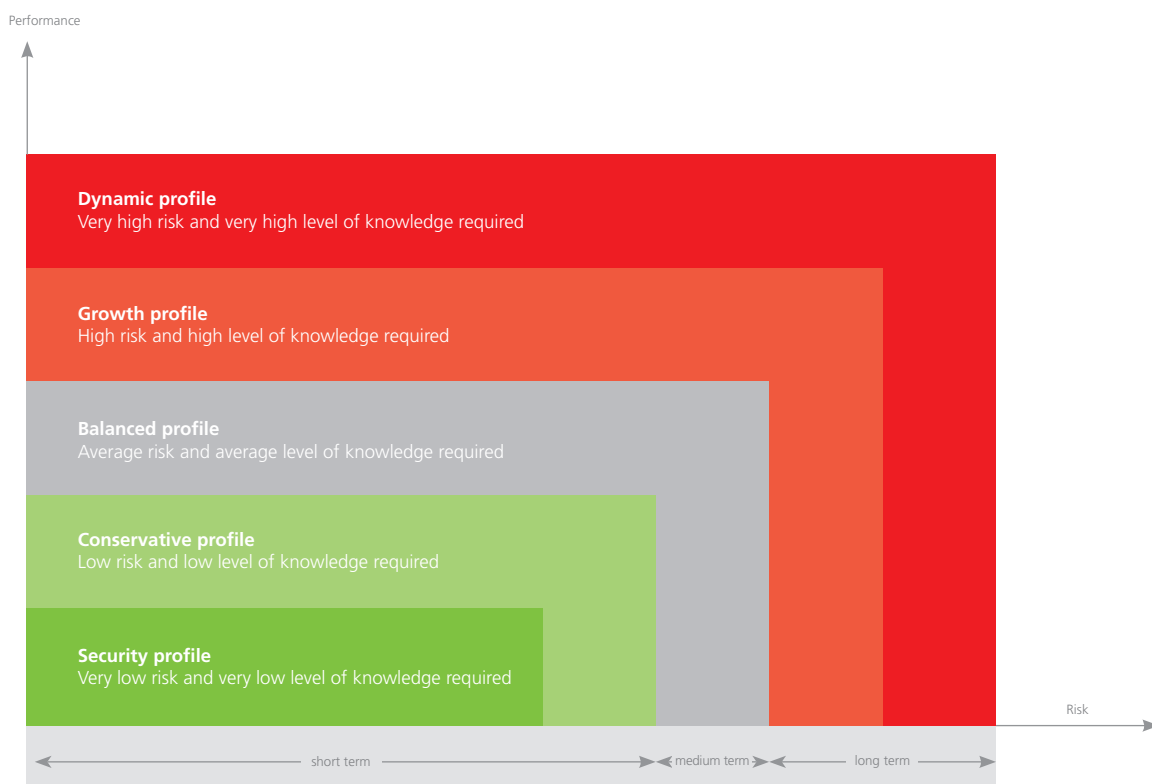
A thorough understanding of your investor profile is a prerequisite for determining the type of investment best suited to your **risk** sensitivity and **performance** objectives. All forms of investment are characterised by a risk and an expected return. The higher the risk, the higher the expected return.

The Bank uses your investor profile to determine which standard profile will suit you the best and will, in particular, ensure consistency in the recommendations proposed or the portfolio management performed by the Bank when providing the relevant investment service.

Based on this information, the Bank defines your target market. The notion of target market is a concept which requires product manufacturers to specify for each financial instrument produced what type of investor it is intended for. In its capacity as distributor of financial instruments, the Bank is tasked with verifying that the target market for each financial instrument matches your investor profile.

The Bank regularly reviews your financial instrument portfolio to determine whether it still matches your investor profile and whether the planned distribution strategy remains appropriate.

The **investment horizon** is also a determining factor in the type of investment that you select. A short-term investment, defined as one held for one or two years, should not involve a volatile product, as you run the risk of having to sell the instrument in an adverse market.



### **Diversify your investments**

It is not advisable to invest in just a small number of positions due to the specific risk arising from a concentration in a single security. To reduce this risk, you should diversify your investments. In other words, it is preferable to invest in several asset classes (bonds, equities and alternative instruments). A portfolio is considered diversified if it consists of equities, bonds and cash, whether directly or indirectly through investment funds. When you invest directly, modern management theory suggests it is advisable to hold a minimum of 20 different individual positions, with the issuers of these securities preferably from different economic sectors.

### **Spread your investments over time**

Due to significant and unforeseeable price fluctuations on the financial markets, it is difficult to find the best time to buy or sell on the stock exchange. This problem can be addressed by not investing everything at the same time and by spreading your investments over several periods.

### **Find the right number of stocks**

Investing small amounts in a large number of stocks increases transaction costs. We recommend that you invest more or less the same amount in a defined number of stocks (EUR 5.000 may be considered a suggested minimum per holding) or that you invest in units of investment funds. Your risks are thus equitably distributed.

### **Keep some cash on hand**

We do not recommend that you invest all of your assets in securities, because if you need cash you may be forced to sell at the wrong time. It is better to always keep some cash on hand to give yourself some leeway.

### **Consider the tax treatment of your investments**

The gross return on an investment may be subject to a withholding tax applied directly by the Bank, or to another type of tax, which means that the return you receive may be less than the gross return on your investment. The tax burden may differ depending on the investment and on your personal circumstances (your country of residence, for example). We strongly recommend that you take the tax treatment of the investments into account when making your investment decisions.

## PART II: THE PRINCIPAL RISKS ASSOCIATED WITH FINANCIAL INSTRUMENTS<sup>1</sup>

### I. Economic conditions

Changes related to economic cycles always have an impact on movements in securities prices and thus an even more pronounced effect on the prices of derivatives. Prices fluctuate in advance of boom-and-bust cycles. The length and magnitude of economic cycles vary over time, as do the impacts on different sectors. Furthermore, different countries can have different economic cycles. Misjudging or failing to consider changes in economic conditions when making an investment decision can lead to losses. In particular, the impacts of the economic environment on movements in interest rates, exchange rates and corporate earnings in a particular country should be taken into account.

### II. Inflation

Inflation, as measured by the increase in consumer prices, refers to the erosion of purchasing power over time. Investors lose purchasing power when the rate of inflation (measured for the domestic economy) is higher than the return on the investments (coupons, dividends and gains realised). All investors should base their judgments on real interest rates, that is, the difference between the interest rate and the inflation rate.

### III. Psychological influences

Irrational factors can influence the general movement in prices of financial assets (equities and bonds, as well as commodities), such as opinions or rumours likely to lead to sharp decreases or even increases in market values, even if fundamentals have not changed significantly. These psychological factors intensify in times of economic crisis or geopolitical tension and may cause both upside and downside financial bubbles.

### IV. Sovereign risk

A country could default and/or suspend the external convertibility of its currency. This risk arises from both economic instability and political unrest. Accordingly, in the event of a shortage of foreign currency or of limitations on foreign transfers, investors may not receive the payments to which they are entitled. Investors might also receive payments in a currency that is no longer convertible due to foreign exchange controls. In principle, there is no way to protect against such a risk, as shown by the most recent examples of Brazil (in 1975), Russia (in 1998) and Argentina (in 2001).

### V. Currency risk

Currency risk is the same for all financial assets, be they money market instruments, bonds, equities or derivatives. Investors who buy a security denominated in a currency other than that of their domestic economy (reference currency) are exposed to currency risk, that is, the risk that this foreign currency will depreciate against their reference currency.

So, for example, buying a US or Japanese stock on a European exchange does not prevent currency risk. Fluctuations in the market value of a security denominated in euros include both fluctuations in the price of the security on its principal listing market and fluctuations in exchange rates. Foreign exchange forward transactions and the purchase of put options can hedge against currency risk.

<sup>1</sup> These risks apply regardless of the type of financial product.



Key factors affecting exchange rate fluctuations include inflation differentials, differences in interest rates between countries, expectations for countries' economic conditions, countries' political situations, and the safety of the investment. Furthermore, psychological events, such as crises of confidence in political leaders, are likely to cause a speculative attack on a currency.

