An Analysis of Romania's Short-Run Sovereign Rating Determinants

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ABSTRACT

For most European Union countries the government expenditure exceeds government revenue which could lead in the long run to an increase in the government debt to GDP ratio. Considering the distortions generated by the financial and economic crisis, followed by the debt crisis, both local and international investors are more prudent when planning in lending money to sovereigns. The sovereign rating is probably one of the most important aspects which investors carefully analyze before they decide to purchase government bonds or Treasury bills. This paper focuses on Romania's short-run sovereign rating determinants according to the specific methodology of Romania's Export-Import Bank (EximBank). The results reveal that rating is Bb – payment difficulties and insignificant losses being possible.

Keywords: Short-term sovereign rating, Scoring model, Fiscal policy, Public debt

JEL codes: C00, E44, F34, G15

1. Introduction

In the last three decades sovereign ratings became significant as the global credit rating agencies Standard and Poor's, Moody's Investor Services and Fitch Ratings increased their influence in the international financial market. For example, in the early '80s Standard and Poor's assigned ratings only to 14 developed countries and in 2012 this number increased to 128 developed and emerging countries. One reason for this development is that credit ratings may represent a a real "passport" for the issuers in getting the loan (Lăzărescu, 2003). In our opinion a suitable definition for sovereign rating was formulated by Afonso et. al (2007) who stated that it represents a condensed assessment of a government's ability and willingness to repay its public debt both in principal and in interests on time. Hence, we believe that it is important to study this topic also considering Miricescu's (2012) view that the sovereign rating has a strong negative influence on bonds' interest rate, mainly during the financial crises. Moreover, in the case of the European Union (EU) countries, Afonso et. al (2011a) found significant responses of government bond yield spreads to changes in rating notations and outlook, particularly in the case of negative announcements.

According to Stoian and Câmpeanu (2010) the fiscal sustainability would be more difficult to achieve given the opposite reaction of governments to public debt shocks. An appropriate response might consist in improving the sovereign rating in order to reduce the public debt interest rates. But the interest rates apply to government borrowings. Hence, the higher is the size of government borrowings the higher will be the interest rate on public debt. In this context, Postole et. al (2011) asserted that a sizeable debt on short term may lead to crisis situations for the emergent countries which strongly need of liquidities. Therefore, we consider that an outstanding variable that must take into consideration in determining short-run sovereign rating is represented by the short-term debt.

One reason for which the public decision makers choose to borrow money is related to the motivation that the central and local government authorities satisfy the needs of citizens living in their territory (Miricescu, 2011). Thus they have to increase expenditures which might exceed government revenues. Consequently, financing the deficits by issuing government bonds can cause an increase of public debt.

The aim of this study is to analysis Romania's short-run sovereign rating determinants applying the methodology provided by EximBank. For this purpose, the paper is organised as follows. Section 2 reviews the literature focused on identifying the determinants of short-run sovereign rating and also makes some comparisons between various short-term rating scales. Section 3 describes the main elements of database and research methodology used in our study. Section 4 concerns the determinants of the Romania's short-run sovereign rating and Section 5 gives the concluding remarks.

2. Literature Review

There is a large literature investigating the determinants of sovereign ratings, but only a few papers focused on what factors causes short-term sovereign ratings.

An important analysis of long-term sovereign ratings was developed by Cantor and Packer (1996) on 49 countries for the period 1987-1994. Their findings showed that the determinants of sovereign ratings assigned by Standard & Poor's and Moody's Investor Services are: per capita income, GDP growth, inflation, foreign currency debt to exports ratio, industrialized or not industrialized country (according to IMF classification) and default on foreign currency debt since 1970.

