Corporate Bond Scorecard 2.0

Inexperienced, conservative investor (for public consultation)

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Source: Ministry of Finance of the Czech Republic

Disclaimer

A bond as a form of investment **isn't always the best and risk-free for a small investor**, **who doesn't have the experience with a similar form of investment or solid knowledge of a bond issuer**. More and more small investors, in the search for better returns on investment, misjudge alternatives and may eventually lose their money. The investor **should research the investment and possibly diversify risk.**

Purpose of the document

The purpose of this document is **to provide investors**, who are not experienced in such a kind of investment, **a simple and fast tool for initial evaluation of bonds.** We point out that this applies only to initial evaluation of issuance and issuer and is not intended to replace the rating of reputable companies. During more careful and complex evaluation of issuance more factors come into place. For the purposes of this document, **several factors are simplified for better understanding.** Some other factors are then mentioned in the additional chapter.

Bond Scorecards

Corporate Bond Scorecard is divided into two branches: **Scorecard WITH rating and Scorecard WITHOUT rating**. In these branches, we assume that **investors are planning to hold the bond until reaching maturity**. Hence, the liquidity and investment horizon do not play a crucial role and are mentioned in the additional section. The rating of some of the rating agencies, mostly **Moody's, S&P or Fitch**, **can play a crucial role when choosing a bond**. When a **company doesn't have a rating** and investor **doesn't know the company really well and does not consider himself as experienced investor, such an investment can be very risky**. This fact even can't be reversed by existence of prospectus approved by the Czech National Bank, which on the one hand indicates the fulfillment of all the formal requirements, but on the other hand doesn't check the financial health of the firm. The prospectus may also be approved by another EU supervisory authority and notified to the Czech Republic. Later on, in the document we publish both scorecards – Scorecard WITH rating and Scorecard WITHOUT rating for those, who would like to simply and quickly evaluate a bond without rating. In addition Scorecard WITHOUT ratings is complemented by two documents – Orientation in Financial Statements and Score Calculator.

Information sources

In this document we also publish information sources, which should be freely available on the internet. **In these sources investors should then find needed information for an initial evaluation of the issuance and issuer**.

Source: Ministry of Finance of the Czech Republic

Information sources

Rating agencies

- Rating from rating agencies such as Moody‘s, S&P or Fitch
- Assess firm‘s ability to meet its obligations

Intermediaries

- Intermediary as one of the first indicators of quality of bonds
- Established financial institutions under the supervision of the Czech National Bank are preferable

Prospectus and Issuance conditions

- Prospectus authorised by the Czech National Bank is easily traceable in the prospectus register of ESMA
- Issuance conditions state the level of interest, maturity etc.
- Eventually business plan

Financial statements Commercial register

- Financial statements (balance sheet, profit and loss account and cash flow statement) can be easily traceable in the commercial register or.justice.cz together with basic information about the firm

Websites

- A well-designed company website and regular release of news entails transparency
- Websites and internet research may serve as a good source of information as well

Source: Analysis of Ministry of Finance of the Czech Republic

Ten warning signs of investing in corporate bonds

Below can be seen **10 basic warning signs** that may **indicate an deteriorated ability of an issuer to meet its obligations** and cause a situation, in which an investor may lose money. The analysis of these warning signals should not take more than 1 hour.

TEN WARNING SIGNS OF INVESTING IN CORPORATE BONDS

1. **Strongly negative news in the media**
   Increased and lasting occurrence of negative reports on the issuer‘s situation from more credible sources.

2. **Unavailable website of the issuer**
   Unavailable, disorganised and out-of-date website of the issuer indicate non-transparency.

3. **Intermediaries are not subject to the supervision**
   Intermediaries not subject to the supervision of the Czech National Bank may indicate higher risk.

4. **Frequent changes in the management**
   Short-term employment of individual members in the management and their inexperience in the field.

5. **Unavailable financial statements**
   Unavailable financial statements and annual reports on issuer‘s website or in the commercial register.