## **VI. Liquidity risk**

In the event of a liquidity crisis on a market, investors may not be able to sell their securities at the market price. In principle, a distinction must be made between temporary illiquidity due to supply and demand (related to seasonality, for example) and structural illiquidity due to the inherent characteristics of a security (if, for example, a company has a small market capitalisation and thus low daily trading volumes).

Illiquidity due to supply and demand exists where there is almost exclusively supply (offered rate) of or almost exclusively demand (bid rate) for a security at a certain price. Under those circumstances, a buy or sell order cannot be executed immediately and/or can be only partially executed, often under adverse conditions. Furthermore, higher transaction costs apply for partial execution.

Illiquidity due to the inherent characteristics of a security occurs, for example, in the event of the recording of registered shares or of execution times related to market practices. For undertakings for collective investment (UCIs), illiquidity results from a suspension of the net asset value (NAV) calculation by their custodian bank. That was the case, for example, for US equity funds the day after the 11 September 2001 attacks, when Wall Street was closed for nearly a week. That was also the case for German real-estate funds which, in the face of massive redemptions, had to suspend their NAV calculations pending the sale of a portion of their real-estate portfolios, which took weeks if not months.

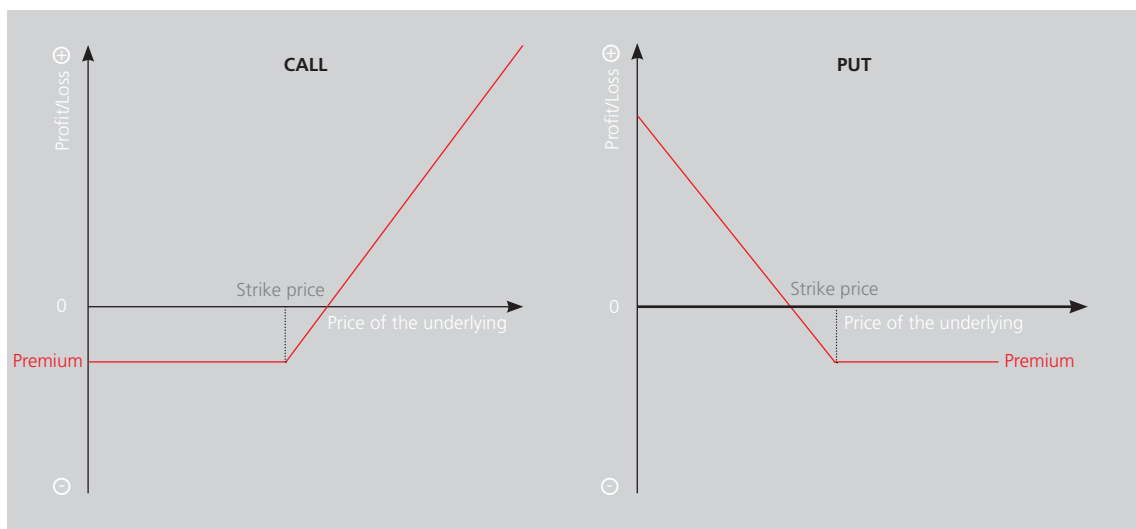
## **VII. Specific risks associated with credit-financed investments in financial assets**

The purchase of credit-financed securities entails several additional risks. First, additional collateral may be required if the credit limit is exceeded due to adverse movements in the prices of the pledged assets. If investors are unable to provide this collateral, the Bank may be forced to sell the deposited securities at an inopportune time. Second, the loss incurred due to adverse price movements is likely to exceed the initial investment amount. Fluctuations in the prices of the pledged securities can jeopardise the ability to repay loans. Investors should be aware that the leverage effect generated by the purchase of securities on credit creates a proportionally higher sensitivity to price fluctuations and thus a greater opportunity for gain, as well as a higher risk of loss. The higher the leverage, the greater the risk inherent in such purchases.

### VIII. Specific risks associated with investments in derivatives

Warrants and options respond to changes in the price of the underlying asset with a leverage effect. If a warrant or option is purchased, the instrument becomes worthless if, on the expiration date of a call option, the price of the underlying is lower than the strike price specified in the contract or if, on the expiration date of a put option, it is higher.

In the event of derivatives sales or futures transactions, not hedged by underlying assets, the risk of loss is basically unlimited.



## PART III: DESCRIPTION OF THE VARIOUS FINANCIAL INSTRUMENTS

### I. Money market instruments

#### 1. Definition and characteristics

The money market is an informal market on which financial institutions, such as central banks, commercial banks, insurance companies, fund managers and other large corporates, invest their short-term assets and obtain short-term financing (liquidity management). Short term means a period of less than one year. The main rates applicable on this market are Eonia, Euribor and Libor.

Because borrowers on the money markets are professional market participants, the securities issued against the loans have a low risk but also low returns. These securities are suitable for investors with a high risk aversion.

#### 2. Types of products

##### a) Treasury bills

A treasury bill is a short- or medium-term security issued by the treasury of a sovereign country and representing a claim against a government.

##### b) Commercial paper

Commercial paper is a negotiable debt security that represents a large term investment made in a company.

##### c) Certificates of deposit

A certificate of deposit is a negotiable debt security that represents a large term investment made in a bank or credit institution.

##### d) Foreign exchange spot transactions

A foreign exchange spot transaction is an agreement between two parties to exchange a certain amount of one currency for a certain amount of another on the spot market at an exchange rate agreed when entering into the transaction. It can only involve currencies that are commonly traded on the foreign exchange market, such as the EUR/USD pair.

##### e) Foreign exchange forward transactions

A foreign exchange forward transaction is an agreement between two parties to exchange, in the future, a certain amount of one currency for a certain amount of another currency at an exchange rate agreed when entering into the transaction.

The exchange takes place at a future date and each party agrees to deliver, on the contract's maturity date, the amount of the currency sold and to take delivery of the amount of the currency bought.

A foreign exchange forward transaction can be used to protect against future fluctuations in exchange rates or to speculate on future movements in the exchange rate of one currency against another.

In general, a foreign exchange forward transaction cannot have a maturity of more than one year. It can only involve currencies that are commonly traded on the foreign exchange market.

A forward exchange rate for one currency against another is calculated on the basis of the spot exchange rate of the two currencies in question and on the basis of the interest rates of both currencies.

A foreign exchange forward transaction can be carried out:

- to hedge the foreign exchange risk incurred by the customer;
- for speculative purposes.

In the second case, the customer will have to:

- reverse (repurchase or resell) the position taken no later than two days before the forward transaction matures and realise the gain or loss;
- carry over the position to a new maturity date. In that case, it is a foreign exchange forward swap.

### 3. Additional risks associated with money market instruments

The money market is designed for large-scale investments made by professionals. Most private investors can access it only through money market UCIs.

Credit risk is reflected in the non-payment of interest and the partial non-payment of principal. In addition to rating issuers' long-term debt, the rating agencies Standard & Poor's and Moody's also assign ratings to issuers' short-term debt in order to evaluate this credit risk. These ratings are split into two categories: investment grade and speculative grade.

Widespread risk on the money markets of OECD countries occurs only in the extreme scenario of a severe banking crisis, for example, the default of an important financial institution which in turn triggers contagion to the international banking system.

As money market instruments are short-lived, investors bear the reinvestment risk, which is the risk that, at maturity, the instrument will pay a lower interest rate.

Illustration of a money market instrument

	Savings account over 1 year (currently 0,20% per annum)		Gradual rate deposit (average rate 0,3083%) over 3 years, without an exit option and with capitalisation		Fixed rate deposit at 0,30% over 5 years, without an exit option and with capitalisation	
Amount paid at 01/01/2018	EUR 10.000,00		EUR 10.000,00		EUR 10.000,00	
Gross amount of interest	EUR 20,00		EUR 92,76		EUR 150,81	
LU withholding tax* (20%)	EUR 4,00		EUR 18,55		EUR 30,16	
Final capital	01/01/19	EUR 10.016,00	01/01/21	EUR 10.074,21	01/01/23	EUR 10.120,65
Gross return	EUR 20,00	0,20%	EUR 92,76	0,93%	EUR 150,81	1,51%
Total costs and associated charges	EUR 4,00	0,04%	EUR 18,55	0,19%	EUR 30,16	0,30%
Net return	EUR 16,00	0,16%	EUR 74,21	0,74%	EUR 120,65	1,21%

\* The LU withholding tax of 20% does not apply if total interest earned by the customer over one year is less than EUR 250.