Lăzărescu (2003) highlighted that EximBank determines the short-run sovereign risk based on economic and political variables, each of them having 50% share in the final score. The economic variables analyzed in the scoring model were: GDP per capita, real GDP growth, current account balance to GDP ratio, inflation rate, revenues from the main exported product to revenues from exports ratio, revenues from exports to expenditures from imports ratio, foreign reserves to expenditures from imports ratio, short-term external debt to total external debt ratio and external debt at maturity to exports ratio. The political variables analyzed in the scoring model were: current governance, economic policy of government, internal pressures, international relations, default history and bilateral relations

Afonso et. al (2011b) investigated the determinants of short-term sovereign ratings for 65 countries for Standard & Poor's, 66 for Moody's Investor Services and 58 for Fitch Ratings, using data ranged on 1995-2005 period. The authors used an unbalanced panel data and showed that determinants of short-term sovereign ratings are GDP per capita, real GDP growth, public debt and government deficit. The authors also found additional determinants of long-term sovereign ratings such as government effectiveness, external debt, foreign reserves and sovereign default history.

Based on the scores of the short-term sovereign ratings, the countries could be grouped into two classes: (i) countries having the investment grade with ratings equal to or above: A-3 for Standard & Poor's, Prime-3 for Moody's Investor Services, F3 for Fitch Ratings, and (ii) countries having speculative grade with ratings equal to or below: B (for Standard & Poor's and Fitch Ratings), Not Prime for Moody's Investor Services.

Short-term rating scale has: 7 ranges in the case of Standard & Poor's (from A-1+ to D), 4 ranges in the case of Moody's Investor Services (from Prime-1 to Not Prime), 8 ranges in the case of Fitch Ratings (from F1+ to D) and 5 ranges in the case of EximBank (from Aa to Dd). We consider that short-term rating scale is similar for Moody's Investor Services and for EximBank, in terms of stages number. In order to increase the rating scale accuracy, we propose that EximBank split short-term sovereign ratings in investment grade and speculative grade.

3. Database,Methodology and Results

Our analysis uses data for 2011 available for Romania and they are originated from published official sources as follows: World Bank, EUROSTAT, National Bank of Romania and Romanian Ministry of Public Finance. We apply the methodology provided by EximBank for assessing the short-run sovereign rating and we further explain the specific indicators.

Table 1   Short-term rating scale of EximBank

Rating	Score	Rating definition
Aa	100 – 53	Payment difficulties occur as improbable
Bb	52 – 37	Payment difficulties and insignificant losses are possible
Cc	36 – 24	Payment difficulties and limited losses are likely to occur
Cd	23 – 15	Severe payment problems, including loans rescheduling are expected
Dd	14 - 0	Considerable losses seem to be unavoidable

Source: our own findings based on information from Lăzărescu (2003)

Analyzing short-term rating scale of EximBank, Miricescu (2011) considered that the level of minimum score for Aa rating is very low and proposed to have a rigorous division for rating ranges.

EximBank determines the short-run sovereign risk based on economic and political variables. EximBank supports the Romanian foreign traders by offering information about 76 countries and also it assesses the short-run sovereign risk based on economic and political variables. We consider that the importance of short-run sovereign rating consists of analyzing the economic and political variables for Romania, in order to improve the variables of the model and facilitate that country obtain an investment grade rating.

The maximum score for a country according to the economic variables is 100 points, as follows.

Table 2 Economic variables

Variable Name	Unit of Measurement	Maximum score
GDP per capita	USD	10 points
Real GDP growth	Percent	10 points
Current account balance to GDP ratio	Percent	10 points
Inflation rate	Percent	5 points
Revenues from the main exported product to revenues from exports ratio	Percent	10 points
Revenues from exports to expenditures from imports ratio	Percent	10 points
Foreign reserves to expenditures from imports	Months	15 points
Short-term external debt to total external debt ratio	Percent	15 points
External debt at maturity to exports ratio	Percent	15 points

Source: our own findings based on information from Lăzărescu (2003)

The maximum score for a country according to the political variables is 100 points, as follows.