6. **Rising indebtedness**
   Rising indebtedness may or may not mean financial instability. See indicators later in the document.

7. **Declining sales**
   Declining sales for several consecutive years primarily due to the declining market share.

8. **Declining or negative EBITDA**
   Declining or negative EBITDA (most widely used profitability indicator) for several consecutive years.

9. **Negative operating cash flow**
   Negative operating cash flow signals the lack of sufficient resources to cover investment expenditures.

10. **Absence of unqualified opinion**
    The auditor questioned the presumption of going concern principle. Frequent auditor changes.

Source: Ministry of Finance of the Czech Republic, Conseq Investment Management

Basic investment procedure diagram according to Corporate Bond Scorecard

1 Procedure diagram and questions

According to the basic procedure diagram, investor finds out what type of Scorecard to use and can eventually immediately exclude very risky corporate bonds.

The basic questions to be asked by the investor are whether issuer or issuance is rated and whether the audited

Financial statements and prospectus are available.

Existence of rating?

YES → Use the Scorecard WITH rating

NO → Audited financial statements?

YES → Use the Scorecard WITHOUT rating

NO → Financial statements available?

YES → Use the Scorecard WITHOUT rating

NO → Prospectus available?

YES → Use the Scorecard WITHOUT rating

NO, Very risky

2 Diagram outputs

By answering the basic questions, the investor then finds out whether to use Scorecard WITH rating, Scorecard WITHOUT rating or whether it is a high risk investment

Source: Ministry of Finance of the Czech Republic

Scorecard WITH rating

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Scorecard WITH rating

Scorecard WITH ratings assumes the presumption that **some of the renowned companies have already assessed the company's ability to meet its obligations.** Reputable companies and links to their available ratings can be found in the list of sources of information.

