AGGREGATE RATING MODEL IN TOURISM ROMANIAN ENTERPRISES

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Abstract

In recent years, especially after the financial crisis, managers are increasingly interested in the health and viability of their businesses coordinates. At the same time shareholders are concerned on the one hand the earnings per share and on the other hand the receipt of dividends at the end of the financial year. That is why analysts are now increasingly concerned with building their own rating models based on both the banking practice and research in the field. In this paper we present a model of their rating for tourism businesses built on three pillars: Pillar own, pillar banking and statistics.

Keywords*: rating, liquidity, performance, credit scoring, banking*

JEL classification: *G10, G28, G29*

1. Literature review

Credit ratings convey credit risk information to participants in financial markets, including investors, issuers, intermediaries, and regulators. Accurate credit rating information plays a crucial role in supporting sound financial decision-making processes. Most previous studies on credit rating modeling are based on accounting and market information.

Credit rating agencies such as Moody's, Standard & Poor's, Fitch IBCA and Thomson Bank Watch processes a number of financial and non-financial data with important value on country risk, risk capital investments or municipal investment risk.

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IFRS-based financial reports, financial forecasts, investment programs, internal or external, political stability, etc., provide information underlying the whole process of rating.

Both business managers and especially capital market investors, poorly informed about the size of a business risk need independent and objective information on the financial stability of the company they run or who have invested financial resources.

Usually banks provide information about the risk of a business, but an independent evaluation is more credible or come from a credit rating agency or by some analysts with experience.

Accordingly, the rating becomes benchmark and specialized professionals and independent activity rating agencies identify with the interests of investors, managers, banks and state.

The rating is determined by notation, and is a contract between the company and the rating agency.

In interpreting classical notation (rating) is made by a third party opinion on the quality of a debtor's claims. In this framework, the observer is located a third party claims issuer and its findings are further.

Before deciding to invest in a security of a company is required to assess the entity's ability to pay its obligations on time. In this company's rating helps investors determine how risky it is to invest in a security or in a given country.

In the European Union, credit ratings are defined as "an opinion regarding the creditworthiness of an entity, a debt or financial obligation (…) using an established and defined ranking system of rating categories". In other jurisdictions, similar definitions apply of credit ratings apply.

Credit rating agencies use "rating methodologies" to derive the individual ratings. These methodologies describe the key factors and criteria used by a specific agency to derive its evaluation. These methodologies usually include quantitative and qualitative factors.

From a quantitative perspective, agencies usually use 3 to 5 years of financial information to derive the historic performance. Some agencies may equally include financial projections for a 3 to 5 years horizon. Financial ratios used for the assessment may differ from agency to agency (the definition of each of these ratios may equally differ and may include some adaptations by the agency).

A rating system typically assigns a borrower to a particular grade based on their probability of default. To avoid excessive concentration of borrowers in one particular grade, a bank must have a minimum of seven borrower grades for non-defaulted exposures and one for those that default. For retail exposures, banks should be able to quantify the risk parameters for each pool of exposures.

Rating agencies who strive to provide credit assessments that remain broadly stable through the course of the business cycle have been themselves affected as the growing reliance on rating mean that they are increasingly expected to satisfy a widening range of constituencies with different and sometimes conflicting interests. They have responded to this challenge largely by adding more products to their traditional product palette but also through modifications in the rating process.

Recent research (Perry, Cronan, and Henderson, 1984; 1985) incorporates more narrow industry classifications and addresses other problems associated with MDA in bond rating models. In addition to the studies concerning bond rating prediction, S& P's attempts to in-form bond rating users of the criteria used in the rating process (Bond Guide, 1982). This information describes the criteria, but much of the rating process still depends on subjective evaluations. This subjectivity is one reason for the lack of accuracy in predicting bond ratings (Pinches and Mingo, 1973).

Concerns rating model we encounter in medicine, psychology, accounting, sports or in banking. The authors constructed models demonstrating whether the investigated systems can be linked to a specific area in question rating agencies also established.

In this paper we built a model specific rating businesses in the tourism industry in Romania, based on data from financial reports over 10 years.

2. Method and results

In order to establish aggregate rating model we considered three pillars:

- Pillar 1. Model of rating;
- Pillar 2. Banking Aggregate Model;
- Pillar 3. The aggregate Credit Scoring Model.

Pillar 1. The proper rating model is based on three categories of indicators grouped into indicators of liquidity, solvency and profitability. For

each group of indicators were established seven qualifiers as very good, good, above average, average, below average, weak and very weak, and their respective scores.

These qualifications were equivalent to 5 grades from A to E, associated bank and credit scoring models as follows: "Very good" and "Good" = A "Above average" and "Average" = B "Below Average '= C' weak '= D and "very weak" = E.

To implement the model were analyzed financial data of SC Palace SA Sinaia.

Rating model was built based on 5 indicators:

- o General solvency ratio,
- o Gross profit to revenue ratio,
- o Return On Equity,
- o Current Liquidity Ratio and
- o Return On Assets.

