In transactions with financial instruments, the possibility of making profits or incurring losses is proportional to the risk. It is therefore essential for investors to be able to make informed decisions about their investments in the financial markets. To do so, they should know the products and be familiar with their characteristics and the risks associated with the financial instruments. This information provides an overview of the main categories of financial products that BTG Pactual Europe S.A., Luxembourg offers its customers. In particular, the risks associated with these financial instruments are explained in detail. The first part of this document describes the general risks of financial instruments, while the second part focuses on the main characteristics of the following financial investments:

Money market instruments, bonds,
Stocks,
mutual funds,
Options contracts and warrants, forward contracts (futures),
Structured products.
Our securities specialists are available at any time to answer any further questions or provide information on investment products or financial instruments.

## Definition of your investor profile and investment horizon

The precise determination of your investor profile is the essential prerequisite for choosing the type of investment that corresponds to your risk profile and your return targets. Financial investments entail certain risks that investors must accept to achieve the desired return. The basic rule is: the more attractive the possible return, the higher the risk. Based on the profile of the respective investor, we define 6 different profiles, from "security" to "speculation". We create the corresponding profile on the basis of a questionnaire that provides information about the risk acceptance and the investment objectives of the client. This classification enables us to tailor our consulting services to each client category. Your investment horizon is also of decisive importance when choosing a suitable investment. For example, a volatile product is out of the question for a short-term investment with a term of 1 year, as there is a risk that you will have to sell your investment just when market conditions are unfavourable.

## Diversification of your investments

Due to the specific risk of an investment instrument, investors are advised to diversify their investments, i.e. to invest in several asset classes (bonds, shares and alternative financial instruments) to minimize this risk. A well-diversified portfolio therefore ideally consists of investments in equities, bonds and liquid assets. Modern portfolio theory has recognised that at least 20 individual positions are recommended for direct investments in order to achieve statistically sufficient diversification. It is important to ensure that the issuers of these securities are active in different economic sectors.

## Spreading your investments over several periods of time

Given the high and unpredictable price fluctuations in the financial markets, it is very difficult to determine the optimal time to buy or sell securities on the stock exchange. Investors should, therefore, not invest their entire investment capital all at once, but in several stages and on different maturity dates. For low-risk securities that fluctuate little, the whole amount can usually be invested directly.

## The optimal number of securities

When investors invest small amounts in a large number of securities, minimum fees may result in higher transaction costs. We, therefore, recommend paying attention to minimum costs and alternatively achieving sufficient diversification through funds.

## Permanent liquidity reserve

It is advisable not to invest your entire capital in securities so that you do not have to sell your investments at an unfavourable moment in case of liquidity needs. Such losses can be avoided by maintaining a permanent cash reserve that gives you financial leeway. On the other hand, a cash reserve is expensive, as it is devalued gradually due to the lack of interest and higher inflation

## Tax treatment of your investments

The gross investment return may be subject to withholding tax, which is deducted directly by the bank, or to other taxation, so that the return you receive may be lower than the gross return on your investments. The level of taxation varies and depends on the type of investment, the relevant double taxation agreement (if applicable) and your personal situation (e.g. country of residence). Investors are advised to consider tax aspects when making their investment decisions and, if necessary, to consult their tax advisor.

## MAIN RISKS OF FINANCIAL INSTRUMENTS

## Economic risk

In a market economy, the price development of securities and, in condensed form, thus also the performance of derivatives is always influenced by economic fluctuations. Prices fluctuate due to the anticipation of up and down phases of the economic cycle. The duration and extent of the individual economic phases and their effects on the individual economic sectors vary constantly. In addition, economic cycles can also vary from country to country. Ignoring or misjudging economic trends when making investment decisions can lead to losses. In this context, the effects of economic cycles on the development of interest rates and exchange rates as well as on the business results of the companies of a country must be taken into account in particular.

## Inflation

Inflation is understood to be the significant and persistent increase in the cost of living and the resulting loss of purchasing power. Investors suffer a loss of purchasing power as soon as the inflation rate (measured for the domestic economy) is higher than the return on risk-free securities. Investors should, therefore, base their investment decisions on the real interest rates resulting from the difference between interest rates and inflation rates.

## Psychological influences

Irrational factors such as opinions or rumours, which can trigger price declines but also considerable price increases, although the underlying conditions need not otherwise have changed, can also influence the general price development of financial investments. These psychological factors intensify in the event of economic crises or geopolitical tensions and can cause phenomena such as speculative bubbles or crashes on the financial markets.

## Country risk

It is possible that a country may no longer be able to meet its payment obligations and/or the exchangeability of its currency may be restricted or suspended. This risk is caused by economic instability on the one hand and political unrest on the other. For example, an investor may not be able to make payments due to a lack of foreign exchange reserves or foreign exchange transfer restrictions abroad. It is also possible that the investor receives payments in a currency that is no longer convertible due to exchange controls. It is generally not possible to protect oneself directly against such country risks, as the following recent examples show: Brazil (1975), Russia (1998) or Argentina (2001).

## Currency risk

The currency risk is identical for all financial investments, whether they are money market instruments, bonds, equities or derivatives. When an investor buys a security that is not denominated in the national currency (reference currency), he or she incurs a currency risk because the exchange rate of the foreign currency may fall against its reference currency. The currency risk is, therefore, unavoidable when buying US or Japanese shares on a European stock exchange. The price fluctuations of shares denominated in euros take into account not only their price fluctuations on their main stock exchange but also exchange rate fluctuations. Investors can hedge against currency risks by means of forward exchange contracts and the purchase of put options.
Important parameters for the development of exchange rates include the differences between inflation rates and interest rate levels in the individual countries, the assessment of economic development, the political situation and the security of the investment environment. Psychological events such as a lack of confidence in political leadership can also trigger speculation that weakens a currency.