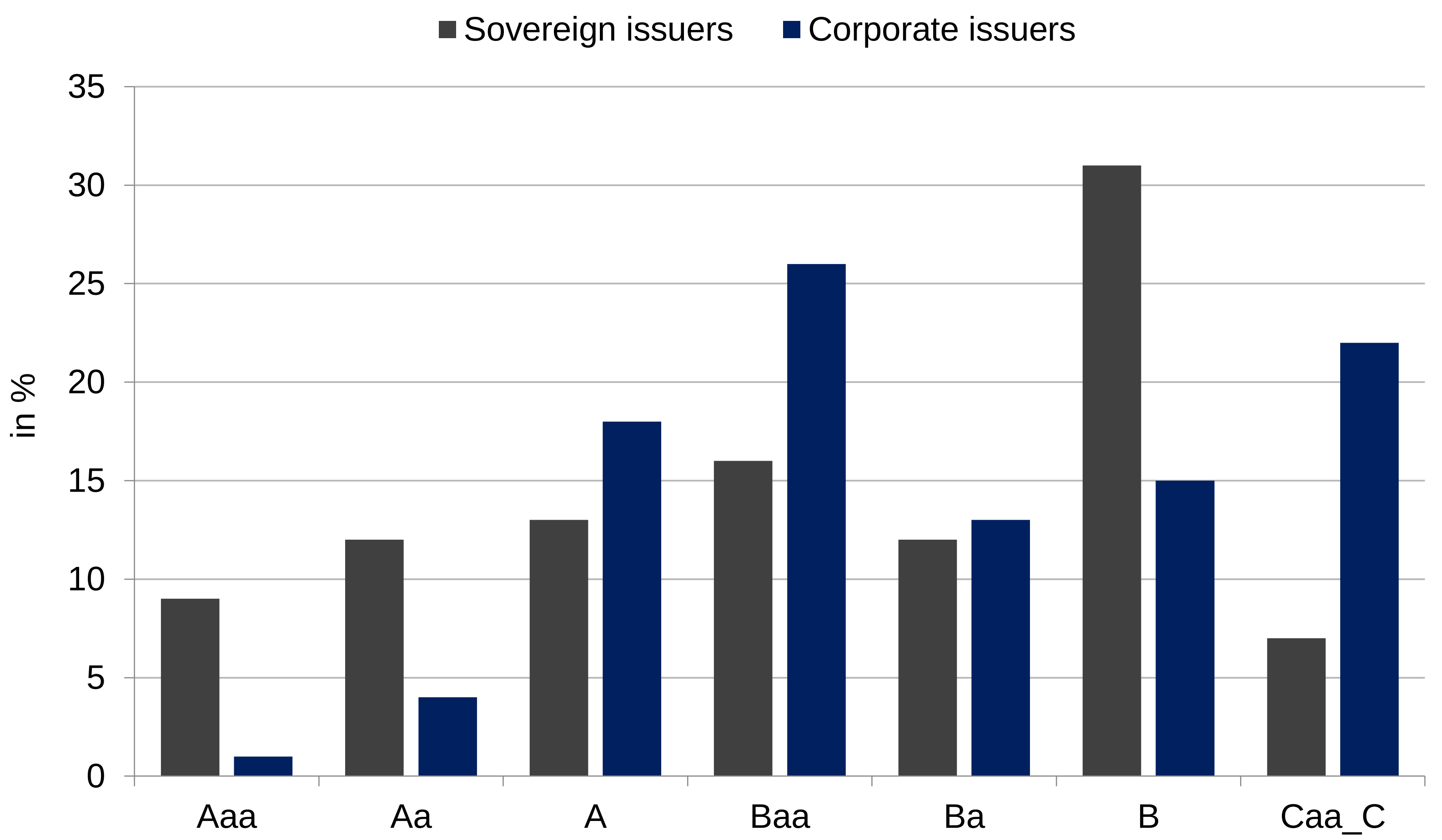
Rating	Yes			No	
Existence of rating	Use the values of rating and their evaluation below			Continue to Scorecard WITHOUT rating (chapter 6)	
Value of rating					
Moody's scale for rating	Aaa, Aa1, Aa2, Aa3	A1, A2, A3	Baa1, Baa2, Baa3	Ba1, Ba2, Ba3	B1, B2, B3, Caa, Ca, C, D
S&P and Fitch scales for rating	AAA, AA+, AA, AA-	A+, A, A-	BBB+, BBB, BBB-	BB+, BB, BB-	B+, B, B-, CCC, CC, C, D
Evaluation of Scorecard					
Evaluation and description of individual risk scales of bonds	Relatively conservative and low-risk investment, but with a lower yield. Accompanied by high probability of coupoun gains payments and repayment of nominal value of the bond.	Still relatively conservative investment with slight vulnerability to unfavourable conditions. Still high probability of coupoun gains payments and repayment of nominal value of the bond.	Medium-conservative investment associated with medium-high risk. The company is likely to be able to meet its obligations, repay the coupon payments and subsequently the nominal value of the bond.	Speculative investment with high risk. The company may face adverse conditions in the future and be unable to meet its obligations. In case of an investment, investor should know the company well.	Very speculative investment with high risk. Issuers' deterioriation of conditions and therefore inability to repay its obligations is expected. This investment is mainly for experienced and dynamic investors.

Source: Analysis of the Ministry of Finance, Moody‘s, S&P, Fitch Ratings

Addition of Scorecard WITH rating – Distribution of assigned ratings and default rates for single rating classes

For better understanding of ratings, the chart below on the left shows the distribution of sovereign and corporate issuers in relation to ratings. On the right-hand side is then the default rate of each rating. It is evident that **mostly only state issuers achieve the best ratings**. On the contrary, the largest concentration of **corporate issuers** is in the chart **shifted slightly „to the right“ and is between ratings A to Caa_C**

Chart of rating distribution of sovereign and corporate issuers in 2016



Default rate

Default rate is the **percentage of the number of issuers out of the their total number**, who were assigned rating and **failed to meet their obligations** (repay the coupon gains payments and the nominal value of the bond) in a given period of time. For instance, if **100 companies issued a bond** in a given period of time and **3 of them were unable to meet their obligations, the default rate is then 3 %.** In the table below can be seen long-term and short-term default rates for single rating classes.