General Solvency Ratio shows to what extent the total assets of the entity can cover total debt. The indicator measures the security enjoyed by the company to the bank and creditors; the extent to which debt can be covered on account of assets. Overall solvency ratio shows the share of net assets in total assets accounting.

Based on the values obtained for this indicator were awarded points according to the following scale:

Values	**80%**	**105%**	**130%**	**155%**	**180%**
Points	**1**	**2**	**3**	**4**	**5**

In our case study 5 points are awarded throughout the analysis period with a value higher than 180%.

Gross profit to revenue ratio is determined as a percentage ratio between the gross profit and total revenue for the year. The indicator highlights the contribution of property items in the results. For this indicator were awarded points according to the following scale:

5	**4**	**3**	**2**	**1**
peste 12,1 %	**8,1 - 12 %**	**5,1 - 8 %**	**2,1 - 5 %**	**peste 0 - 2,0 %**

In the case study score given is almost constant throughout the period determined, paying the minimum score, except to the years 2003 and 2011 when the score given was 2.

Return On Equity (ROE) reflects efficient use of capital to shareholders and are calculated as a ratio between net profit and equity company. The scores awarded for this indicator are:

5	**4**	**3**	**2**	**1**
>25	**15<25**	**10<15**	**5<10**	**<5**

In our study the indicator values are less than 5 throughout the period, so the score given is 1.

Current Liquidity Ratio shows the ability of current assets to current liabilities of the entity's face; highlights cash resources through current assets. In other words the current liquidity indicator measures the ability of the entity to pay its short-term debts. The current liquidity is higher, the more capable is the entity to pay their obligations, demanding 12 months of the balance sheet date.

Current liquidity while assessing the efficiency operating cycle of an entity or its ability to transform production cash. The scores awarded are:

5	**4**	**3**	**2**	**1**
>2,5	**2<2,5**	**1,5<2**	**1,5<1**	**<1**

In case the liquidity experienced a positive development in the period under review, with the exception of 2012.

Return on Assets (ROA) is the most prevalent rate in the economic rate of return. This measures the return on invested capital of the whole entity and is determined as the ratio between net result for the year and total assets of the entity.

For this indicator were given the following scores:

5	**4**	**3**	**2**	**1**
>20	**14<20**	**9<14**	**4<9**	**<4**

Indicator values are less than 4 throughout the period, so the score given is 1. The ranges were established for rating categories below:

Category A	Category B	Category C	Category D	Category E
20<25	**15<19**	**10<14**	**6<9**	**<=5**

By adding the points obtained for each category of indicators were obtained following the following category scores aggregated rating:

Fiscal Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total points	**9.00**	**10.00**	**9.00**	**9.00**	**9.00**	**10.00**	**10.00**	**10.00**	**12.00**	**9.00**
Category	**D**	**C**	**D**	**D**	**D**	**C**	**C**	**C**	**C**	**D**

The following were awarded scores in the range 3-15 points, broken down by rating categories A to E, according to the table below.

A	B	C	D	E
15-13 pct	**12-9 pct**	**8-6 pct**	**5-3 pct**	**<3**

Aggregate grade rating granted during the study period:

Fiscal year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
The Rating	**E**	**B**	**E**	**E**	**E**	**B**	**B**	**B**	**B**	**E**

The rating obtained by SC Palace SA Sinaia during 2003-2012, after applying the model rating falls into the category E in 2003, 2005, 2006, 2007, 2012 and the remaining years fall into the category of rating B.

According class B, class entities that have a rating and a good repayment capacity. This qualification granted the whole period under review the company has a good debt repayment capacity, both short term and long term. The level of return on capital invested in the company is medium. For Category B entities are not expected loss and risk exposures related to this category is considered low. Entities in category E have problems with financial performance. Losses are mostly imminent.

Pillar 2. Banking Aggregate Model

In research conducted we considered models BCR-Erste bank and Piraeus Bank.

BCR - Erste fall traders, who use credit worthiness in five categories according to the scores of financial criteria, quantifiable outcome analysis nonfinancial criteria, quantifiable.

Depending on their score, the credit will be classified in one of the categories of financial performance, the following scale:

Credit Rating Values	Performance Qualification	Credit Type
0.27-0.54	A	Standard
0.55-0.81	B	In observation
0.82-1.08	C	Substandard
1.09-1.35	D	Doubtful
>1.36	E	Loss

Punctajele se acordă crescător, astfel încât o societate care obţine un punctaj scăzut, va fi încadrată într-o categorie superioară de bonitate.

After applying the rating model BCR-Erste following marks were registered society analyzed as follows:

BCR-ERSTE Model	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Performance	D	C	C	D	C	B	B	B	A	C

Qualification										

The rating obtained by the company during the period 2003-2012 oscillates after applying the model rating, falls into the category rating for 2011 in the category B for 2008-2009 and 2004-2005, 2007, 2012 falls in the category C and 2003, 2006 and rating in the category D.