## II. Bonds

### 1. Definition

A bond is a debt security which certifies that its owner, known as the bondholder, has granted a loan to the issuer and has a claim on the issuer. This involves the right to receive interest (the coupon) and the right to repayment of the principal lent on a specified date and according to predetermined conditions. A bond is a negotiable debt security, representing a portion of the (long-term) debt of a sovereign state, local authority, supranational body or private company.

The coupon, which represents the return on the borrowed capital in the form of interest payments, can be fixed or floating. At the end of each predetermined period, the borrower pays the investor the coupon, which represents the nominal value of the bonds times the interest rate. On the final maturity date, the borrower repays the principal at the redemption price.

In the event of issuer default (insolvency, bankruptcy), the bondholder bears the risk of non-repayment of principal. In general, the risk inherent in bonds is lower than that incurred with an investment in equities.

### 2. Main characteristics of bonds

#### a) Nominal or face value

The nominal value of a bond is the total amount of a loan divided by the total number of denominations issued. It is used as the basis for calculating interest.

#### b) Issue/redemption price

A bond's issue/redemption price can differ from its nominal value (also known as par). If the issue price is higher than par, the difference is known as the bond premium (to the investor's disadvantage). If the redemption price is higher than par, the difference is known as the bond discount (to the investor's advantage).

#### c) Market price or intrinsic value

The intrinsic value of a bond is the value quoted on the market. Both the theoretical valuation of a bond and its intrinsic value can differ sharply from its nominal value.

Generally speaking, when interest rates rise, prices of existing bonds fall. This is because older issues at lower interest rates become less attractive when compared with more recent issues launched at higher rates. This reverse relationship between bond prices and interest rates is described as interest rate risk.

When investors purchase a bond, they pay the market price plus accrued interest, in other words, the fractional interest attached to the bond since it was issued or from the last ex-coupon date to the value-date of the purchase. When investors sell a bond, they receive the market price plus accrued interest, which includes interest due up to the value date of the sale.

#### d) Coupon rate

This is the rate at which the bond was issued and is used to calculate the coupons to be paid. The calculation bases most commonly applied to bonds are ACT/ACT (where ACT is the actual number of days) and 30/360.

For example, a bond with a nominal value of EUR 10.000, held for a continuous period of one year and with an annual coupon of 6%, will pay its holder a coupon of EUR 600 (EUR 10.000 x 6%).

#### e) Yield

The rate of return on a bond, also referred to as yield-to-maturity in financial texts, is a percentage that measures the income from an investment over a given period, generally until the bond matures. It takes into account the bond's purchase and redemption price, its coupon rate and its remaining life. Only when the price is equal to 100% is the yield identical to the coupon.

#### f) Bond redemption

There are several different methods of redemption:

- redemption on a fixed date at maturity;
- early redemption, either at the holder's request (put), or at the company's request if it has reserved this right (call);
- bonds redeemable by random draw, that is, the issuer has reserved the right to periodically repay a portion of its loan, determined by random draw;
- bond convertible into shares.

#### g) Rating

The table explains how the two main rating agencies, Standard & Poor's and Moody's, assess the quality of bond issuers and of medium- and long-term debt when they assign a rating to each security.

Quality	S&P	Moody's	Comment	Risk of default
Investment grade	AAA	Aaa	highest-quality issuers, with stable and reliable finances	very low
	AA+	Aa1	high-quality issuers, slightly more risky than those rated AAA/Aaa	low
	AA	Aa2		
	AA -	Aa3		
	A+	A1	quality issuers whose finances could be affected by economic conditions	low
	A	A2		
	A-	A3		
	BBB+	Baa1	medium-quality issuers with adequate repayment capacity	average
	BBB	Baa2		
	BBB -	Baa3		
Speculative grade	BB+	Ba1	susceptible to changes in economic conditions	high
	BB	Ba2		
	BB -	Ba3		
	B+	B1	significant changes in financial position based on economic conditions	high
	B	B2		
	B -	B3		
	CCC+	Caa1	financially vulnerable and repayment dependent on favourable economic conditions	very high
	CCC	Caa2		
	CCC -	Caa3		
	CC	Ca	highly financially vulnerable -> highly speculative positions	very high
	C	C	non-payment is probable	excessive
Default	D	C	In default	excessive

### 3. Types of bonds

From a legal standpoint, there are several types of bonds:

- mortgage bonds, backed by mortgages on one or more of a company's real estate assets;
- senior bonds, backed by a company's movable assets;
- straight bonds, which have no additional collateral attached;
- subordinated bonds, which, if an issuer defaults, are repaid only after all the other claims.

A distinction can also be made between the following types of bonds:

#### a) Zero bonds

Bonds with no coupon that make no interest payments over their life. This type of bond is generally issued at a low price and entitles the holder to a high bond discount at maturity due to interest capitalisation.

#### b) Fixed-rate bonds

Bonds whose coupon rate (annual or sometimes semi-annual) remains unchanged until maturity.

#### c) Floating-rate notes

Bonds whose interest rate varies, generally every quarter, until maturity, based on a predetermined money-market rate (3-month Euribor or Libor). The rate is often linked to inflation or to an index.

#### d) Step-up/step-down bonds

Bonds whose interest rate increases/decreases over the life of the instrument at certain intervals determined at issue.

#### e) Convertible bonds

These are conventional bonds that can be converted, at the holders' request and in accordance with the terms and conditions defined in the issue contract, into new shares of the issuing company. If the share price rises, the price of the convertible bond tends to rise to a similar extent. Conversely, if the share price falls, the price of the convertible bond stabilises at a floor price corresponding to that of a bond of the same quality and with the same residual maturity. Holders of convertible bonds therefore have better protection against a fall in the underlying share than equity investors.

#### f) Reverse convertible bonds

These are bonds with a higher coupon than conventional bonds but where the repayment of principal depends on the price of a benchmark share relative to a fixed price. If, when the reverse convertible matures, the price of the benchmark share is lower than this fixed price, investors are repaid in benchmark shares. Otherwise, if, at maturity, the price of the benchmark share is higher than the fixed price, investors' capital is repaid as usual. Investors receive a coupon either way.



#### g) Special types of bonds: savings certificates (“bons de caisse”)

These are bonds issued by a financial institution. In return for a sum of money (even a relatively small amount) lent to a financial institution for a fixed period (the range of maturities is fairly wide), that institution issues an acknowledgement of a debt known as a savings certificate.

There are step-up savings certificates (the rate increases with the duration), capitalisation bonds (interest is not paid annually but is added to the original amount) and floating-rate savings certificates (the rate is revised periodically).

Financial institutions generally offer the possibility of direct repurchase, even before the maturity date.

#### 4. Additional risks associated with bonds

The low credit risk on investment-grade bonds and the high credit risk on speculative-grade bonds account for the difference in yield between a German government bond and a bond issued by a US carmaker or by the government of Argentina.

This risk of default varies over time based on the economic fundamentals of a country (deficits, growth, etc.) and/or of a company (balance sheet and cash flows, etc.). If the risk materialises, the coupons will no longer be paid and the capital invested will be paid back only partially or not at all. Investors also bear specific risks when a bond has a conditional component.

Bond prices vary with fluctuations in the yield curve (interest rate risk), that is, changes in short- and long-term rates depending on the duration of the bond or, put more simply, on the remaining life of the bond. Market rates fluctuate with the liquidity of the financial markets, investors' risk aversion or lack thereof, expectations for the economic cycle and, against this backdrop, the monetary policy of the central banks. Systemic risk arises in the event of payment default by a sovereign state, as was the case for Argentina at the beginning of this century.