## Liquidity risk

In the event of a liquidity crisis in a market, there is a risk that investors will not be able to sell their securities at the market price or not at all. In principle, a distinction must be made between temporary illiquidity resulting from the non-existent interaction between supply and demand (e.g. due to seasonal fluctuations) and structural illiquidity due to the structure of a security (e.g. due to the low market capitalisation of a company and thus its low daily trading volume on the stock exchange). Supply- and demand-related illiquidity occurs when there is almost exclusively supply (ask price) or almost exclusively demand (bid price) for a security at a certain price. Under these circumstances, the execution of a buy or sell order is not possible immediately and/or only partially (partial execution) and often on unfavourable terms. In addition, higher transaction costs are incurred for any partial executions. Illiquidity due to the features of security is given, for example, in the case of a lengthy re-registration procedure for transactions with registered shares or long execution periods due to market practices. In the case of undertakings for collective investment (UCls), illiquidity results from a suspension of the calculation of the net asset value (NAV) by the custodian bank of the fund concerned. This was the case, for example, for US equity funds in the days following the terrorist attacks of 11 September 2001, when Wall Street remained closed for almost a week. Another example was the German real estate funds, which, as a result of massive redemption requests, had to suspend the calculation of their NAV until part of their real estate portfolio had been sold; a process that took weeks and months.

## Specific risks of credit-financed investment transactions

Purchases of securities financed by loans are associated with additional risks. On the one hand, other collateral (guarantees) may be required if the credit line is exceeded due to unfavourable price developments of the pledged securities. If the investor is not able to obtain this collateral, the bank may be forced to sell the pledged securities at an unfavourable time. On the other hand, the loss suffered in the event of an unfavourable price development may be higher than the original capital contribution. Fluctuations in the price of the pledged securities may affect the ability to repay the loans. It is important to note that the leverage effect induced by credit-financed purchases of securities generally results in a disproportionately high susceptibility to price fluctuations and thus offers greater opportunities for profit, but at the same time also entails more significant risks of loss. The risks of credit-financed purchases increase proportionally through the leverage effect.

## Specific risks of investments in derivatives

Warrants and options react with a leverage effect to the price fluctuations of their underlying asset. When a warrant or option is purchased, the instrument loses its entire value if the price of the underlying at the maturity of the call or put is lower or higher than the contractually agreed strike price. The risk of loss is, in principle, unlimited when derivatives are sold or futures transactions are entered into that are not covered by underlying assets.

When investing in derivatives, the investor must pay security deposits (so-called "margins").
Margins for futures and options on futures are divided into "initial margin" and "variation margin". The initial margin is a security deposit that is used to hedge the costs of closing overnight. It is continuously adjusted by the bank, depending on the stock market situation and volatility. With the variation margin, the daily profits/losses are posted. In other words, the variation margin ensures that losses are offset when the position is closed, while the initial margin covers the overnight risk.

A distinction is made between "premium margin" and "additional margin" for options. The premium margin covers the current closing costs of the option, the additional margin covers the overnight risk. The bank will combine premium and additional margin in a single flat-rate margin.

Any margin deposits in the form of margin entries are made through separate margin accounts and reduce the free liquidity available to the investor. In the case of securities transactions financed by credit, the collateral provided places an additional burden on the credit line.

## MONEY MARKET INSTRUMENTS

## 1. Definition and characteristics

The money market is a non-formalised market on which financial institutions such as central banks, commercial banks, insurance companies, fund managers and other large companies invest money and obtain short-term financing (liquidity management). The term "short-term" refers to a maximum period of one year. The most important money market interest rates in the Eurozone are the EONIA, EURIBOR and LIBOR. Since the borrowers in the money markets are professional financial market players, the bonds issued in return are characterised by low risks, but therefore offer only low yields. These securities are ideally suited for investors with a high risk tolerance.

## 2. Product categories

a) Treasury bills

Treasury bills are short or medium-term debt securities issued by the treasury of a country and representing claims on that country.
b) commercial paper

Commercial paper is a tradable debt instrument issued by companies, which corresponds to a temporary investment of a large amount in these issuers.
c) Certificates of deposit

Certificates of deposit are negotiable debt instruments issued by banks or credit institutions and representing a temporary investment of a large amount in such issuers.
d) Spot exchange transactions

Spot exchange transactions are agreements between two parties to exchange an amount in a particular currency for an amount in another currency at a spot market exchange rate fixed at the time of the transaction. These transactions are only possible with currencies that are normally traded on the foreign exchange markets, such as EUR/USD.
e) Forward exchange transactions

Forward exchange contracts are agreements between two parties to exchange an amount in a particular currency for an amount in another currency at a date and rate agreed at the time of the transaction. The exchange takes place at a future date, with the parties agreeing to deliver the sold currency amount on the maturity date of the agreement and to accept delivery of the purchased currency amount. Forward exchange contracts allow for hedging against future exchange rate fluctuations or are speculative transactions to take advantage of the future development of the exchange rate of one currency against another. As a rule, the maximum term of forward exchange transactions is one year. These transactions are only possible with currencies that are normally traded on the foreign exchange markets. The forward rate of one currency against another currency is calculated on the basis of the spot rate and the different interest rates of the two currencies concerned. Forward exchange contracts are used: - to hedge a customer's exchangerate risk; - for speculative purposes. In the latter case, the client undertakes: - to close out an open position at least two days before the maturity of his forward transaction (by buying or selling) and to realize a profit or loss, - to extend his position with a new date. In this case, it is a "swap" of the forward exchange transaction.

## 3. Additional risks of money market instruments

The money market is reserved for high volume transactions carried out by professional investors. Most private investors have access to this market only through money market funds. Credit risk is the risk of loss due to non-payment of interest and partial repayment of principal. In addition to the long-term rating of an issuer, the rating agencies Standard \& Poor's and Moody's also publish short-term ratings of its creditworthiness, which are used to assess credit risk. These ratings distinguish between "investment grade" (sufficiently secure creditworthiness) and "speculative grade" (low creditworthiness). A systemic credit event on the money markets of OECD countries only occurs in the extreme case of a serious banking crisis, for example if the default of a major financial institution triggers a domino effect in the international banking system. Since money market instruments have only a short term to maturity, the investor's risk is mainly limited tothe reinvestment risk, i.e. the risks that his investment will earn interest at a lower rate at maturity.