Rating	Long-term	Short-term
Aaa – Aa2	0,1 %	1,2 %
A1 – A3	0,25 %	1,3 %
Baa1 – Baa3	1,0 %	3,0 %
Ba1 – Ba3	7,5 %	12,4 %
B1 – B3	20 %	35 %
Caa1 - Ca	34 %	10,6%

Source: Moody‘s Investors Service (2017), Sovereign Default and Recovery Rates, 1983-2016, Official Journal of the EU

Scorecard WITHOUT rating

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Scorecard WITHOUT rating

Scorecard WITHOUT rating should be used **when there is no access to the rating**. If the investor **does not consider himself experienced** and **does not know the company very well**, he should invest in the corporate bond **only after considering all related risks**.

<table>
<tr><th>Approved prospectus by the supervisory authority</th><th colspan="6">Yes</th><th colspan="6">No</th></tr>
<tr><td>Existence of prospectus approved e.g. by the CNB*</td><td colspan="6">1 point</td><td colspan="6">0 points</td></tr>
<tr><th>Period of operation of the corporation</th><th colspan="3">> 10 years</th><th colspan="3">5 – 10 years</th><th colspan="3">1 – 5 years</th><th colspan="3">< 1 year</th></tr>
<tr><td>Number of years of operation of the corporation</td><td colspan="3">1,5 points</td><td colspan="3">1 point</td><td colspan="3">0,5 points</td><td colspan="3">0 points</td></tr>
<tr><th>Owner of the corporation</th><th colspan="4">Government</th><th colspan="4">Reputable company, management or natural person</th><th colspan="4">Other</th></tr>
<tr><td>Owners (i.e. shareholders) and their reputation</td><td colspan="4">2 points</td><td colspan="4">1 point</td><td colspan="4">0 points</td></tr>
<tr><th>Distributor and arranger of the issuance</th><th colspan="4">Large institutions under the CNB supervision (e.g. banks)</th><th colspan="4">Other institutions under the CNB* supervision (e.g. non-banking IF*)</th><th colspan="4">Institutions/natural persons not supervised by the CNB</th></tr>
<tr><td>Distinction of distributors and arrangers</td><td colspan="4">1 point</td><td colspan="4">0,5 points</td><td colspan="4">0 points</td></tr>
<tr><th>Collateralization of the issuance</th><th colspan="6">Yes</th><th colspan="6">No</th></tr>
<tr><td>Collateralized bond by a real estate, machinery etc. Shares are not always appropriate form of it</td><td colspan="6">2 points</td><td colspan="6">0 points</td></tr>
</table>

Continuation of the Scorecard on the next page

Source: Analysis of the Ministry of Finance | *CNB = Czech national bank | *IF = Investment firm

Continuation – Scorecard WITHOUT rating

Financial statements	Balance sheet, P&L statement	Cash flow statement	Annual report
Publishing of financial statements (min. of 2 years). Multi-choice. If not published – 0 points	0,5 points	0,5 points	0,5 points

Size of the corporation	> 1 300	1 300 – 260	260 – 52	< 52
Size according to revenues (in CZK mil.)	2 points	1 point	0,5 points	0 points

EBITDA/Revenues (EBITDA margin)	> 25 %	25 – 20 %	20 – 15 %	15 – 10 %	10 – 5 %	< 5 %
• Components for calculations of ratios are available in the Profit & Loss statements • EBITDA = Earnings before taxes + Interest expense + Depreciation & Amortization (D&A) • Revenues – products, services, goods etc.	3 points	2 points	1,5 points	1 point	0,5 points	0 points

Investor should check financial statements and ratios for at least 3 consecutive years and take into account their trend. In case of unavailable data – 0 points

Debt/EBITDA	< 1.5	1.5 – 2	2 - 3	> 3
• Debt – Usually liabilities in the statements • EBITDA = EBT* + Interest expense + D&A	2 points	1 point	0,5 points	0 points