Illustration of a bond

**3% bond 01/01/2018-2028**

	over 1 year	over 3 years	over 5 years
<b>Purchase via BCEE's offering for a nominal of EUR 10.000,00</b>	<b>Purchase date: 01/01/2018 price: 100,00%</b>	<b>Purchase date: 01/01/2018 price: 100,00%</b>	<b>Purchase date: 01/01/2018 price: 100,00%</b>
Gross amount	EUR 10.000,00	EUR 10.000,00	EUR 10.000,00
Accrued interest	EUR 0,00	EUR 0,00	EUR 0,00
Commissions and other fees (0,50%)	EUR 50,00	EUR 50,00	EUR 50,00
Net amount	EUR 10.050,00	EUR 10.050,00	EUR 10.050,00
<b>Sale via BCEE's offering for a nominal of EUR 10.000,00</b>	<b>Sale date: 01/01/2019 price: 101,00%</b>	<b>Sale date: 01/01/2021 price: 101,50%</b>	<b>Sale date: 01/01/2023 price: 100,75%</b>
Gross amount	EUR 10.100,00	EUR 10.150,00	EUR 10.075,00
Accrued interest	EUR 0,00	EUR 0,00	EUR 0,00
Commissions and other fees (0,50%)	EUR 50,50	EUR 50,75	EUR 50,38
Net amount	EUR 10.049,50	EUR 10.099,25	EUR 10.024,63
Coupons received	EUR 300,00	EUR 900,00	EUR 1.500,00
LU withholding tax (20%)	EUR 60,00	EUR 180,00	EUR 300,00
Custody fees (estimated) (0,25%)	EUR 25,13	EUR 75,39	EUR 125,65
VAT on custody fees (14%)	EUR 3,52	EUR 10,56	EUR 17,60
Final capital	EUR 10.210,85	EUR 10.683,30	EUR 11.031,38
Gross return	EUR 400,00 4,00%	EUR 1.050,00 10,50%	EUR 1.575,00 15,75%
Total costs and associated charges	EUR 189,15 1,89%	EUR 366,70 3,67%	EUR 543,63 5,44%
Net return	EUR 210,85 2,11%	EUR 683,30 6,83%	EUR 1.031,37 10,31%
<b>Summary of costs and associated charges</b>			
Charges related to investment services	EUR 129,15	EUR 186,70	EUR 243,63
Charges related to the financial instrument	EUR 60,00	EUR 180,00	EUR 300,00

### III. SHARES

#### 1. Definition

A share is a security that represents a unit of the capital of a company (listed or unlisted). This certificate of ownership is issued to shareholders so that they may assert their rights. It can be in nominal or bearer form. Shares consist of financial rights and participation rights, as they give holders the right to attend annual general meetings and to vote, as well as the right to receive, in the form of dividends, a portion of the profits generated by the company. Shareholders also have a right to information (financial results, earnings, annual report, etc.). In exchange, shareholders share fully in the company's risks.

#### 2. Main characteristics of shares

##### a) Shareholder rights

These rights are determined by law and by the issuing company's by-laws. They consist mainly of the right to a share of the company's earnings, known as the dividend, as well as the right to vote at annual general meetings of shareholders, the right to information and the right to repayment in the event of the company's liquidation.

##### b) Return

The return on an investment in shares is the gain or loss realised on the security, plus the sum of the dividends. Dividends are paid out on the basis of a decision by the annual general meeting of shareholders. Share prices go up or down depending on whether or not the company meets its sales and/or margin (i.e. earnings) expectations, which are reflected by the market in the share price.

##### c) Share sales

Unless otherwise provided by law, bearer shares can theoretically be sold without going through any specific formal procedures, while there are often limitations or administrative constraints on registered shares, which are recorded in the shareholder register.

#### 3. Types of shares

##### a) Bearer/registered shares

A share is nominal when its owner is recorded in the company's register; as a result, certain procedures must be followed in the event of a sale. The owner of a bearer share is not recorded in this register and the share can be sold without going through these procedures.

##### b) Ordinary and preference shares

Certain shares may, depending on the issuing company's by-laws, offer certain benefits relating, for example, to the amount of the dividend, but carry no voting rights at annual general meetings.

### c) Depositary receipts

A depositary receipt is a security that represents one or more shares of an issuer. It is traded instead of shares. Examples include Fiduciary Depositary Receipts (FDRs), American Depositary Receipts (ADRs) and Global Depositary Receipts (GDRs).

#### 4. Additional risks associated with shares

Price risk is the main risk associated with shares. Shares react to any improvement or deterioration in a company's fundamentals (balance sheet and income statement, in particular sales and margins). The markets anticipate these changes in fundamentals such that, when news is announced (profit warnings, for example), it may sometimes seem that stock prices react irrationally.

Each share is valued based on a core scenario, which is reflected in stock market ratios (the price/earnings ratio, for example) that express investors' expectations about future changes in the company's fundamentals. The share price falls when the company does not meet market expectations. As long as companies need financing, they can decide not to pay a dividend.

Share prices vary based on factors specific to each company, but also on macroeconomic factors (inflation, growth, public debt, etc.). When an economic recession is expected, stock markets often experience what experts call a bear market, which is a period of negative market returns. When an economic recovery is expected, shares often experience a bull market, when prices rise sharply. This market environment is particularly positive for cyclical shares. A cyclical company is one that operates in industrial sectors that are sensitive to the economic cycle (steel, technology, etc.). Generally speaking, shares benefit from economic growth.

Illustration of a share

**Luxembourg company**

	over 1 year	over 3 years	over 5 years
Purchase on the stock exchange 100 shares	Purchase date: 01/01/2018 price: EUR 100,00	Purchase date: 01/01/2018 price: EUR 100,00	Purchase date: 01/01/2018 price: EUR 100,00
Gross amount	EUR 10.000,00	EUR 10.000,00	EUR 10.000,00
Commissions and other fees (1%)	EUR 100,00	EUR 100,00	EUR 100,00
Net amount	EUR 10.100,00	EUR 10.100,00	EUR 10.100,00
Sale on the stock exchange of 100 shares	Sale date: 01/01/2019 price: EUR 105,00	Sale date: 01/01/2021 price: EUR 107,00	Sale date: 01/01/2023 price: EUR 103,00
Gross amount	EUR 10.500,00	EUR 10.700,00	EUR 10.300,00
Commissions and other fees (1%)	EUR 105,00	EUR 107,00	EUR 103,00
Net amount	EUR 10.395,00	EUR 10.593,00	EUR 10.197,00
Dividend received (EUR 2,50)	EUR 250,00	EUR 750,00	EUR 1.250,00
Dividend tax (15%)	EUR 37,50	EUR 112,50	EUR 187,50
Custody fees (estimated) (0,25%)	EUR 25,62	EUR 76,86	EUR 128,10
VAT on custody fees (14%)	EUR 3,59	EUR 10,77	EUR 17,95
Final capital	EUR 10.478,29	EUR 11.042,87	EUR 11.013,45
Gross return	EUR 750,00    7,50%	EUR 1.450,00    14,50%	EUR 1.550,00    15,50%
Total costs and associated charges	EUR 271,71    2,72%	EUR 407,13    4,07%	EUR 536,55    5,37%
Net return	EUR 478,29    4,78%	EUR 1.042,87    10,43%	EUR 1.013,45    10,13%
Summary of costs and associated charges			
Charges related to investment services	EUR 234,21	EUR 294,63	EUR 349,05
Charges related to the financial instrument	EUR 37,50	EUR 112,50	EUR 187,50

## IV. UNDERTAKINGS FOR COLLECTIVE INVESTMENT (UCIs)

### 1. Definition

A UCI or investment fund is a vehicle whose sole purpose is to raise capital from the public and, in most cases, invest it in securities or real property, such as shares and bonds, or in other financial assets following the risk diversification principle.

The shares, generally known as units in investment funds, may be available in the form of accumulation units or distribution units. With accumulation units, the income received by the investment fund is reinvested and shareholders of the fund are thus not paid a dividend. That is also why the net asset value (NAV) of accumulation shares differs from that of distribution shares for the same sub-fund. With distribution shares, income is paid in the form of an annual coupon.

An investment fund is said to be closed-ended when it cannot issue new shares in excess of the number specified in the company's articles of association. Investors can buy shares of a closed-ended fund only when other shareholders sell their positions or during a capital increase.