## LOAN

## 1. Definition

Bonds are debt securities that give their holder, the so-called bondholder, a creditor right over an issuer to whom he has granted a loan. They give the bondholder a right to receive interest, known as the coupon, and to repayment of the principal amount made available at predetermined conditions and dates. Bonds are tradable debt instruments representing a fraction of the total amount of (long-term) debt issued by a government, public corporation, supranational organisation or private company. The coupon represents a remuneration for the capital provided in the form of interest payments. It can be fixed or variable. On each interest payment date agreed in advance, the borrower pays the investor a coupon corresponding to the product of the nominal value of the bonds and the interest rate. At final maturity, the debtor redeems the bond and repays the principal to the investor at the redemption price. If the issuer defaults (insolvency, bankruptcy), the owner of the bond bears the risk of non-repayment of his capital. As a rule, the risk associated with bonds is lower than that of equity investments.

## 2. Main characteristics of bonds

a) Nominal value or face value

The nominal value of a bond is nothing other than the total amount of the issue divided by the total number of units issued. It serves as the basis for calculating interest.
b) Issue/redemption price

The issue/redemption price of a bond may differ from its nominal value (also referred to as "par"). If the issue price is below this par, the difference is known as a "discount" (discount in favour of the investor). If the redemption price is above this par, the difference is known as the "premium" (premium in favour of the investor).

## c) Market price or effective value

The effective value of a bond is its price attainable on the market. Both the theoretical valuation of a bond and its effective value can differ significantly from its nominal value. As a rule, the price of bonds in circulation falls when interest rates rise. This is explained by the fact that issues already in circulation with lower interest rates are less attractive than new issues with higher interest rates. This inverse correlation between the bond price and interest rates is known as interest rate risk. When buying a bond, the investor pays the market price plus accrued interest, i.e. the portion of interest payable on the bond since its issue or since the last coupon payment up to the value date of its purchase. When a bond is sold, the investor collects the market price and accrued interest, which includes interest accrued and payable up to the value date of the sale.
d) Coupon interest (coupon)

This is the interest rate at which the bond was issued and which serves as the basis for calculating the coupon payments. The most common calculation methods for bonds are the ACT/ACT- (Actual/Actual, where ACTUAL corresponds to the number of actual days) or the 30/360 method. Example: A bond with a nominal value of EUR 10,000 , which has been held uninterrupted for the duration of one year and has an annual coupon of $6 \%$, pays its holder a coupon of EUR 600 (EUR 10,000 x 6\%).
e) Return on investment

The yield of a bond, also known as "yield-to-maturity" in financial literature, is expressed as a percentage and measures the return on an investment over a certain period of time, usually one year, until the bond matures. It includes the bond's purchase and redemption price, interest rate and remaining term. As a result, the yield only corresponds to its coupon if the price is $100 \%$.
f) Arrangements for the repayment of borrowings

A distinction is made between the following repayment types:

- Repayment on the fixed due date;
- Early redemption of the bond at the request of the holder (put) or the issuer who has reserved this option (call);
- Redemption by drawing lots for bonds, i.e. the issuer has reserved the right to redeem at regular intervals a portion of its bond determined by drawing lots;
- Convertible bond (optional repayment in cash or delivery of a previously defined class of securities at a fixed price).
g) Credit assessment or rating

The following table explains how the two most important rating agencies, Standard \& Poor's and Moody's, classify the credit quality (credit standing) of an issuer of bonds and medium and long-term debt instruments and assign them corresponding "ratings".

| Credit rating | S\&P | Moodys | Comment | Default risk |
| :---: | :---: | :---: | :---: | :---: |
| Investment grade | AAA | Aaa | Issuers with exceptionally strong solvency due to a stable financial situation | extremely low |
|  | AA+ AA <br> AA- | Aa1 <br> Aa2 <br> Aa3 | Issuers with high quality. Slightly higher risk than for issuers with AAA ratings | low |
|  | $\begin{aligned} & \mathrm{A}+ \\ & \mathrm{A} \\ & \mathrm{~A}- \end{aligned}$ | $\begin{aligned} & \text { A1 } \\ & \text { A2 } \\ & \text { A3 } \end{aligned}$ | Issuers with good solvency. Economic fluctuations can affect the financial situation | low |
|  |  | Baa1 <br> Baa2 <br> Baa3 | Issuers with medium creditworthiness and adequate solvency | medium |
| Speculative grade | $\begin{aligned} & \mathrm{BB}+ \\ & \mathrm{BB} \\ & \mathrm{BB}- \end{aligned}$ | $\begin{aligned} & \mathrm{Ba1} \\ & \mathrm{Ba} 2 \\ & \mathrm{Ba3} \end{aligned}$ | Dependence on economic fluctuations | high |
|  | $\begin{aligned} & \mathrm{B}+ \\ & \mathrm{B} \\ & \mathrm{~B}- \end{aligned}$ | $\begin{aligned} & \text { B1 } \\ & \text { B2 } \\ & \text { B3 } \end{aligned}$ | Strong change in financial position depending on economic conditions | high |
|  | CCC+ CCC CCC- | Caa <br> Caa <br> Caa | Vulnerability of the financial situation and dependence of repayment on favourable economic conditions | particularly high |
|  | CC | Ca | Extreme vulnerability of the financial situation, highly speculative positions | particularly high |
|  | C | C | Payment default foreseeable | extreme |
| Outage | D | C | Default of payment already occurred | extreme |

## 3. Bond types

The following types of bonds are distinguished according to their legal features:

- Mortgage bonds secured by mortgages on one or more properties
- Senior bonds secured by the issuer's movable assets;
- Standard bonds that do not have any additional collateral;
- Subordinated bonds which, in the event of the insolvency of the issuer, will be issued only after all other creditors from the insolvency estate. Creditors can also participate in the issuer's losses in various ways during the term of the issuer.
The following types of bonds are also significant:
a) Zero coupon bonds (zero bonds)

Bonds that do not have a coupon and do not pay interest during their term. This type of bond is usually issued below par, i.e at a discount on the issue price, so that the bondholder receives a high premium at maturity as a result of the capitalisation of interest.

