

# Corporate Bonds

A Research Publication by DZ BANK AG

## Methodological approach of Corporate Bond Research

- » DZ Bank's Credit Research Corporates is geared to the Volksbanken and Raiffeisenbanken (cooperative banks), institutional customers at home and abroad, and central banks; disclosure of, or the provision of access to the research, by whatever means, to natural and legal persons and other institutions whose domicile or place of business is the United States of America (USA) is prohibited. The research is not fundamentally suitable for retail customers.
- » The term "**Corporates**" refers to companies (**excluding banks and insurance companies**). Within DZ Bank Credit Research Corporates, the "**Corporate Bonds Master List**" contains analysis of the bonds of nearly 60 companies, mainly from core Europe, and to a lesser extent, from other non-European countries. We also provide investment recommendations for the senior unsecured bonds of these issuers.
- » Here, and below, the term "**bonds**" relates solely to the **Euro-denominated fixed rate senior unsecured bonds** of the respective issuer.
- » Analysis of the bonds of corporates essentially consists of two elements: an assessment of the issuer's credit rating and, based on it, an evaluation of the relative attractions of the respective bonds which also takes account of the risks specific to the bonds and the companies and expected overall market performance. This is based solely on our expectations for the trend in the credit spread (asset swap spread) of Euro-denominated unsecured fixed-rate bonds; conversely, our recommendations do not include any evaluations of foreign currency bonds or the performance of the yield curve.
- » At least once a year we also publish the "Master List Light", which provides brief analysis of another 25 or so corporates. However, we do not make any investment recommendations for the bonds of these issuers.
- » **Our analysis does not contain a Credit Rating as defined in (EU) Regulation 1060/2009 of 16 September 2009 on rating agencies.**

### BONDS

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## THEORETICAL BASIS

Our investment recommendations for bonds are based on our evaluation of the trend in the asset swap spreads of the bonds of the respective issuers relative to the market as a whole.

### **Asset Swap Spread (ASW)**

In an asset swap, a fixed-rate bond is combined with an interest rate swap to synthetically create a virtually interest risk free bond. The yield of this bond is stated as a premium above the relevant yield curve, in the case of Euro bonds the Euribor curve. This premium represents the credit spread and is an indicator of the credit risk of this bond.

## OVERRIDING FACTORS

When carrying out single issuer analyses, the Credit Research analyst takes account of both issuer-specific analysis – described below – as well as overriding aspects. These are factors of a general nature which may influence an issuer's credit rating and the investment recommendation which is calculated. The analyst responsible for the issuer in question correspondingly factors these elements into analysis of individual bonds, to ensure that the evaluations and recommendations of DZ BANK Research are based on identical criteria and are consistent.

Relevant general conditions are the economic forecasts of DZ BANK Research. GDP growth rates and the components thereof, inflation rates, global economic data, and similar variables may be of importance when assessing the respective issuer. The DZ BANK Research interest rate forecast represents another general point of reference for the analysis of individual stocks and the subsequent recommendations. Global and national political factors also play a part. Global political uncertainty, wars, conflicts or problems in individual countries may also have an impact on the assessment of third issuers who are not directly involved, or on the resulting recommendation.

New regulatory standards, monetary policy, and other factors may also be of relevance when formulating an investment recommendation.

We also consider the general market risk evaluation. In the event of a general increase in risk appetite in the market, the credit spreads of the bonds of all issuers tend to fall, and under such conditions the bonds of issuers with lower credit ratings whose credit spreads are at relatively higher levels, tend to offer the largest profit from a "carry" and a tightening of credit spreads. Conversely, a deterioration in general market sentiment and growing risk aversion mean that the credit spreads of the bonds of all issuers tend to widen, and under these conditions, the bonds of issuers with better ratings, whose credit spreads are relatively tight, tend to offer the largest profit (or respectively a smaller loss) from a "carry" and a widening of credit spreads.

The overriding DZ BANK Research forecasts are taken into account by analysts when they analyse individual issuers. In so doing, the respective analyst has to gauge the impact of the core evaluations on the subject of the analysis.

## RELEVANT FACTORS FOR THE CREDIT ANALYSIS OF CORPORATES

The credit analysis of corporates consists of several elements relating to various risk/opportunity aspects, which may lead, on the one hand, to a default or loss participation or, on the other hand, to market outperformance. The individual elements are not input into a model to formulate a credit rating, but are analysed and evaluated individually by the analyst based on his/her expert knowledge. The depth of analysis here depends very heavily on the information published by individual companies.