Most UCIs are open-ended funds, where the number of shares outstanding is not specified or limited in the articles of association and where it is possible to subscribe to new units at certain intervals defined in the UCI's prospectus.

Each UCI or UCI sub-fund manages investments on behalf of and in the interests of its subscribers/shareholders in accordance with applicable law and with the investment policy defined previously when the fund was created. The investment policy implemented for each sub-fund is always stated in the UCI's prospectus.

A UCI:

- raises funds from the public;
- is managed by a management company or by a board of directors (self-managed UCI) responsible for managing the UCI's assets;
- is divided into units, which each represent an interest in the fund's capital and are allocated to subscribers in proportion to the amount invested.

The value of a unit is the NAV, which is calculated according to the accounting rules defined in the prospectus.

Both in general and in particular, investors should refer to the prospectus to learn more about the legal form of each UCI and how it operates.

## 2. Legal forms of UCIs

Luxembourg law allows for two legal forms of UCIs: UCIs in contractual form (fonds communs de placement) and UCIs in corporate form (investment companies).

### a) Mutual funds or Fonds Communs de Placement (FCPs)

An FCP is defined as an undivided pool of securities set up and managed according to the risk diversification principle on behalf of joint owners who are liable only up to the amount of their contribution.

An FCP, as a co-proprietorship or common ownership structure, has no legal personality and is managed by a management company in accordance with the management regulations, in the sole interest of the unit holders. Investors must agree to these management regulations (described in the prospectus) established by the management company when they subscribe to units in the fund. The custodian bank monitors application of the management regulations.

As the assets are intentionally allocated to a common purpose, investors waive certain ownership rights such as their voting rights. There is no requirement to hold annual general meetings.

### b) Investment companies

UCIs in corporate form are investment companies. Unlike FCPs, these investment companies all have a legal personality separate from that of investors.

Under UCITS V, which is explained in the glossary, these companies are managed either by their board of directors (self-managed open-ended investment company) or by a management company authorised by the Luxembourg financial markets authority, the Commission de Surveillance du Secteur Financier (CSSF).

There are two types of investment companies:

- open-ended investment companies: sociétés d'investissement à capital variable, or SICAVs;
- closed-ended investment companies: sociétés d'investissement à capital fixe, or SICAFs.

## 3. Umbrella funds

Luxembourg law allows UCIs to subdivide their assets into several separate sub-funds based on investment policy, currency or type of investor. These are known as umbrella funds. There is generally no charge for switching from one sub-fund to another within a single UCI.

#### 4. Types of funds according to investment policy

Funds can be divided into several categories based on their investment policies:

- a) **Money market UCIs** (UCIs that invest in money market instruments in the fund's currency);
- b) **Bond UCIs** (UCIs that invest in single- or multi-currency bonds);
- c) **Equity UCIs** (UCIs that invest in shares, according to a geographic or sector strategy);
- d) **Mixed UCIs** (UCIs that invest in bonds and equities);
- e) **Fund of funds UCIs** (UCIs that invest in other UCIs);
- f) **Funds with guaranteed capital or guaranteed returns** (a product structured as a UCI and not an EMTN-type bond; UCIs that offer certain guarantees);
- g) **Real estate UCIs** (UCIs that invest in property assets);
- h) **Index UCIs** (exchange-traded funds (ETFs) listed on a regulated market that track the performance of a daily transparent and intra-day priced index or portfolio of assets and offering daily subscription/redemption);
- i) **Hedge fund UCIs** (UCIs that seek absolute returns, decorrelated from stock market trends);
- j) **Institutional UCIs or specialised investment funds (SIFs)** (UCIs whose shares are restricted to one or more institutional investors as defined in the company's articles of association);
- k) **Venture capital funds** (Sociétés d'Investissement en Capital à Risque (SICARs), which invest in companies that are not listed on an exchange).

Access to the last three types of funds is intended mainly for informed investors with significant financial wealth.

#### 5. Specific risks associated with undertakings for collective investment

For UCIs distributed to the general public, in particular those governed by part I of the 2010 law on undertakings for collective investment (UCITS V), the risks specific to a sovereign country and/or to a company are so diversified that the impact of a default would be low. In general, the advantage of investing in UCIs is to diversify specific risks through professional management of the assets, which is documented in the prospectus and the semi-annual financial reports.

UCIs' investment policies are such that investors are not exposed to any specific risks. Their risk lies almost exclusively in market risk for the markets defined in the prospectus. This means that, once investors have decided to allocate their funds to a given financial asset, region or investment theme (healthcare, the environment, etc.), the return and thus the corresponding risk depend largely on the performance of the underlying market. Conventional funds generally track a benchmark.



Illustration of an Undertaking for Collective Investment (UCI)

**luxifunds (BCEE fund)**

Fund investing in bonds and equities (accumulation units)

	over 1 year	over 3 years	over 5 years
<b>Subscription of 100 units of the fund</b>	Subscription date: 01/01/2018 NAV: EUR 100,00	Subscription date: 01/01/2018 NAV: EUR 100,00	Subscription date: 01/01/2018 NAV: EUR 100,00
Gross amount	EUR 10.000,00	EUR 10.000,00	EUR 10.000,00
Subscription fee (1,50%)	EUR 150,00	EUR 150,00	EUR 150,00
Net amount	EUR 10.150,00	EUR 10.150,00	EUR 10.150,00
<b>Redemption of 100 units of the fund</b>	Redemption date: 01/01/2019 NAV: EUR 104,50	Redemption date: 01/01/2021 NAV: EUR 112,00	Redemption date: 01/01/2023 NAV: EUR 120,00
Gross amount	EUR 10.450,00	EUR 11.200,00	EUR 12.000,00
Redemption fee (0% for luxifunds)	EUR 0,00	EUR 0,00	EUR 0,00
Net amount	EUR 10.450,00	EUR 11.200,00	EUR 12.000,00
Custody fees (0% for luxifunds)	EUR 0,00	EUR 0,00	EUR 0,00
Final capital	EUR 10.300,00	EUR 11.050,00	EUR 11.850,00
Handling fees (1,20% included in NAV)	EUR 120,00	EUR 360,00	EUR 600,00
Gross return (excluding handling fees included in NAV)	EUR 570,00 5,70%	EUR 1.560,00 15,60%	EUR 2.600,00 26,00%
Total costs and associated charges	EUR 270,00 2,70%	EUR 510,00 5,10%	EUR 750,00 7,50%
Net return	EUR 300,00 3,00%	EUR 1.050,00 10,50%	EUR 1.850,00 18,50%
<b>Summary of costs and associated charges</b>			
Charges related to investment services	EUR 150,00	EUR 150,00	EUR 150,00
Charges related to the financial instrument	EUR 120,00	EUR 360,00	EUR 600,00

## Illustration of an Exchange-Traded Fund (ETF)

### Stock index ETF

ETF whose objective is to replicate the actual performance of a stock exchange index

	over 1 year	over 3 years	over 5 years
<b>Purchase on the stock exchange</b> 100 shares of the ETF	Purchase date: 01/01/2018 price: EUR 100,00	Purchase date: 01/01/2018 price: EUR 100,00	Purchase date: 01/01/2018 price: EUR 100,00
Gross amount	EUR 10.000,00	EUR 10.000,00	EUR 10.000,00
Commissions and other fees (1%)	EUR 100,00	EUR 100,00	EUR 100,00
Net amount	EUR 10.100,00	EUR 10.100,00	EUR 10.100,00
<b>Sale on the stock exchange of</b> 100 units of the ETF	Sale date: 01/01/2019 price: EUR 105,00	Sale date: 01/01/2021 price: EUR 112,00	Sale date: 01/01/2023 price: EUR 118,00
Gross amount	EUR 10.500,00	EUR 11.200,00	EUR 11.800,00
Commissions and other fees (1%)	EUR 105,00	EUR 112,00	EUR 118,00
Net amount	EUR 10.395,00	EUR 11.088,00	EUR 11.682,00
Custody fees (estimated) (0,25%)	EUR 25,56	EUR 80,63	EUR 137,50
VAT on custody fees (14%)	EUR 3,58	EUR 11,29	EUR 19,25
Final capital	EUR 10.265,86	EUR 10.896,08	EUR 11.425,25
Handling fees (0,20% included in the price)	EUR 20,00	EUR 60,00	EUR 100,00
Gross return (excluding handling fees included in the price)	EUR 520,00 5,20%	EUR 1.260,00 12,60%	EUR 1.900,00 19,00%
Total costs and associated charges	EUR 254,14 2,54%	EUR 363,92 3,64%	EUR 474,75 4,75%
Net return	EUR 265,86 2,66%	EUR 896,08 8,96%	EUR 1.425,25 14,25%
<b>Summary of costs and associated charges</b>			
Charges related to investment services	EUR 234,14	EUR 303,92	EUR 374,75
Charges related to the financial instrument	EUR 20,00	EUR 60,00	EUR 100,00

## V. DERIVATIVES

### 1. Definition

Derivatives are financial instruments whose value depends on that of the underlying asset from which they are derived.