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## b) Fixed-interest bonds

Bonds whose coupon rate (annual or sometimes semi-annual) remains the same until final maturity.
c) Bonds with variable interest rates/floater (floating rate notes)

Bonds whose interest rate is usually adjusted every quarter until maturity on the basis of a previously determined money market interest rate (EURIBOR or 3-month LIBOR). The interest rate is usually linked to inflation or a money market rate.
d) Step-up and step-down bonds (tiered bonds)

Bonds whose nominal interest rate rises or falls during their term in accordance with a schedule determined at the time of issue.
e) Convertible Bonds

Convertible bonds are classic bonds which, at the request of their owner, can be exchanged for new shares in the issuing company in accordance with the conversion conditions laid down in the issuing agreement. A rise in the share price usually causes a corresponding increase in the price of the convertible bond. If, on the other hand, the share price falls, the price of the convertible bond stabilises at a minimum price corresponding to that of a bond with the same rating and the same remaining term. The owner of a convertible bond is thus better protected against a decline in the price of the underlying asset (share) than an investor who has invested directly in the share.
f) reverse convertibles

These bonds offer a higher coupon than standard bonds, but the repayment of the capital depends on the price of a reference share in relation to a price fixed in advance. If the price of the Reference Share at maturity of the Reverse Convertible is below this fixed price, the investor will receive repayment in Reference Shares. However, if the price of the Reference Share at maturity is above the specified price, a normal repayment of the Nominal Amount will be made. However, the investor will generally be paid a coupon.
g) Special form of bonds: cash notes

Treasury bills are bonds issued by financial institutions. In return for the provision of an amount of money (possibly also a relatively small amount), which is lent to a financial institution for a certain period of time (the range of maturities is relatively broad), the financial institution issues a so-called cash register receipt as an acknowledgement of debt. There are cash register bills with progressive interest rates (the interest rate increases as the term progresses), savings bonds with compound interest (the interest is not paid out annually but is added to the original amount) or cash register bills with variable interest rates (which are changed at certain intervals). Financial institutions usually offer the possibility of direct repurchase even before the maturity of the cash certificates.

## 4. Additional risks of bonds

For example, the low credit risk of investment grade bonds and the high risk of speculative grade bonds explains the difference in yield between a German government bond and an Argentine government bond. This risk of default changes over time as it depends on the fundamentals of the economy concerned (deficits, growth, etc.) and/or the company (balance sheet and cash flow, etc.). If the credit event occurs, coupon payments are no longer made and the invested capital is repaid only partially or not at all. If the bond is equipped with an option or option right, the investor bears additional risks. The prices of bonds fluctuate in line with changes in the yield curve (= interest rate risk), i.e. changes in short and long-term interest rates depending on the duration of the bond or, in other words, the remaining term of the bond. Market rates also fluctuate depending on the liquidity of the financial markets, risk aversion or risk acceptance by investors, as well as economic expectations and the monetary policy of central banks. A systemic risk event occurs, for example, if an independent state defaults, as was the case with Argentina at the beginning of this century.

## SHARES

## 1. Definition

Shares are securities representing a share in the capital of a corporation (listed or unlisted). They document the shareholder's rights and exist in registered or bearer form. Shares have property and participation rights, as they grant their holder the right to attend and vote at general meetings (exception: preferred shares) and the right to receive a portion of the company's profits in the form of dividends. Shareholders also have a right to information for assessing the company's situation (business results, profit, annual report, etc.). In contrast, shareholders also share in the full risk of the company.

## 2. Main characteristics of shares

a) Shareholder rights

These rights are enshrined in the articles of association of the issuing company. They are primarily the right to a share in the company's profits in the form of a so-called dividend, a right to vote at shareholders' general meetings (exception: preference shares), a right to information or a right to a share in the liquidation proceeds in the event of the company's dissolution.
b) Return on investment

The return on equity investments is calculated from the price gains or losses on the sale of shares and the dividends received. Dividends are paid out in accordance with the resolution of the Annual General Meeting of Shareholders. Share prices rise or fall depending on whether a company meets the expectations anticipated by the markets in the share prices with regard to the development of earnings, sales and/or margins.
c) sales of shares

Subject to the applicable legislation, bearer shares are generally transferred without any special formalities, whereas registered shares entered in a share register are often subject to certain restrictions or administrative requirements.

## 3. Classes of shares

## a) Bearer/registered shares

The holders of registered shares are entered in the company's share register, so that certain formalities must be fulfilled in the event of a sale. The owner of a bearer share, on the other hand, is not entered in this register, so that the sale can be made informally.
b) ordinary or preference shares

Certain shares (preference shares) may be granted special rights under the articles of association of the issuing company, e.g. with regard to the amount of the dividend as compensation for the lack of voting rights at general meetings.
c) Share certificates

Share certificates embody - as their name suggests - one or more shares of an issuer. They are traded in their place. Common forms are Fiduciary Depositary Receipt (FDR), American Depositary Receipt (ADR) or Global Depositary Receipt (GDR).

## 4. Additional risks of shares

The main risk of equities is price risk. Share prices react to any improvement or deterioration in a company's fundamental data (balance sheet, income statement, sales and margin development). The markets anticipate these changes in fundamental data, so that, for example, the price reaction on the stock exchange to company announcements (e.g. profit warnings) sometimes appears irrational. The valuation of a share is carried out in comparison to a base scenario and results in the so-called stock market key figures (e.g. the price-earnings ratio), which in turn reflect investors' expectations regarding the development of the company's fundamental data in the future. If market expectations are not met, the stock market price falls. As long as companies' financing needs are not covered, they may decide not to pay dividends. Share prices fluctuate depending on company-specific factors, but also on macroeconomic parameters (inflation, growth, government debt, etc.). If the financial markets expect an economic recession, the stock markets often show a bear market dynamic, which financial experts call the "bear market" and which is characterized by a phase of negative stock prices. If an economic upswing is expected, share prices usually record a pronounced bull market, from which the so-called cyclical shares in particular benefit. Cyclical stocks are those of companies that operate in sectors of the economy that are highly dependent on the economic cycle (steel, technology, etc.). As a rule, shares benefit from economic growth.