EBIT/Interest (Interest coverage ratio)	> 5	5 - 3	3 – 1.5	< 1.5
• EBIT = EBT* + Interest expense • Interest expense	2 points	1 point	0,5 points	0 points

Continuation of the Scorecard on the next page

Source: Ministry of Finance, Moody‘s, S&P, Fitch, Berk & DeMarzo, Damodaran | *EBT = Earnings before taxes

Continuation – Scorecard WITHOUT rating

Covenants	Yes	No
Covenants are the company's commitment to act in a certain way. For instance, not to exceed agreed debt ratio etc.	1 point	0 points

Evaluation of the Scorecard WITHOUT rating

Evaluation of Scorecard	19 – 15.5 points	15 – 11.5 points	11 – 7.5 points	7 – 4 points	3.5 – 0 points
Evaluation and description of individual risk scales of bonds	Relatively conservative and low-risk investment, but with a lower yield. Accompanied by high probability of coupon gains payments and repayment of nominal value of the bond.	Still relatively conservative investment with slight vulnerability to unfavourable conditions. Still high probability of coupon gains payments and repayment of nominal value of the bond.	Medium-conservative investment associated with medium-high risk. The company is likely to be able to meet its obligations, repay the coupon payments and the nominal value of the bond.	Speculative investment with high risk. The company may face adverse conditions in the future and be unable to meet its obligations. In case of an investment, investor should know the company well.	Very speculative investment with high risk. Issuers' deterioriation of conditions and therefore inability to repay its obligations is expected. This investment is mainly for experienced and dynamic investors.

Above is the initial evaluation. For more thorough evaluation of the issuance, it's important to consider other factors listed in the next chapter.

Source: Analysis of the Ministry of Finance, Moody's, S&P, Fitch Ratings

Additional chapter – other factors to consider

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Additional chapter – other factors to consider

Collateralization	Description
Collateralization can play a crucial role when choosing a bond	Collateralization is considered as an important factor when investing in bond, especially if the issuer is already indebted. The bond can be collateralized e.g. by a real estate, machinery, promissory note etc. However, it is very important to estimate the quality of the collateralization, when e.g. shares are always not appropriate form of collateralization.
Subsidiaries and liability	**Description**
Subsidiaries and SPVs	Increased attention must also be paid to subsidiaries and SPVs. In case the bonds are issued by these companies, it is important to evaluate the issuance from the perspective of a holding structure by means of consolidated statements and liability.
Liability	Liability is particularly important for uncollateralized issuances issued via SPVs. In the case of liability statement or financial guarantee by the parent company of the SPV, this guarantor should also be considered in evaluation and the Scorecard, because its financial data and history will, to a large extent, be a determining factor for the investors.
Purpose of issuance	**Description**
For what the company wants the money	The purpose of issuance and business plan inform about why the company needs the money. This also makes it possible to better assess the likelihood of getting the money back.
Senior and subordinated bonds	**Description**
Junior bonds after the senior ones	Creditors of junior bonds claim receivables always after the senior creditors (higher risk).

Continuation of the additional chapter on the next page

Source: Analysis of the Ministry of Finance, Patria

Bond yield and related factors	Description
Yield to maturity	Yield to maturity recalculates the coupon rate and market price to the value (yield to maturity). This can be compared with the values by individual bonds. The bond can be purchased not only at 100 % of the price, but also at higher or lower price, despite the invariance of coupons, and thus the yield to maturity may change.
Investment horizon and coupon rate	In general, the longer the period in which the investor is willing to hold the bond, the greater the coupon rate should be. Moreover, if the investor doesn't plan to hold the bond until its maturity, there is a higher volatility risk and liquidity factor over a longer maturity of the bond. Interest rate changes directly impact the price of bonds and can therefore result in either income or loss.
Coupon as a risk indicator	Mostly, the larger the coupon, the greater the risk should be. The coupon usually reflects the current risk-free interest rate + credit spread, at which investors are willing to buy and issuer issue the bond. Both the risk-free rate and the credit spread of each issuer change over time. It may be beneficial for the investor to monitor the risk premium, i.e. the difference between the coupon and the risk-free rate, and not just the coupon rate itself. In case of high risk-free rates and low credit spreads, the investor can then evaluate such a bond as relatively less risky and vice versa.
Fixed and variable coupon	Fixed coupon provides the investor with a fixed income until the bond maturity. In this case the risk may increase with increasing maturity. On a flip side, variable coupon usually binds the rate of the coupon to another variable (e.g. interest rate development)
Auditor	**Description**
Audit as a credibility stamp	Audited financial statements increase credibility. Auditor‘s statement should be unqualified.