There are three categories of derivatives:

- options, which are contracts through which the buyer of the option pays a premium for the right to buy or sell a specified number of financial instruments at a predetermined price and on a designated date or within a set time period;
- futures, which are contracts to buy or sell an asset at a predetermined price at a specified time in the future. These futures may involve monetary or financial assets or commodities;
- swaps, which are contracts in which assets or cash flows are exchanged.

Due to potential risks, in particular the risk that the capital loss may be greater than the amount invested, they are restricted to informed clients.

### 2. Types of derivatives

#### A. Options

Options are contracts and belong to the derivatives family. The buyer of an option is given the right, but not the obligation, to buy (call) or sell (put) an underlying asset. A call gives the buyer the right to buy a specified number of units of the underlying at a predetermined price, known as the strike price, on a future date, known as the expiration date. A put gives the buyer the right to sell a specified number of units of the underlying at a predetermined price on a future date.

The seller of the option must in any case accept the buyer's decision.

The buyer of a call generates a gain when the contract expires if the price of the underlying asset is higher than the strike price. The buyer of a put generates a gain on the contract's expiration date if the price of the underlying asset is lower than the strike price.

A call option is said to be "in the money" as soon as the price of the underlying exceeds the strike price.

A put option is said to be "in the money" whenever the price of the underlying falls below the strike price. Once an option is in the money it has an intrinsic (positive) value. A call option is said to be "out of the money" as soon as the price of the underlying falls below the strike price. A put option is said to be "out of the money" whenever the price of the underlying exceeds the strike price. When the price of the underlying is the same as the strike price, the option is said to be "at the money".

Options offer a strong leverage effect as the capital invested is far less than that of the underlying asset. The risk to the capital invested is also much higher.

The value of an option depends on a number of factors, namely the level of and volatility in the price of the underlying asset, the strike price, time to expiration, and interest rates.

Combining options can result in very complex strategies and therefore in high risks, particularly in the case of option sales.

#### a) European/American-style options

European-style options can be exercised only on a specified date, in principle the expiration date. This does not, however, prevent them from being traded on the secondary market (mainly on an options exchange). American-style options can be exercised at any time up to their expiration date.

#### b) Exotic options

Unlike traditional call and put options, exotic options are subject to conditions and to additional agreements. As a result, they have payment and risk structures that would not be possible just from combining various plain vanilla options. Exotic options can take the form of over-the-counter (OTC) options or of warrants. The number of possible variants of exotic options is limitless. Investors must therefore educate themselves about the risks likely to be incurred or have them explained on a case-by-case basis.

#### c) Distinctions based on type of underlying

Some options are based directly on an underlying asset, such as a share, commodity or precious metal. Others are based not on an underlying asset but, for example, on a bond future, an interest rate, an exchange rate or a stock exchange index.

#### d) Physical delivery/cash settlement

In the case of a call option with physical delivery, buyers of the option can take delivery of the underlying if they exercise the option. In the case of a put option, sellers of the option must accept delivery of the underlying if the buyers exercise their option.

When an option provides for cash settlement, the beneficiary receives a payment that corresponds to the difference between the strike price and the market price of the underlying asset on the expiration date.

#### e) Warrants

Warrants are a form of options traded on the stock exchange as securities and generally issued by financial institutions.

A warrant is not a unit of capital, like a share, or a unit of debt, like a bond. Rather it entitles the holder to buy or sell a financial asset at a fixed price during a set period of time. It belongs to the derivatives family.

Like an option, it gives the right, and not the obligation, to buy or sell this underlying asset at a predetermined price and during a specified period. All warrants must relate to a specific asset which may be a share, an index (stock exchange or other index), a commodity, an exchange rate, or a basket of shares, indices or commodities.

Warrants are financial products with a leverage effect, which means they create exposure to fluctuations in the price of the underlying asset which is a multiple of the original investment. They are therefore particularly suitable for speculating on rises or falls in the price of the underlying, but investors can lose their entire original investment at expiration.

Warrants can also be used to hedge a portfolio against an adverse movement. Put warrants are often used as hedging instruments to protect a portfolio against market fluctuations. For example, if you hold a portfolio of German equities, you can protect against a drop in the market by buying put warrants on the DAX. If the market does not drop, the put warrants expire worthless just like any unused insurance policy. Similar to options, call warrants represent the right to buy a given underlying asset at a predetermined price (the strike price) up until

the expiration date.

This same family of instruments also includes stock warrants and subscription rights which entitle the holder to subscribe to a share or a bond over a certain period at a predetermined price. Stock warrants differ from subscription rights in that they have a longer life. Lastly, allotment rights allow shareholders in a company to receive new bonus shares (for example, in a capital increase). These rights are freely tradable on the stock exchange.

Warrants are sometimes issued at the same time as a bond or in a capital increase. In general, these securities have a life of several years and are listed separately from the bond or share to which they were attached at issue.

Warrants trade from their issue date up to about five business days prior to their expiration (delisting) date.

## B. Futures

Futures, like options, belong in the derivatives category. They are forward contracts in which two parties make a firm commitment (which is not the case with options) to buy or sell a given quantity of an underlying asset at a predetermined price on a specified date in the future (the expiration date). One characteristic of futures contracts is their high level of standardisation (contract amount, predetermined expiration, tick size, exact definition of the eligible underlying, etc.).

If, on the expiration date, the price of the asset underlying the contract is higher than the specified price, the buyer of the contract realises a gain. If it is lower, the buyer generates a loss. The reverse is true for the seller of the contract.

Like all derivatives, futures have a leverage effect insofar as the capital invested is less than the price of the corresponding asset, which has a multiplier effect on the asset's rate of return. The trade-off is a much higher risk on invested capital.

Most contracts are settled in cash on their last day of trading. Futures rarely go to physical delivery on the expiration date.

Buying these products requires sound knowledge of their underlying mechanisms, as well as regular monitoring. Futures may involve specific financial risks.

These transactions are therefore restricted to highly informed investors who have sufficient liquidity to absorb possible losses.

The most common futures contracts concern commodities (oil, orange juice, etc.), currencies, interest rates (money market rates and bond yields) and stock exchange indices.

## C. Swaps

Swaps are a market based not on an exchange but on one-off contracts negotiated and entered into between two individuals.

The two most commonly used types of swaps are interest rate swaps and foreign exchange swaps.