## INVESTMENT FUNDS

## 1. Definition

A so-called "collective investment undertaking" (UCI), better known as an investment fund, is an investment company whose sole purpose is to collect money from investors in the public domain and to invest it in real estate, securities (shares, bonds) or other financial instruments in accordance with the principle of risk diversification. The units, which are referred to as "investment fund units", can be offered as accumulating or distributing units. In the case of accumulation units, the income received by the mutual fund is reinvested and the unitholders of the fund;, do not receive any dividend payments. For this reason, the NAV (net asset value) of accumulation units is also different from that of distribution units of a sub-fund. Distributing Shares distribute their income. So-called closed-end mutual funds cannot issue new units once the maximum number laid down in the Articles of Association of the Company has been issued. Investors can, therefore, only acquire units in a closed-end fund if a unitholder sells his units or a capital increase is made. As a general rule, unit trusts are set up as "open-ended" funds whose Articles of Association do not provide for any definition or limitation of the number of units in circulation and whose units may be subscribed for under the subscription terms laid down in the UCI's prospectus. Each common fund or sub-fund of a common fund manages the investments for the account and in the interests of its subscribers/unitholders, in accordance with the legislation in force and taking into account an investment policy defined when the fund was launched. The investment policy pursued each sub-fund must always be indicated in the prospectus of the mutual fund.

## A mutual fund:

- collects investor money in public;
- is managed by a management company or its board of directors (self-managed investment fund);
- is divided into units, each representing an interest in the capital of the Fund, the units being allocated to their holders in proportion to the amount invested. The value of a unit corresponds to its net asset value (NAV), which is calculated in accordance with the accounting principles laid down in the prospectus. In general, investors should inform themselves about the legal form and specific functioning of the respective investment fund by means of the respective sales prospectuses.


## 2. Legal forms of investment funds

The Luxembourg legislator provides for two legal forms of investment funds: investment funds in a contractual form (Fonds Commun de Placement, closed investment funds without legal personality) and investment funds in a corporate form (Sociétés d'Investissement, open investment funds).
a) A mutual fund in a contractual form (Fonds Commun de Placement, FCP)

An FCP is defined as an indivisible portfolio of securities which is constituted and managed in accordance with the principle of risk-spreading for the account of the joint owners, the latter being committed only to the extent of their invested capital. As an FCP corresponds to co-ownership or joint ownership, it has no legal personality and is therefore managed by the Management Company under a management agreement in the exclusive interest of the unitholders. Investors must agree to this management agreement (as set out in the prospectus and drawn up by the management company) when subscribing for fund units. Compliance with the Management Agreement is monitored by the Custodian Bank. Since the assets are deliberately allocated to a common purpose, investors waive their participation rights such as voting rights. General meetings of shareholders are not planned.
b) Investment companies

Corporate undertakings for collective investment (UCIs) are investment companies. In contrast to FCPs, investment companies generally have their own legal personality that is independent of the investors. The UCITS V Directive explained in the glossary provides that these investment companies are managed by their board of directors (self-managed SICAV) or by a management company authorised by the Luxembourg Commission de Surveillance du Secteur Financier (CSSF). Two types of investment companies are distinguished:

- SICAV: investment company with variable capital;
- SICAF: investment company with fixed capital.


## 3. Funds with several sub-funds

The Luxembourg legislator grants investment funds (so-called "umbrella funds") the possibility of dividing their assets into several separate sub-funds that differ from each other by a separate investment policy, currency or group of investors. Switching from one sub-fund to another, within the same investment fund, is generally free of charge.

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

Investment funds can be divided into several categories, which differ in their investment policy:
a) Money market funds (investment funds investing in money market instruments denominated in the fund currency)
b) Bond funds (invest in fixed-interest or variable-interest securities with different interest rates, maturities and credit ratings of the issuer)
c) Equity funds (investment funds that invest in equities according to a geographical or sector-specific investment strategy, for example)
d) Mixed funds (investment funds that invest simultaneously in different financial instruments, e.g. in shares and bonds)
e) Funds of funds (investment funds that invest in other funds)
f) Investment funds with guaranteed capital or yield (structured products in the form of investment funds, but not European Medium Term Note (EMTN) type bonds; investment funds offering certain guarantees)
g) Real estate funds (investment funds that invest in real estate assets)
h) Hedge funds (investment funds that pursue an absolute performance target independent of stock market developments)
i) Institutional funds or special funds (which according to the Articles of Association of the Company issue their shares only to one or more institutional investors)
j) Sicar (Société d'investissement en capital à risque; venture capital funds investing in unlisted companies) The latter three types of funds are reserved for expert investors with high financial assets.

## 5. Specific risks of collective investment undertakings

In mutual funds, in particular, the fund products falling within the scope of Part I of the 2010 law on Undertakings for Collective Investment (UCITS V), the specific country and/or company risks are diversified to such an extent that the impact of the default of a single issuer is minimal. In general, investments in mutual funds offer the advantage of diversifying specific investment risks through the professional management of the investments, which is accounted for in the prospectuses and semi-annual financial reports. The investment policy of UCls takes into account the fact that investors are not exposed to specific investment risks, but almost exclusively to market risk, for the markets listed in the prospectus. Consequently, once an investor has made his choice with regard to the distribution between the different assets or geographical zones or specific investment themes (healthcare, ecology, etc.), his return and therefore his risk will largely depend on the performance of the "underlying" market. Traditional investment funds are generally based on a benchmark index.