Table 3. Political variables

Variable Name	Maximum score
Current governance	20 points
Economic policy of government	15 points
Internal pressures	15 points
International relations	20 points
Default history	15 points
Bilateral relations	15 points

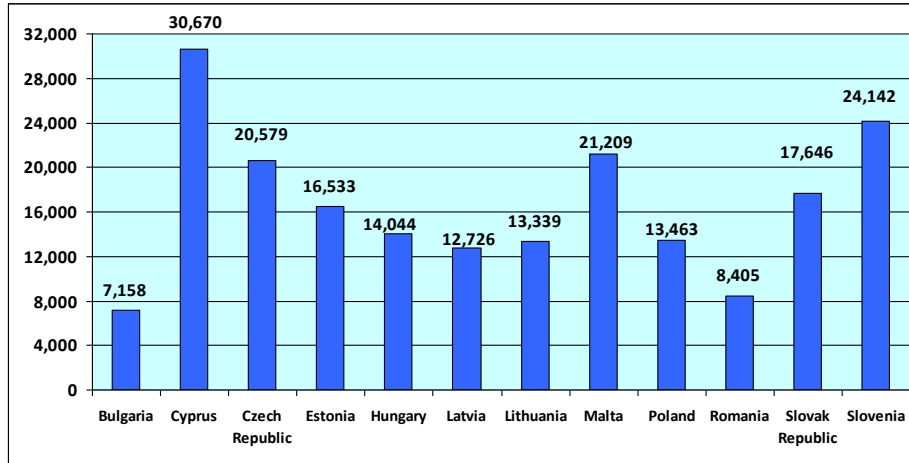Source: our own findings based on information from Lăzărescu (2003)

4. Determining the Romania's short-run sovereign rating

We will study independently the economic variables and the political variables. For each variable we will attach the score according to the methodology of EximBank.

4.1. Analyzing the economic variables

The minimum score is 0 for a GDP per capita ranging from 0 USD to 500 USD and the maximum score is 10 for a GDP per capita above 10.000 USD. Alexe et. al (2003) explained that the larger the GDP, the wider the potential tax base and thus the higher the ability of government to fulfil its external obligations. As they have a similar development, we compared Romania to the countries that joined the EU starting 2004. We find in Figure 1 that the minimum GDP per capita was in Bulgaria and the maximum GDP per capita was in Cyprus. The score of Romania is 9 for the first economic index.
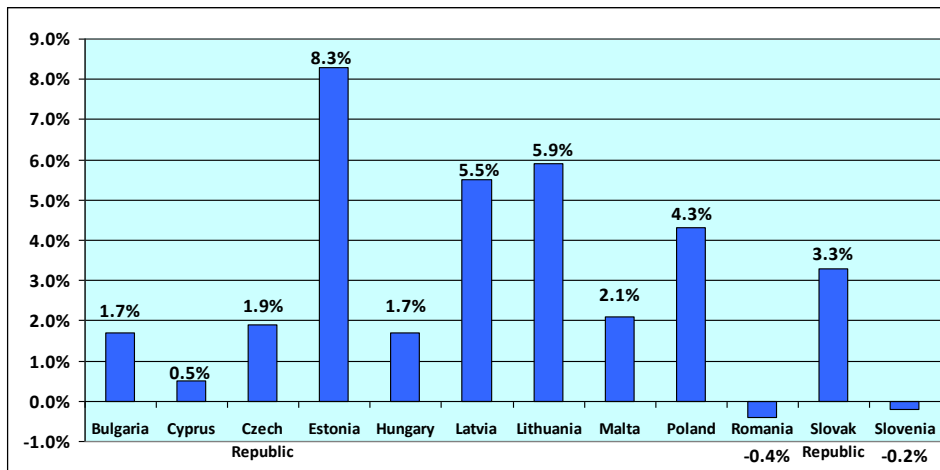
Figure 1   GDP per capita (USD)

Source: our own findings based on data from the World Bank

The minimum score is 0 for a real GDP growth lower than -1% and the maximum score is 10 for a real GDP growth above 8%. Cantor and Packer (1996) stated that a relatively high rate of economic growth suggests that a country's existing debt burden will become easier to service over time. We agree the authors and we find in figure 2 that the minimum real GDP growth was in Romania and the maximum real GDP growth was in Estonia. The score of Romania is 2 for the second index.