To aid this process, the analyst uses the CRESTA SCORE methodology, our **forecasting model for agency ratings** (see separate report on CRESTA SCORE methodology).

### » Analysis of P&L

The analyst has access to a set of various figures to analyse the profit situation; these can be adapted to particular conditions to produce an analysis of the company's current situation.

On the profit side the analyst examines how successfully the company has performed, particularly in its core business. Exceptional factors have to be filtered out here in order to calculate the company's sustainable operating performance. However, an important, albeit not the only starting point here is the ratio of EBITDA adjusted for exceptional factors relative to sales revenue (EBITDA margin). The return on sales compares earnings after tax with sales revenue and is regarded as a benchmark for a company's overall economic success in a given accounting period. Unlike EBITDA, earnings after tax are not adjusted for exceptional factors. The return on equity (annual earnings/equity) in turn is used by the analyst as a gauge of the economic success of the capital employed. When analysing these figures, significant changes compared to previous periods are scrutinised more closely. In so doing the analyst also pays attention to how the scope for reporting profit figures has been utilised.

Based on analysis of the actual situation, the analyst can then examine which income sources, regions and business areas are particularly relevant for the company in terms of its profits, how these have developed in the short and medium term, what the reasons were (e.g. exceptional factors or impetus provided by a typical sector cycle) in order to gain insight into how profits might develop in future.

A similar process is applied to expenditure. Here too the aim is to "understand" the company, and specifically to differentiate exceptional negative factors from recurrent factors to obtain an assessment relating to the expected future trend in expenditure.

### » Analysis of financial situation

Analysis of a company's financial situation is aimed at determining the extent to which the type of financing selected, and the company's potential to generate financial resources, may lead to particular risks in future. This is particularly important because the company must generate sufficient cash flow to repay the corporate bond, i.e. to cover payments of interest and principal. Analysis of the financial situation is based, on the one hand, on a portfolio of financial data which compares cash flows under various definitions with gross and/or net debt figures adjusted by the analyst. On the other hand, the cover ratio provided for

interest payments by EBITDA (EBITDA/interest expenditure) gives an indication of a company's debt-servicing ability.

The credit analysis can also be rounded off with an assessment of the liquidity situation. Analysis of a company's liquidity focuses on the extent to which the company has sufficient liquid funds available to cover short-term liabilities. It also helps to identify to what extent the company's planned growth can be financed from its own internal resources or whether it will have to be funded by raising additional funds.

The elements listed above always relate to historic data. This makes it possible to identify possible trends.

Depending on the sector, a company's fundamental situation is heavily dependent on the macroeconomic trend. For example, a weakening of economic growth generally leads to lower consumer demand and reduces the scope to implement price increases. Analysts also therefore use future economic growth forecasts when assessing a company's credit standing.

Other important parameters are respective sector trends, for example cyclical, technological developments within individual industries, identifying regional growth markets or, more generally, the expected trend in demand for products from the particular sector.

A number of other factors are also crucial to a company's fundamental performance, and these are also taken into account in the analysis. These include a number of company-specific factors, for example the company's size, its market position and pricing power, competitive conditions, geographic and product diversification, R&D competence or legal/regulatory aspects (e.g. possible risks relating to product liability in the pharmaceutical industry, legal risks, contract risks in the construction industry, the energy transition in the utilities sector).

## RELEVANT FACTORS FOR INVESTMENT RECOMMENDATIONS

In Fixed Income Research, recommendations for individual issuers are divided into the categories "**Outperformer**", "**Underperformer**" and "**Market performer**". The crucial factor for an issuer's investment recommendation is whether, in the analyst's view, its bonds will outperform, underperform or perform in line with the bonds of similar issuers in the next six months. "Outperformer" means that the issuer's bonds are expected to perform better than the bonds of a similar issuer. "Underperformer" means that the issuer's bonds are expected to perform worse than the bonds of peer group issuers. "Market performer" means that, in the analyst's opinion, the performance of the issuer's bonds will not differ significantly from that of the bonds in its peer group.

The recommendation categories "Outperformer", "Underperformer" and "Market performer" are based on the analysts' evaluation of how the bonds of the issuers in question will perform relative to those of the peer group. The peer group need not be precisely defined here, but generally consists of issuers in the market segment in question which are analysed by DZ BANK Research.