## OPTIONS CONTRACTS AND WARRANTS

## 1. DEFINITION AND CHARACTERISTICS

Options are concluded in the form of contracts and belong to the derivatives family. An option gives its buyer the right to buy (call) or sell (put) an underlying asset, although he is not obliged to exercise this right. A call (call option) gives the buyer the right to buy a specified number of units of the underlying asset at a predetermined price, known as the strike price, on a specific date in the future, the maturity date. A put option gives the buyer the right to sell a fixed number of units of the underlying at a predetermined price on a specific date in the future, the maturity date. The seller of the option contract bears the unilateral exercise risk, as only the buyer of the option can decide whether to exercise it. The buyer of a call makes a profit at maturity of the contract if the intrinsic value (the price of the underlying minus the strike price) is higher than the purchase price. The buyer of a put makes a profit at maturity of the contract if the intrinsic value (strike price minus underlying) is higher than the purchase price. A call is "in the money" as soon as the market value of the underlying is above the strike price. A put is "in the money" if the market value of the underlying is below the strike price. An option has a (positive) intrinsic value if it is "in the money". A call is "out of the money" if the market value of the underlying is below the strike price. A put is "out of the money" if the market value of the underlying is above the strike price. As soon as the market value of the underlying equals the strike price, the option is "at the money". Options contracts offer a high degree of leverage because the amount of capital invested is considerably lower than the contract value (e.g. 1 contract = 100 shares). The risk of capital loss is therefore much higher. The value of options depends on a number of factors: the volatility and price of the underlying, the strike price, the time remaining until expiration and interest rates. The combination of different option transactions within the framework of complex strategies can lead to increased risks, especially in the case of the sale of options.

## 2. Types of option contracts

a) European/US options

So-called European options can only be exercised on a specific date, in principle on the maturity date. However, this does not affect their tradability on the secondary market (especially on the stock exchange). American options can be exercised at any time during their term until the option's maturity date (exception: the day of the Annual General Meeting).
b) Exotic options

In contrast to classic call and put options, exotic options are subject to special conditions and additional agreements. As a result, they have payment and risk structures that cannot be brought about by combining various classic options alone. Exotic options are available both as over-the-counter (OTC) options (which are traded over the counter) and as warrants. The design possibilities of exotic options are practically unlimited. It is therefore essential for investors to obtain detailed information about the corresponding potential risks or to have them explained in individual cases.


#### Abstract

c) Unterscheidung nach Arten von Basiswerten

Bestimmte Optionskontrakte beziehen sich direkt auf einen Basiswert wie z.B. eine Aktie, einen Rohstoff oder ein Edelmetall. Andere Optionskontrakte beziehen sich nicht auf einen Basiswert, sondern beispielsweise auf einen Terminkontrakt auf Anleihen, auf einen Zinssatz, Wechselkurs oder Börsenindex. d) Physische Lieferung/Barausgleich

Der Käufer einer Kaufoption (Call) mit physischer Lieferung kann die Option ausüben und die physische Lieferung des Basiswerts verlangen. Im Falle einer Verkaufsoption (Put) muss der Verkäufer der Option mit der möglichen Lieferung des Basiswerts rechnen und diese annehmen, wenn der Käufer seine Option ausübt. Wenn die Optionsbedingungen einen Barausgleich vorsehen, wird dem Käufer die Differenz zwischen dem Ausübungspreis und dem Marktpreis des Basiswerts zum Fälligkeitsdatum (=Schlussabrechnungskurs) ausgezahlt. e) Warrants (warrants)

Warrants are listed warrants represented by securities and are usually issued by financial institutions. A warrant does not represent a share of capital, such as shares, or a claim, such as bonds, but rather the right to buy or sell a financial asset at a predetermined date and price. Warrants belong to the derivatives family. Like options, warrants give the right to buy or sell this underlying asset at a predetermined price and for a specified period of time. This right can but does not have to be exercised by the investor. Warrants always relate to a specific asset, which can be a stock, an index (stock exchange or another index), a commodity, an exchange rate or a basket of stocks, indices or commodities. Warrants are financial products with a leverage effect, i.e. with warrants, risk positions can be built up in price movements of an underlying asset, whereby the price of the underlying asset is a multiple of the capital invested. They are therefore ideally suited for speculative transactions with rising or falling prices of the underlying, but investors may also have to reckon with the loss of their entire initial capital at maturity. They can also be used to hedge a portfolio against unfavourable market developments. Warrants are often used as a hedging instrument to protect a portfolio against unfavourable market fluctuations. For example, a portfolio of German stocks can be hedged against price declines by purchasing put warrants on the DAX. If there is no price decline, the put warrant expires and becomes worthless, like an insurance policy that has not been claimed. Similar to option contracts, call warrants to securitize the right to purchase a certain underlying asset at a fixed price (strike price) until a certain date (maturity date). Comparable to this category of financial instruments are also the subscription warrants and subscription rights, which confer a right to subscribe to a share or a bond during a certain period at a predetermined price. Subscription certificates differ from subscription rights in their long term. Finally, another type of warrant is the allotment right, which entitles shareholders of a company to receive new shares free of charge (e.g. as part of a capital increase). These rights can be traded on the stock exchange without restriction. Warrants are sometimes issued parallel to the issue of a bond or in the context of a capital increase. These warrants usually have a term of several years and are traded separately from the bond or share to which they relate at the time of issue. The trading period for warrants begins on the date of issue and ends approximately 5 business days before their maturity (expiration date).


## FORWARD CONTRACTS (FUTURES)

## 1. Definition and characteristics

Like options, futures are also derivatives. Futures are forward contracts by which two parties (unlike options) irrevocably commit themselves to buy or sell a certain quantity of an underlying asset at a fixed price on a specific date in the future (maturity date). A characteristic of futures contracts is their high degree of standardisation (contract value, fixed maturity, a precise definition of the permissible subject matter of the contract, etc.). If the price of the underlying of the futures contract is higher than the agreed price at the maturity date, its buyer makes a profit. In the opposite case, he makes a loss. The reverse logic applies to the seller of the contract. Like all derivatives, futures are leveraged instruments, as the capital invested is only a fraction of the price of the corresponding underlying. This leverage effect acts as a multiplier for the return on the investment, but at the same time is associated with a considerably higher risk for the invested capital. Futures contracts are closed out on the last quotation day through cash settlement or physical delivery. The purchase of such products requires not only a good knowledge of the mechanisms on which these products are based but also regular monitoring of the positions. Futures are associated with special financial risks. For this reason, such futures transactions are reserved for experienced and knowledgeable investors who have sufficient liquidity to absorb any losses.