Figure 2   Real GDP growth

Source: our own findings based on data from the World Bank

The minimum score is 0 for a current account balance to GDP ratio lower than -10% and the maximum score is 10 for a current account balance to GDP ratio above 2%. Eliasson (2002) clarified that an external balance deficit forces the government to rely on funds from abroad. Also, Afonso et. al (2007) declared that a higher current account deficit could signal an economy's tendency to over-consume, undermining long-term sustainability. Alternatively, it could reflect rapid accumulation of fixed investment, which should lead to higher growth and improved sustainability over the medium term. We consider that current account balance to GDP ratio should have a positive value. We find in figure 3 that the minimum current account balance to GDP ratio was in Poland and the maximum current account balance to GDP ratio was in Estonia. The score of Romania is 4 for the third index.

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Figure 3   Current account balance to GDP ratio
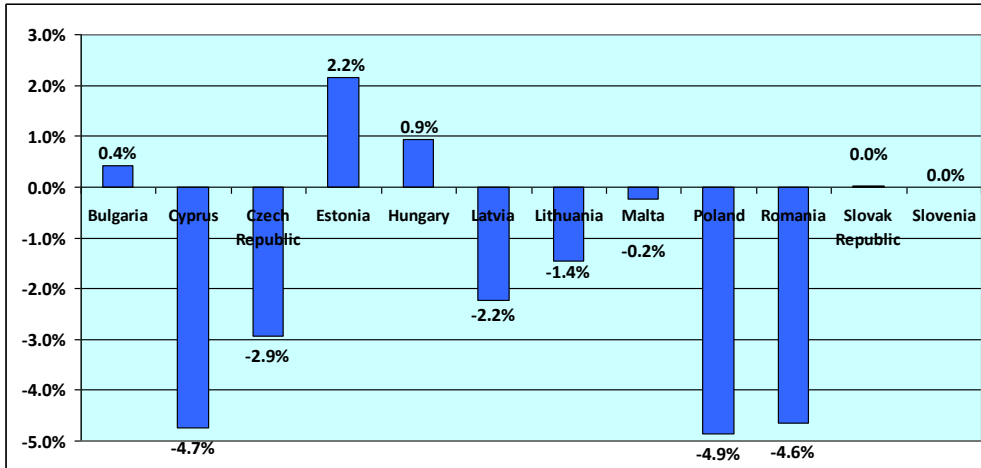
Source: our own findings based on data from the World Bank

The minimum score is 0 for an inflation rate higher than 50% and the maximum score is 5 an inflation rate below 5%. Vesilind et. al (2001) asserted that a high rate of inflation points to structural problems in the government's finances. We judge that the inflation should be low as not to disturb the economic indexes. We find in figure 4 that the minimum inflation rate was in Czech Republic and Slovenia, the maximum inflation rate was in Romania. The score of Romania is 4 for the fourth index.

Figure 4   Inflation rate
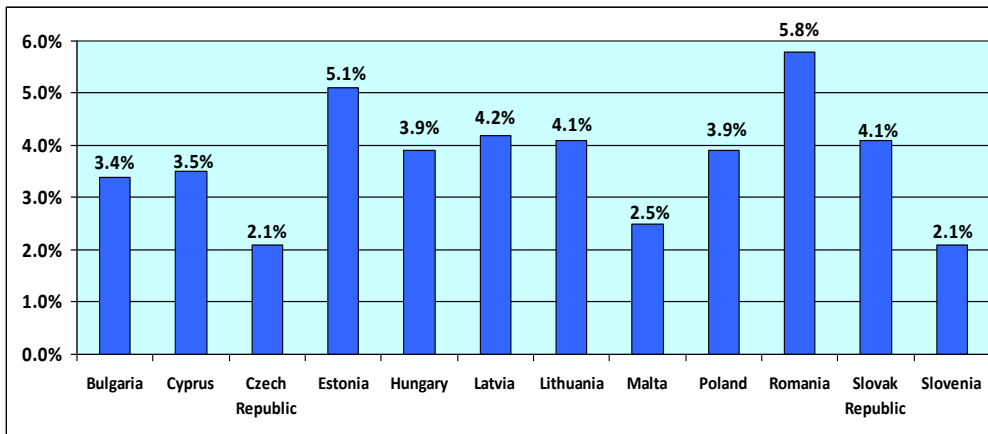
Source: our own findings based on data from the EUROSTAT