Illustration of a warrant

**Index knock-out warrant subject to conditions with risk of capital loss**

Index strike price: 11.000 points, if the index falls below the barrier of 11.000 points just one time during the warrant's lifetime, the warrant is worthless and the capital invested is lost

Calculation of the price of the warrant: Price = (current level of the index - 11.000) \* EUR 0,010

	over 1 year	over 3 years	over 5 years
Purchase on the stock exchange 800 warrants index level at 12.250 points on 01/01/2018	Purchase date: 01/01/2018 price: EUR 12,50	Purchase date: 01/01/2018 price: EUR 12,50	Purchase date: 01/01/2018 price: EUR 12,50
Gross amount	EUR 10.000,00	EUR 10.000,00	EUR 10.000,00
Commissions and other fees (1%)	EUR 100,00	EUR 100,00	EUR 100,00
Net amount	EUR 10.100,00	EUR 10.100,00	EUR 10.100,00
Sale on the stock exchange of 800 warrants	Sale date: 01/01/2019 index level at 12.750 points price: EUR 17,50	Sale date: 01/01/2021 index level at 13.500 points price: EUR 25,00	Sale date: 01/01/2023 index level at 14.000 points price: EUR 30,00
Gross amount	EUR 14.000,00	EUR 20.000,00	EUR 24.000,00
Commissions and other fees (1%)	EUR 140,00	EUR 200,00	EUR 240,00
Net amount	EUR 13.860,00	EUR 19.800,00	EUR 23.760,00
Custody fees (estimated) (0,25%)	EUR 27,50	EUR 100,00	EUR 225,00
VAT on custody fees (14%)	EUR 3,85	EUR 14,00	EUR 31,50
Final capital	EUR 13.728,65	EUR 19.586,00	EUR 23.403,50
Handling fees (1% included in the price)	EUR 100,00	EUR 300,00	EUR 500,00
Gross return (excluding handling fees included in the price)	EUR 4.100,00 41,00%	EUR 10.300,00 103,00%	EUR 14.500,00 145,00%
Total costs and associated charges	EUR 371,35 3,71%	EUR 714,00 7,14%	EUR 1.096,50 10,97%
Net return	EUR 3.728,65 37,29%	EUR 9.586,00 95,86%	EUR 13.403,50 134,04%
Summary of costs and associated charges			
Charges related to investment services	EUR 271,35	EUR 414,00	EUR 596,50
Charges related to the financial instrument	EUR 100,00	EUR 300,00	EUR 500,00

## VI. STRUCTURED PRODUCTS

### 1. Definition and characteristics

Structured products are financial instruments that are made up of various other financial instruments and that therefore have the same risk/return characteristics as those instruments.

Generally speaking, a structured product has two key components:

- a capital protection component (this is often a bond product that also sets the product's time horizon); and
- a risk component that makes it possible to generate a high return (for example, a share, an index, commodities, etc.).

The many possible combinations of protection and risk instruments mean that the structured product market is now very large and requires extensive knowledge.

### 2. Types of structured products

A "defensive" structured product offering a high level of capital protection generally allocates most of the capital to the bond component. One example is the zero-coupon strategy, which provides access to asset classes with a high risk/return while also protecting the capital invested.

An "aggressive" structured product offering a low level of capital protection will have a higher allocation to the risk component. These products consist of only a small capital protection component which still provides some protection against downside risks. Included in this category are leverage-based products where both the returns and the risk of loss are higher.

There are equity- and index-based structured products that take into consideration trends in the global markets and aim to achieve a higher return than the traditional bond or money markets.

The most common structured products are those that offer a full or partial capital guarantee at maturity.

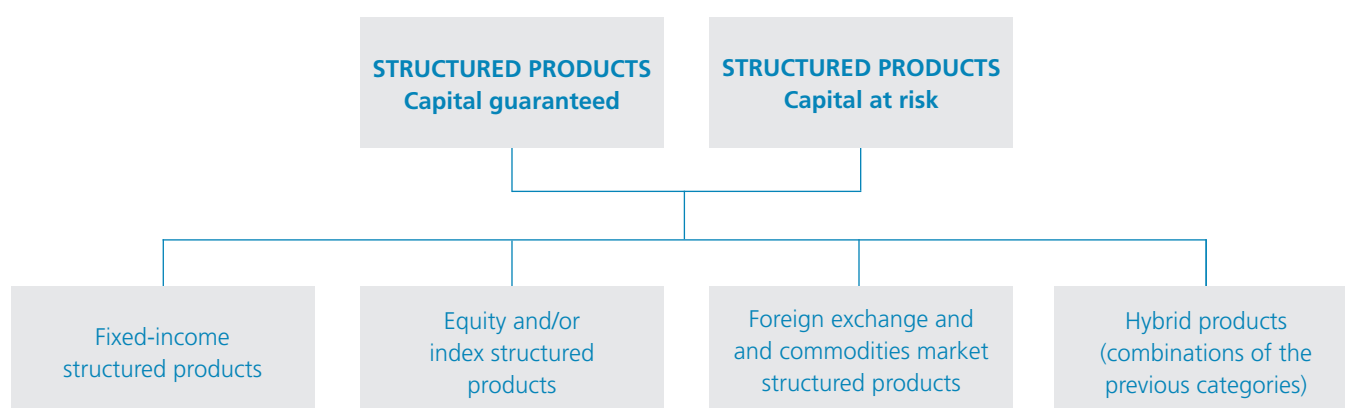


Illustration of a structured product

**BCEE Callable Step-Up EMTN 01/01/2018 – 01/01/2023 0,50% - 0,80% - 1,10% - 1,40% - 1,70%**

Coupons: 1st year: 0,50% per annum (guaranteed rate), 2nd year: 0,80% per annum (except in the case of early redemption by BCEE), 3rd year: 1,10% per annum (except in the case of early redemption by BCEE), 4th year: 1,40% per annum (except in the case of early redemption by BCEE), 5th year: 1,70% per annum (except in the case of early redemption by BCEE)

	over 1 year		over 3 years		over 5 years	
Subscription of EUR 10.000	Subscription date: 01/01/2018 price: 100,00%		Subscription date: 01/01/2018 price: 100,00%		Subscription date: 01/01/2018 price: 100,00%	
Gross amount	EUR 10.000,00		EUR 10.000,00		EUR 10.000,00	
Commissions and other fees (0,25%)	EUR 25,00		EUR 25,00		EUR 25,00	
Net amount	EUR 10.025,00		EUR 10.025,00		EUR 10.025,00	
Early redemption by BCEE of EUR 10.000 at a price of 100,00%	Early redemption date: 01/01/2019 price: 100,00%		Early redemption date: 01/01/2021 price: 100,00%		Final maturity date: 01/01/2023 price: 100,00%	
Gross amount	EUR 10.000,00		EUR 10.000,00		EUR 10.000,00	
Commissions and other fees (0,00%)	EUR 0,00		EUR 0,00		EUR 0,00	
Net amount	EUR 10.000,00		EUR 10.000,00		EUR 10.000,00	
Coupon received	EUR 50,00		EUR 240,00		EUR 550,00	
LU withholding tax (20%)	EUR 10,00		EUR 48,00		EUR 110,00	
Custody fees	EUR 0,00		EUR 0,00		EUR 0,00	
Final capital	EUR 10.015,00		EUR 10.167,00		EUR 10.415,00	
Handling fees (0,15% included in the price)	EUR 15,00		EUR 45,00		EUR 75,00	
Gross return (excluding handling fees included in the price)	EUR 65,00	0,65%	EUR 285,00	2,85%	EUR 625,00	6,25%
Total costs and associated charges	EUR 50,00	0,50%	EUR 118,00	1,18%	EUR 210,00	2,10%
Net return	EUR 15,00	0,15%	EUR 167,00	1,67%	EUR 415,00	4,15%
<b>Summary of costs and associated charges</b>						
Charges related to investment services	EUR 25,00		EUR 25,00		EUR 25,00	
Charges related to the financial instrument	EUR 25,00		EUR 93,00		EUR 185,00	



## GLOSSARY

The non-exhaustive list below includes some of the key terms used in this brochure.

### CALCULATION BASIS

Simple interest is calculated by multiplying the principal by the rate and by an established calculation basis. The basis sets out the conventions for calculating the time between two payments and the number of days that make up a full year.

It is presented as a fraction where the numerator is the number of days between two payments and the denominator is the number of days in a year.

- **ACT/ACT**: The actual number of days in the period/total number of days in the year.

- **30/360**: This basis follows the same principal as above. By convention, a month has 30 days and a year has 360 days, which allows for regular payments (180/360; 90/360; 30/360).

### BEAR AND BULL MARKETS

A bear market is when the stock market is on a downward trend while a bull market is when the stock market is on an upward trend.

### BENCHMARK

A reference index or standard of measurement used to assess an investment fund's performance. In general, money market and hedge funds are compared to money market indices, bond funds to bond indices, equity funds to stock exchange indices and, lastly, asset allocation funds (known as mixed funds) to custom composite indices made up of bond and stock indices.