The analyst uses various components to gauge how the bonds can be expected to perform. In addition to the current bond yield, other factors considered are the trend in the asset swap spreads of all the bonds of a particular issuer. Spreads may remain constant in the period under review, or they may rise or fall. Falling spreads

would be positive for the investor. All other things being equal, if the premium for assuming credit risk falls, the bonds of the issuer concerned will outperform the swap market. The analyst must then decide whether the bonds of the issuer in question can be expected to perform better, worse or neutrally relative to the performance of the peer group bond universe.

The basis for this decision is the analyst's assessment of the issuer's credit rating. In general, this depends on whether the credit rating is expected to improve or deteriorate, whether the capital markets also expect this to happen, or whether the majority of market participants would view the realisation of the analyst's expectations as surprising. Other factors taken into account by the analyst are what impact the general economic trend, central bank policy, geopolitical risks and the behaviour of the capital markets will have on the spreads of the issuer under review in the coming months (see above).

Investment recommendations are therefore made on the basis of a combination of **fundamental analysis** and **relative value analysis**. The basis for making investment recommendations is the credit analysis/fundamental analysis described above, which provides an approximate evaluation of an issuer's default risk or respectively of the risk of loss participation (bail-in) for creditors. However, DZ BANK Research does not state any "fair" absolute credit spread level based on fundamental data, which is used to make an investment recommendation for an issuer's bonds. The valuation is in fact based on a comparison of the risks identified by DZ BANK for all a particular issuer's bonds, with the risks for similar bonds from other issuers, taking account of the respective credit spreads. The **investment recommendation is thus a relative evaluation**; in other words, the analyst focuses not only on the issuer undergoing analysis, but also on similar issuers.

## SOURCES: DATA, STUDIES, INFORMATION

- » Corporate bond analysts use a broad spectrum of data and information. Fundamental analysis is primarily based on original reports published by the company. These are supplemented by a number of other information sources, including reports from the rating agencies Moody's, S&P and Fitch, and information from Bloomberg, Reuters and other media.
- » Since assessment of the expected fundamental performance of a company is crucially determined by the future economic trend in the core markets in which the company operates, analysts also make use of the relevant forecasts and expectations produced by the corresponding DZ BANK analysts here, as well as other sources.
- » Analysts currently obtain data relating to market indicators, predominantly bond and index data, mainly from Bloomberg, Reuters, Markit and Dealogic.
- » Since the analysis of issuers/corporate bonds is extremely complex, it is necessary to filter out of the abundance of available data the relevant information which will ultimately determine the performance of a corporate bond.

## I. IMPRINT

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**1.2** The **mandatory disclosures for Research Publications** (Financial Analyses and Other Research Information) as well as **further remarks, especially** regarding the **Conflicts of Interest Policy** of **DZ BANK Research**, **used methods, procedures** and **statistics**, can be **read and downloaded free-of-charge** under [www.dzbank.com/disclosures](http://www.dzbank.com/disclosures).

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**3.2** Each analyst involved in the preparation of the contents of this Research Publication confirms that

- this Research Publication represents his independent specialist evaluation of the analysed object in compliance with the Conflicts of Interest Policy of DZ BANK and
- his compensation depends neither in full nor in part, neither directly nor indirectly, on an opinion expressed in this Research Publication.

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Not every item of Other Research Information contains a statement on a certain investment or a valuation of this investment. The **categories for evaluations / statements** used in **Other Research Information** of DZ BANK are defined as follows.

#### 4.1 Statements on Isolated Aspects of an Investment Decision

Statements on the **isolated evaluation of specific aspects** that **precede an investment recommendation** on a financial instrument and / or an issuer - **especially** according to the **sustainability criteria** defined by DZ BANK, its defined **value approach**, its defined **asset allocation** (DZ BANK Sample Portfolio), its defined sector strategy Euro-Stoxx (**DZ BANK Sector Favorites**), its defined valuation of payments to beneficiaries (**DZ BANK Dividend Aristocrats**), its **country weightings for covered bonds** and its **CRESTA-SCORE MODEL** - are **not investment categories** and therefore **do not contain any investment recommendations**.

These isolated statements **alone** are **not sufficient** to form the basis of an investment decision. Reference is made to the explanation of the used relevant methods.

#### 4.2 Sustainability Analysis

Issuers of shares and bonds are analysed on the basis of predefined **sustainability factors** and classified in isolation as '**sustainable**' or '**non sustainable**'. For sovereigns, a classification as '**transformation state**' can be made that lies between these two classifications.

#### 4.3 Share Indices

For defined share indices, share price forecasts are made at regular intervals. From the comparison between the current prices and the prepared forecasts on the development of such equity indices, **investment recommendations that are not generally definable and that cannot be defined in advance** may be developed.