## 2. Types of futures contracts

Most futures contracts relate to commodities and raw materials (crude oil, orange juice concentrate, etc.), currencies and interest rates (money market and bond market interest rates) and stock exchange indices.

## STRUCTURED PRODUCTS

## 1. Definition and characteristics

Structured products are financial instruments that consist of a combination of different financial instruments and therefore have the same risk and return characteristics as these. As a rule, a structured product consists of two main components:

- a capital protection component (usually a bond market product which also determines the term of the product) and
- a risk component with which high returns are to be achieved (e.g. a share, an index, commodities, etc.)

The large number of possible combinations of capital protection and risk instruments has meant that the market for structured products is now very broad and requires in-depth knowledge in this area.

## 2. Types of structured products

A "defensive" structured product offers a high level of capital protection and is therefore usually characterised by the investment of a large part of the capital in a bond market product. An example of this would be a zero-coupon strategy. It allows access to riskier asset classes with high yield potential, while at the same time protecting the invested capital. An "aggressive" structured product with low capital protection will thus contain a higher proportion of the risk component. These products only have a low-security component, which still provides a certain degree of protection against bear risks. In this context, structures based on a leverage effect should be mentioned which, while increasing the return, also increases the risk of loss. Certain structured products based on shares or indices offer the opportunity to profit from the performance of international stock exchanges and to achieve returns that may exceed those of the money market or classic bond market products. The most common structured products are those that offer a partial or full capital guarantee at maturity.

## INTEREST CALCULATION METHODS

To calculate simple interest, the capital is multiplied by the interest rate and a conventional calculation basis. The calculation base specifies the convention for calculating the time span between two payments and the number of days for a full calendar year. The calculation basis corresponds to a ratio consisting of the number of days between two payments in the numerator and the number of calendar days of the year in the denominator.

- ACT/ACT (Actual/Actual) method: Exact number of actual days/ number of calendar days of the year.
- 30/360 method: This method adopts the same principle as described above. It is assumed that the month is calculated with 30 days and the year with 360 days. This calculation method allows regular payments (180/360; 90/360; 30/360).


## BULL AND BEAR MARKET

The term "bear market" is used to describe a sustained bear market on the stock exchange. The opposite of a bear market is a bull market.

## BENCHMARK

Benchmark index or reference basis for assessing the performance of investment funds. As a rule, a money market index serves as the basis for comparison for money market and hedge funds, a bond market index for bond funds, a stock market index for equity funds and a "tailored" overall index for mixed funds.

## CALL

Call option. A contract between two parties (buyer and seller) whereby the buyer pays the seller a premium and in return receives from the seller the right (but is not obliged) to sell him a specified quantity of an underlying asset at a pre-agreed price (strike price) on one or more dates or during a period.

## FORWARD EXCHANGE TRANSACTION

Fixed obligation to buy or sell a particular foreign currency amount at a later date at a rate fixed at the time of the transaction.

VALUE DATE (value date)
Date agreed by the parties as the date of the transaction, which is used to determine the amounts to be paid or received.

## DELTA (sensitivity)

Correlation factor between the change in the option premium and the change in the price of the underlying. Mathematically speaking, the delta corresponds to a derivation of the option price depending on the value of the underlying. A delta of 0.50 means that if the underlying asset changes by 1 euro, the option price will fluctuate by 0.50 euro. The delta also describes the probability that an option is "in the money" at maturity. An option "at the money" has a delta of almost 50 , which means that there is a $50 \%$ probability that the option is in the money when it matures. In absolute terms, the delta of an option will be higher the further the option is "in the money". The delta also makes it possible to determine the number of option contracts that an investor must trade to hedge his position (underlying).

## DIVERSIFICATION

The rule of risk diversification was described by modern portfolio theory. In the vernacular it simply says: "You shouldn't put all your eggs in one basket". This basic rule for the management of investment portfolios is the basis for the success of investment funds. They offer investors the opportunity to diversify their portfolio efficiently, even if only small amounts are invested.

## LEVERAGE

Multiplier or amplification effect.

## EMTNs

Bonds issued within the framework of a European Medium- Term Note (EMTN) program. These bonds are usually tailor-made to meet the requirements of one or more investors. They, therefore, allow access to a wide range of markets (interest rates, equities, commodities, etc.) and cover all requirements, from the most straightforward (standard bond with fixed coupon) to the most complex profiles (reverse convertibles, non-directional products, etc.) Whoever wants to invest in EMTN must know the issuer of the EMTN program and be able to assess its creditworthiness (if necessary based on
its rating), because it is the guarantor for the success of the transaction. The precise terms and conditions of the bond (issue currency, investment term, repayment terms, etc.) are contained in the EMTN terms and conditions, the so-called Pricing Supplement.

EONIA (Euro Overnight Index Average)
The EONIA is the European interest rate for overnight money. It is calculated on the basis of the turnover-weighted average of all interest rates on overnight loans granted on the interbank market by the reference banks. The data are provided by about fifty European panel banks. This ex-post interest rate is calculated by the European Central Bank at 7 a.m. on the following day and published by the European Banking Federation.

EURIBOR (European Interbank Offered Rate)
The EURIBOR is the reference interest rate used by European banks for time deposits in interbank business. It is set on the basis of the letter rates reported by the banks representing the eurozone. The EURIBOR is calculated and published daily by the European Banking Association for the various maturities. The most commonly used interest rate is 3 -month EURIBOR. This interest rate, calculated ex-ante, is fixed at 11 a.m. on day $T$ and comes into force on day T+2.

## FUTURE

A binding forward purchase or sale contract that enables the price of a financial product to be fixed immediately for a specific date in the future. Financial futures transactions refer to standardised forward contracts and pre-arranged amounts for each instrument traded.