Continuation of the additional chapter on the next page

Source: Analysis of the Ministry of Finance, Patria

Additional chapter – other factors to consider

Planned debt	Description
Certain ratio of debt to equity is better for investors	For investors, active debt policy will be more favourable. This involves maintaining a certain ratio of debt to equity (debt-to-equity ratio). It can be part of covenants.
Liquidity	**Description**
Liquidity as the ability to convert a bond into cash	Liquidity is the ability and option to convert a certain asset into cash. From this point of view, the investor will be interested in where and how quickly the bond can be sold. One of the options are bonds traded on the stock exchange, which doesn't always indicate liquidity. Furthermore, bonds in the CR are mostly traded on the OTC market, where trading volumes are significantly higher.
Industry	**Description**
Diverse industries entail different risks	The industry, in which the company operates (according to NACE distribution) is also one of the factors that have a direct impact on the risk of the bond. For instance, according to Coface, pharmaceutical industry carries lower risk and transport and construction industries higher risk.
Examples of another financial indicators	**Description**
Return on assets (ROA)	ROA = EBIT / Assets (in numerator can be also used Net Profit, EBITDA or operating Cash Flow)
Bankruptcy models – e.g. Altman Z score Evaluation – Z < 1.81 = the company is likely to go bankrupt, but the trend is important as well	Z = (3,3 × EBIT / Assets) + (1 × Revenues / Assets) + (0,6 × Equity Market Value /Debt Book Value) + (1,4 × Retained Earnings / Assets) + (1,2 × Net Working Capital / Assets) -> Z > 2,99 = The company is prospering
Net Working Capital (NWC)	NWC = Current Assets – Current Liabilities

Source: Analysis of the Ministry of Finance, Patria, Coface, The University of Finance and Administration

Information sources and links

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Information sources

Corporate ratings	Description
Moody‘s, S&P, Fitch Ratings websites	• https://www.standardandpoors.com/en_US/web/guest/home • https://www.moodys.com/ • https://www.fitchratings.com/site/home
Approved prospectus by the supervisory authority	**Description**
Czech National Bank prospectus register	• https://oam.cnb.cz/sipresextdad/SIPRESWEB.WEB_PROSPECTUS.START_INPUT_OAM
Information about corporations	**Description**
Basic information, financial statements, insolvency register etc.	• **Commercial register:** https://or.justice.cz/ias/ui/rejstrik • **ARES:** https://wwwinfo.mfcr.cz/ares/ares_es.html.cz • **Trade register:** https://www.rzp.cz/ • **RES:** https://apl.czso.cz/irsw/dotaz.jsp • **Insolvency register:** https://isir.justice.cz/isir/common/index.do • **Evidence of bankruptcies:** http://upadci.justice.cz/cgi-bin/sqw1250.cgi/upkuk/s_i8.sqw • **VAT payer:** https://adisreg.mfcr.cz/cgi-bin/adis/idph/int_dp_prij.cgi?ZPRAC=FDPHI1&poc_dic=2
Information about distributors and arrangers	**Description**
Czech National Bank lists	• **CNB lists:** https://apl.cnb.cz/apljerrsdad/JERRS.WEB07.INTRO_PAGE?p_lang=cz
Information about securing	**Description**
Cadastral register	• **Cadastral register:** https://nahlizenidokn.cuzk.cz/

Source: Analysis of the Ministry of Finance