### CALL

A contract between two counterparties (a buyer and a seller) in which the buyer pays the seller a premium and, in return, is given the right, and not the obligation, to buy a certain quantity of an underlying asset on one or more dates or within a set time period and at a predetermined price (strike price).

### FOREIGN EXCHANGE FORWARD TRANSACTION

A foreign exchange transaction taking place on a given future date and involving a predetermined nominal amount, currency pair and exchange rate.

### VALUE DATE

Date that the counterparties agree will be the transaction date used to calculate any amounts to be paid or received.

### DELTA (sensitivity)

Ratio between the change in the premium and the change in the price of the underlying asset. Mathematically, delta is the derivative of the price of the option based on the value of the underlying. A delta of 50 means that for a EUR 1 change in the underlying, the price of the option will vary by EUR 0,050. Delta can be understood as the probability that an option will expire in the money. An at-the-money option will have a delta of close to 50, which means a 50% chance of expiring in the money. The value of an option's delta increases in absolute terms as the option moves deeper in-the-money. Delta is also used to determine how much of an underlying to hold in order to hedge the option component.

### DIVERSIFICATION

The diversification principle arising from modern portfolio management theory is more commonly expressed with the saying "Don't put all your eggs in one basket". This fundamental rule for managing a portfolio of financial assets is the key to the success of investment funds. These funds give investors an effective way to diversify their portfolios, even for small amounts.

### LEVERAGE EFFECT

A multiplier or amplifying effect.

### EMTN (Euro medium-term note)

A bond issued under an EMTN programme. These bonds are generally customised to fulfil the requirements of one or more investors. As such, they provide access to a wide range of markets (interest rates, equities, commodities, etc.) and meet a variety of needs, from the most basic (simple fixed-coupon bonds) to the most complex (reverse convertibles, non-directional products, etc.). It is always important to learn about the issuer of an EMTN and to assess its reliability (potentially based on its rating) as it is the issuer that is responsible for properly executing the transaction. The exact terms of the bond (issue currency, maturity of the investment, redemption formula, etc.) are set out in the Pricing Supplement.

### EURONIA (Euro Overnight Index Average)

European overnight rate. It is calculated based on the amounts and rates applied for all overnight lending transactions. These figures are provided by a panel of about 50 European credit institutions. This post-fixed rate is calculated by the European Central Bank the day after the day in question at 7:00 a.m. and is published by the European Banking Federation.

### EURIBOR (European Interbank Offered Rate)

Interbank rate used as a benchmark by European banks. The quotation is given after receipt of submissions by a panel of banking institutions representative of the eurozone. Euribor is calculated and published daily by the European Banking Federation for different maturities. The most commonly used maturity is 3-month Euribor. This predetermined rate is fixed on a given date at 11:00 a.m. for a value covering the period starting two days later until maturity.

### FUTURE

A firm forward contract to buy or sell a financial product in which the price of that product is fixed immediately for a given future date. Financial futures transactions are based on standard contracts and predetermined amounts for each instrument traded.

### LIBOR (London Interbank Offered Rate)

Interbank lending rate offered on the London eurocurrency market.

### SPOT MARKET

Market where transactions are carried out for immediate settlement and delivery

### RATING

Rating agencies, such as Standard & Poor's and Moody's, are the companies tasked, on behalf of the financial community, with rating the solvency and financial risks of issuers of debt securities. The highest rating assigned to any company or country is AAA/Aaa. The rate paid by the borrower on its debt depends on its repayment ability, and thus on its rating.

### OPTION

A contract in which the buyer pays a premium to have the right, on or before a given date, to ask the seller to fulfil an obligation for which the price (strike price) was determined when the contract was signed. The buyer may choose not to exercise the option if it will not generate a gain. The seller must fulfil the obligation if the option is exercised and in any case will keep the premium. There are European- and American-style options (plain vanilla options) and exotic options. The pay-off calculation is more complex for exotic options. A wide range of factors can make an option exotic: how the strike price or underlying is calculated, conditions relating to the value of the pay-off, etc.

### PAY-OFF

Amount received by the buyer of an option at exercise.

**PRICE/EARNINGS RATIO**

The price/earnings ratio is the ratio of a company's share price to after-tax earnings for a single share (earnings per share). In other words, it expresses how many times higher the price is than earnings. It reflects the cost of a share as it is calculated on the basis of current earnings and not how it is expected to perform. The P/E ratio is therefore a sort of reverse return between the share's earning potential and its price. The P/E ratio published in the press is that based on the most recently published annual earnings. In principle, a high P/E ratio signifies investors' expectations that earnings will grow significantly in the following years.

**PREMIUM**

Amount that the buyer must pay the seller of an option or of a forward rate agreement in exchange for the buyer's right to exercise the option or the seller's commitment to pay differentials to the buyer of a forward rate agreement. The premium is payable in one or more instalments according to the terms agreed in the confirmation. The seller of the option always keeps the premium.

**STRIKE PRICE**

Interest rate, exchange rate or price at which the underlying of an option can be bought or sold at expiration.

**STRUCTURED PRODUCT**

Product (bond or open-ended investment company (SICAV)) made up of various building blocks (zero-coupon bonds, options, swaps, etc.) combined into a single easily accessible product for the investor. Structured products make it possible to focus on a wide variety of markets (interest rates, equities, commodities, etc.), define an acceptable level of risk (full or partial capital protection, no capital protection, etc.) and express the most complex market expectations (non-directional, equity/fixed income correlation, etc.). From a legal standpoint, a structured product can take a number of forms: EMTN, certificate, etc. The price of structured products (which are rarely actively traded on the exchanges) is determined using complex mathematical methods.

**EMTN PROGRAMME**

This is a highly flexible bond issue vehicle used to issue a wide variety of investment products (called EMTNs) using standard documentation. From the issuer's perspective, an EMTN programme is a refinancing tool for raising cash from investors and earning a return on this cash or investing it in accordance with the terms and conditions set out in the Pricing Supplement.

**PUT**

This is a contract between two counterparties (a buyer and a seller) in which the buyer pays the seller a premium and, in return, is given the right, and not the obligation, to sell a certain quantity of an underlying asset on one or more dates or within a set time period and at a predetermined price (strike price).

**RETURN**

Return measures the performance achieved by a financial asset over a given period of time taking into account price trends and cash flows.

**FORWARDATION**

Gain, generally expressed as a percentage, corresponding to the difference between the nominal value of a security and its stock market price. On the forward markets, forwardation means that the price of a futures contract is higher than the spot price of the underlying or that the premium for an option is higher than its intrinsic value.

**RISK**

Investments are subject to market forces and therefore to price fluctuations due to market uncertainties. Risk measures the likelihood of losing money on an investment. Investors can protect themselves by extending their investment horizon or selecting less risky assets.

**CURRENCY SWAP**

Contract in which two counterparties exchange, over a fixed period, two streams of interest denominated in two different currencies on a predetermined nominal amount. The principal is always exchanged when the swap expires and is sometimes exchanged at the start date.

**UCITS V**

UCITS V (UCITS stands for undertakings for collective investment in transferable securities) is the amended law of 17 December 2010 on undertakings for collective investments that transposes Directive 2009/65/EC.

**NET ASSET VALUE (NAV)**

NAV represents the value of a share of an investment fund or UCI, as published by the fund accountant and approved by the custodian bank. It corresponds to the fund's net assets divided by the number of units. It is calculated daily, weekly or monthly as specified in the fund prospectus. Net assets correspond to the value of the fund's assets (securities, dividends or coupons, cash, etc.) minus its liabilities (fees payable, such as the capital duty on funds and commissions, etc.).

**VOLATILITY**

Volatility is the measure of fluctuations in the price of an asset over a given period. A distinction is traditionally made between historical volatility, which is calculated based on the historical prices of the underlying asset and stated as a percentage of the underlying asset's average prices over a given period, and implied volatility, which is the markets' expectation of the level of fluctuation in an underlying asset. Volatility therefore measures, for example, the potential extent of fluctuations in a fund's NAV.

**YIELD-TO-MATURITY**

Yield-to-maturity is the return on a bond investment if the investor holds the security until maturity.





**SPUERKEESS**

**Äert Liewen. Är Bank.**

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