## LIBOR (London Interbank Offered Rate)

LIBOR is the reference interest rate for interbank loans on the London Eurodebate market.

## CASH MARKET

Market on which transactions are executed for immediate delivery and settlement.

## CREDIT ASSESSMENT OR RATING

Rating agencies such as Standard \& Poor's and Moody's are companies commissioned by financial market participants to assess the solvency and financial risks of debt securities issuers. The best possible rating with which a company or country can be awarded is AAA/Aaa. The interest rate that an issuer has to pay for its debt instruments depends on its ability to repay, and therefore on its rating.

## OPTION

A contract under which a buyer pays a premium for the right to demand performance from the seller on or before a certain date, the price of which (exercise price) was agreed at the time the contract was concluded. The buyer does not have to exercise the option if he does not make a profit by exercising it. When exercising the option, the seller has to provide his performance, but in any case, he keeps the premium. A distinction is made between European, American and exotic options. An exotic option is an option variant that cannot be assigned to the classic options (plain vanilla options). The calculation of the pay-off of these options is more complex than that of plain vanilla options of the European or American type. The exotic component can have very different origins: The method used to calculate the exercise price or strike price, the conditions for the pay-off value, and so on.

## PAY-OFF

The amount which the buyer of an option receives after exercising it.

## PRICE EARNINGS RATIO

From English: price-earnings ratio. The abbreviations PER, P/E ratio and P/E ratio, are particularly common. The $P / E$ ratio sets the stock market price of a company in relation to its after-tax profit in relation to one share (earnings per share). This key figure, therefore, expresses how often the profit of a company is included in the stock price. It quantifies the cost of a stock, since it is calculated on the basis of the current profit and not on the basis of expected development. The P/E ratio is, therefore, a kind of inverse return between the dividend potential of a share and its price. The PER published in the financial press is calculated on the basis of the last published annual profit. In principle,
the higher the P/E ratio, the more it expresses investors' expectations of a strong increase in profits in the coming years.

## PREMIUM

Amount that the buyer must pay to the seller of an option or fixed rate in exchange for the buyer's right to exercise an option or for the seller's obligation to pay the difference to the buyer of a fixed rate. The premium is payable as a single amount or in several instalments in accordance with the terms agreed in the contract. It remains definitely with the seller of the option.

## EXERCISE PRICE (Strike)

Percentage, price or price at which the underlying of an option can be bought or sold at maturity.

## STRUCTURED PRODUCT

Financial product (bond or SICAV) consisting of various components (zerocoupon bond, options, swaps, etc.) bundled in one product to make it easier for investors to benefit from this versatility. A structured product allows investors to position themselves on very different markets (interest rate, stock, commodity markets, etc.), to define the level of risk accepted (100\% or partial capital guarantee, no capital guarantee, etc.) and to speculate on visibly complex market developments (non-directional, correlation of the interest rate markets). According to their legal characteristics, structured products can be issued in different forms: EMTN, certificates etc. The price of structured products (which are only actively traded on the stock exchange in exceptional cases) is determined using complex mathematical calculation methods.

## EMTN (Euro Medium Term Note) PROGRAMME

This extremely flexible instrument for issuing bonds enables the issuance of a wide variety of investment products (the so-called EMTNs) based on a framework agreement. Through EMTN programs, issuers are able to refinance themselves and collect funds from investors, pay interest on this capital or invest it in accordance with the conditions of the framework agreement (pricing supplement). PUT put option. A contract between two parties (buyer and seller) under which the buyer pays a premium to the seller and in return receives from the seller the right (but is not obliged) to sell him a certain quantity of an underlying asset at a previously agreed price (exercise price) on one or more dates or during a certain period.

## RETURN (Return)

The yield measures the performance of a financial instrument over a certain period of time, taking into account price developments and financial flows.

## REPORT

A report or markup is the difference between the nominal value of a security and its market price, usually expressed as a percentage. On the futures markets, a "report" is when the forward price of a futures contract is higher
than the spot price of the underlying or the premium of an option is higher than its intrinsic value.

## RISK

All investments are subject to the laws of the market and thus to market-related price fluctuations-the risk measures de facto the probability of a possible loss of capital in an investment. Investors can protect themselves against this investment risk by extending their investment horizon or choosing less risky investments.

## CURRENCY SWAP

A contract under which two parties exchange interest payments in two different currencies during an agreed period for a pre-agreed notional amount. In principle, an exchange of principal takes place at the end of the term of the swap, sometimes at the beginning of the term.

## UCITS V

UCITS V (UCITS means "undertakings for collective investment in securities", i.e. investment funds), name of the law of 17 December 2010 on undertakings for collective investment. This law consists of two sections: Part 1 of the law defines the investment funds that meet the criteria laid down in European Directive 2009/65/EC for UCITS whose marketing within the EU is not subject to any restrictions, while Part 2 of the law defines the investment funds that do not fall within the scope of the aforementioned European Directive.

## NET ASSET VALUE (NIW)

The net asset value represents the value of a unit of the mutual fund and is published by the calculation agent following confirmation by the fund's custodian bank. The NAV corresponds to the Fund's net assets divided by the number of units in circulation. It is calculated either daily, weekly or monthly in accordance with the procedures laid down in the prospectus. The net assets correspond to all the assets of the Fund (securities, dividends or coupons, liquid assets, etc.) less its liabilities (costs and taxes payable, such as the Luxembourg subscription tax and fees, etc.).

## VOLATILITY

Volatility measures the fluctuations in the price of an asset over a given period. Basically, a distinction is made between historical volatility, i.e. volatility calculated on the basis of the historical prices of the underlying asset and expressed as a percentage in relation to the average prices of the underlying asset for a given period, and implied volatility: it measures the fluctuations in the price of an underlying asset expected by the market. Volatility thus measures, for example, the range of possible NAV fluctuations of a fund.

YIELD-TO-MATURITY (effective yield)
The yield-to-maturity corresponds to the return on a bond market investment if the investor holds it until maturity.