After applying the model Piraeus Bank were recorded following qualifiers for the company analyzed:

Piraeus Bank Model	**200 3**	**200 4**	**200 5**	**200 6**	**200 7**	**2008**	**200 9**	**201 0**	**201 1**	**201 2**
Performance Qualification	**B**	**B**	**B**	**B**	**B**	**A**	**A**	**A**	**A**	**A**

The rating obtained by the company during the period 2003-2012, after applying banking model rating falls into the category A, in the years 2008-2012 and the remaining years fall within the rating category B. By adding the scores obtained for each category of indicators were obtained following the following category scores aggregated rating:

Fiscal Year	**200 3**	**200 4**	**200 5**	**200 6**	**200 7**	**200 8**	**200 9**	**201 0**	**201 1**	**201 2**
Total Points	**5**	**6**	**7**	**7**	**7**	**7**	**6**	**6**	**6**	**6**
Banking Aggregate Rating	**C**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**

Depending on the total score rating is established entity, as follows:

A	**B**	**C**	**D**	**E**
10-8 pct	**7,9-6 pct**	**5,9-4pct**	**3,9-2 pct**	**<2**

Category B includes customers whose financial performance was good or very good, but can not maintain this level over a longer period.

Category C is for customers with satisfactory financial performance, but with a clear trend of worsening.

Pillar 3. The Aggregate Credit Scoring Model

In Pillar 3 we considered two models: Ion Anghel and model Stickney.

After applying the model Ion Anghel were recorded following marks for SC Palace SA Sinaia:

Ion Anghel Method	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Qualification	B	A	A	A	A	A	A	A	A	A

The rating obtained by the company during the period 2003-2012, after applying the model Ion Anghel, fall into the category rating A, except 2003 which fall under the category rating B.

In the period under review rating given as calculated's scoring is A, with the exception of 2003, year in which the rating is B. The risk of default is 0, the company is in a zone of non-bankruptcy period from 2004 to 2012, and in 2003 is in the areas of uncertainty.

After applying the logit model Stickney ratings were awarded the following qualifications:

Logit Stickney Method	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Qualification	C	B	B	B	B	B	B	B	B	B

The rating obtained by the company during the period 2003-2012, after applying the model rating is in category B rating, except for the first year (2003) that fall into the category C.

During the analyzed probability of bankruptcy risk is high (rating given in most years is E and D), and 2005-2008 is less likelihood of bankruptcy, the rating of the D. By adding the scores obtained for each category of indicators were obtained following the following category scores aggregated rating:

Fiscal Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total points	5	6	7	7	7	7	6	6	6	6
Agregat Credit Scoring Rating	C	B	B	B	B	B	B	B	B	B

Depending on the total score rating is established entity, as follows:

A	B	C	D	E
10-8 pct	7,9-6 pct	5,9-4pct	3,9-2 pct	<2

The scores for the categories are weighted rating with 35% aggregate model to obtain the overall rating. The aggregate model of banks and credit scoring model were given scores ranging from 2-10 for each rating category in the table above. In order to build the model aggregate scores are weighted rating categories associated with 35% each in its own model and model with 30% aggregate bank credit scoring model.

Fiscal Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Model of Rating	E	B	E	E	E	B	B	B	B	E
Score (Weighting 35%)	0.35	1.40	0.35	0.35	0.35	1.40	1.40	1.40	1.40	0.35
Banking Aggregate Model	B	B	B	B	B	A	A	A	A	A
Score (Weighting 35%)	1.40	1.40	1.40	1.40	1.40	1.75	1.75	1.75	1.75	1.75
The Aggregate Credit Scoring Model	C	B	B	B	B	B	B	B	B	B

Score (Weighting 30%)	0.90	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Total Points	**2.65**	**4.00**	**2.95**	**2.95**	**2.95**	**4.35**	**4.35**	**4.35**	**4.35**	**3.30**
Aggregate Rating Score	**C**	**B**	**C**	**C**	**C**	**B**	**B**	**B**	**B**	**C**

According class B, class entities that have a rating and a good repayment capacity. This qualification granted the whole period under review the company has a good debt repayment capacity, both short term and long term. The level of return on capital invested in the company is medium. For Category B entities are not expected loss and risk exposures related to this category is considered low.

Entities in category C have a good rating but may have problems with financial performance. Repayment capacity is adequate but problems may arise or irregularities in payment of debts to creditors, but these can be solved without rescheduling. For entities in this category is unlikely record losses and related risk exposure for this category is considered average but acceptable to creditors.

3. Conclusions

The literature reveals rightly importance rating in any field whether it is medicine, psychology, banking, sports, human resources or business.

The aggregate rating is based on a model developed its own built on financial ratios, on an aggregate model of aggregate banking and credit scoring model based on financial ratios in turn be selected based on relevant practices of banks, either through research MDA and logit statistical. We believe that such a multi-criteria rating system multiptocedural and can lead to identifying the causes affecting liquidity, performance and ultimately financial stability of the company.

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