#### 4.4 Currency Areas

The assessment of an investment in a **currency area** is geared to the aggregate return expected from an investment in that **currency area**. As a rule, this aggregate return is primarily derived from the forecast change in the exchange rates. Aspects such as the general interest rate level and changes in the yield level of bonds on the relevant bond market that are possibly to be taken into consideration are also included in the assessment. "**Attractive**" refers to the expectation that an investment in a currency area can deliver an above-average and positive return over a horizon of six to twelve months.

"**Unattractive**" refers to the expectation that an investment in a currency area can deliver only very low returns or even losses over a horizon of six to twelve months.

"**Neutral**" refers to the expectation that an investment in a currency area can deliver low or average returns over a horizon of six to twelve months. The aforementioned returns are **gross returns**. The gross return as success parameter relates to bond yields before deduction of taxes, remunerations, fees and other purchase costs. This compares with the net return of a specific investment, which is not calculated and can deliver significantly lower returns and which measures the success of an investment in consideration of / after deducting these values and charges.

**4.5** The prevailing factor for the **allocation of market segments** and **country weightings for covered bonds** is the comparison between a sub-segment and all the sub-segments on the relevant market as a whole:

"**Overweight**" refers to the expectation that a sub-segment can deliver a significantly better performance than all the sub-segments as a whole.

"**Underweight**" refers to the expectation that a sub-segment can deliver a significantly poorer performance than all the sub-segments as a whole.

"**Neutral weighting**" refers to the expectation that a sub-segment will not deliver any significant performance differences compared with all the sub-segments as a whole.

#### 4.6 Derivatives

For derivatives (**Bund futures, Bobl futures, treasury futures, Buxl futures**) the **arrows (↑)(↓)(↔)** **merely indicate the trend direction** and **do not contain any investment recommendation**. The trend direction is derived solely from the use of generally recognised technical analysis indicators **without reflecting an analyst's own assessment**.

#### 4.7 Commodities

"**Upward arrow (↑)**" means that the absolute price increase expected in the next twelve months is greater than 10%.

"**Downward arrow (↓)**" means that the absolute price decline expected in the next twelve months is greater than 10%.

"Arrow pointing to the right (➔)" means that the absolute price change expected in the next twelve months will lie between +10% and -10%.

#### 4.8 Credit Trend Issuers

Based on the assessment of the rating development of the agencies and the DZ BANK CRESTA-SCORE forecast model, the following classifications apply:

"Positive" is given if the agencies S&P, Moody's and Fitch are expected to make a rating upgrade in the next twelve months,

"Negative" is given if the agencies S&P, Moody's and Fitch are expected to make a rating downgrade in the next twelve months,

"Stable" is given if the agencies S&P, Moody's and Fitch are expected to leave their ratings unchanged in the next twelve months

If none of the agencies S&P, Moody's and Fitch have given a rating, no assessment is made of the credit trend for the issuer concerned.

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5.1 The frequency of updates of Other Investment Information depends in particular on the underlying macroeconomic conditions, current developments on the relevant markets, the current development of the analyzed companies, measures undertaken by the issuers, the behavior of trading participants, the competent supervisory authorities and the competent central banks as well as a wide range of other parameters. The periods of time named below therefore merely provide a **non-binding indication** of when an updated investment recommendation may be expected.

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If no update is made, investment recommendations **end / lapse on expiry** of the **validity periods** named below. These periods **begin** on the **day** the Other Investment Information was **published**.

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Analyses according to the <b>value approach:</b>	one month
Asset allocation analyses ( <b>DZ BANK Sample Portfolio</b> ):	one month
Euro Stoxx Sector Strategy ( <b>DZ BANK Sector Favourites</b> ):	one month
Dividends ( <b>DZ BANK Dividend Aristocrats</b> ):	three months
<b>Credit trend issuers</b>	twelve months
<b>Share indices (fundamental):</b>	three months
<b>Share indices (technical / chart analysis):</b>	one week
<b>Share indices (technical daily):</b>	publication day
<b>Currency areas:</b>	six to twelve months
<b>Allocation of market segments</b>	one month
<b>Country weightings for covered bonds:</b>	six months
<b>Derivatives</b>	
(Bund futures, Bobl futures, treasury futures, Buxl futures):	one month
<b>Commodities:</b>	one month

5.4 In a given case, updates of Other Research Information may also be **temporarily suspended without prior announcement** on account of compliance with supervisory regulations.

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