The minimum score is 0 for revenues from the main exported product to revenues from exports ratio higher than 55% and the maximum score is 10 for revenues from the main exported product to revenues from exports ratio below 10%. We find in figure 5 that the main exported products in Romania are machinery, mechanical devices, electrical apparatus and equipment. The score of Romania is 6 for the fifth economic index.
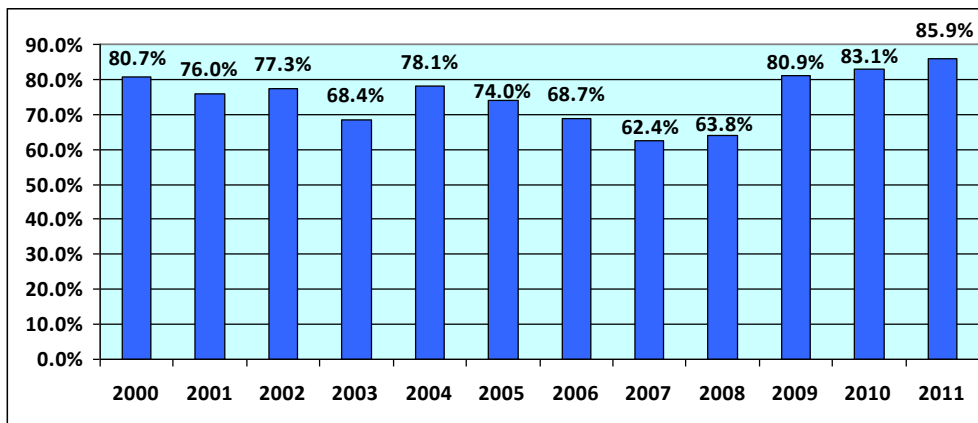
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Figure 5. Goods having significant shares in total exports
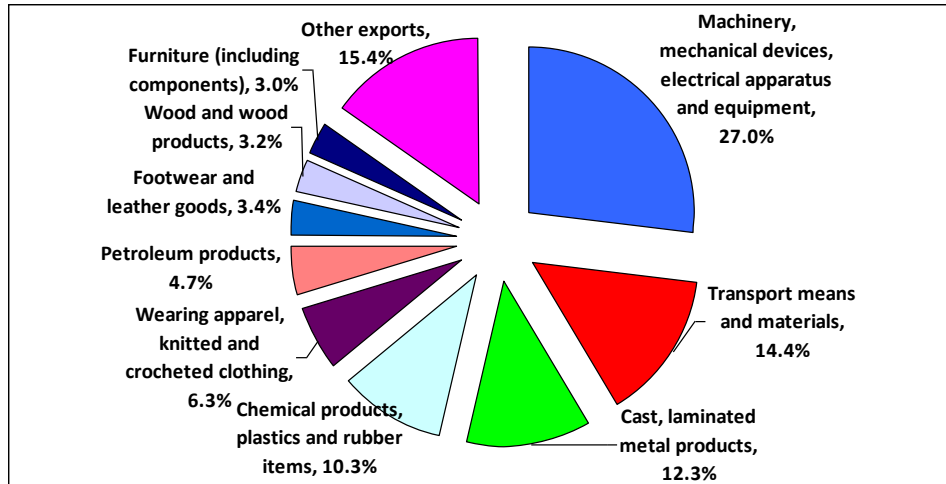
Source: our own findings based on data from the National Bank of Romania

The minimum score is 0 for revenues from exports to expenditures from imports ratio lower than 80% and the maximum score is 10 for revenues from exports to expenditures from imports ratio above 130%. We find in figure 6 that the revenues from exports to expenditures from imports ratio are 85.9% in Romania. The score of Romania is 2 for the sixth economic index.

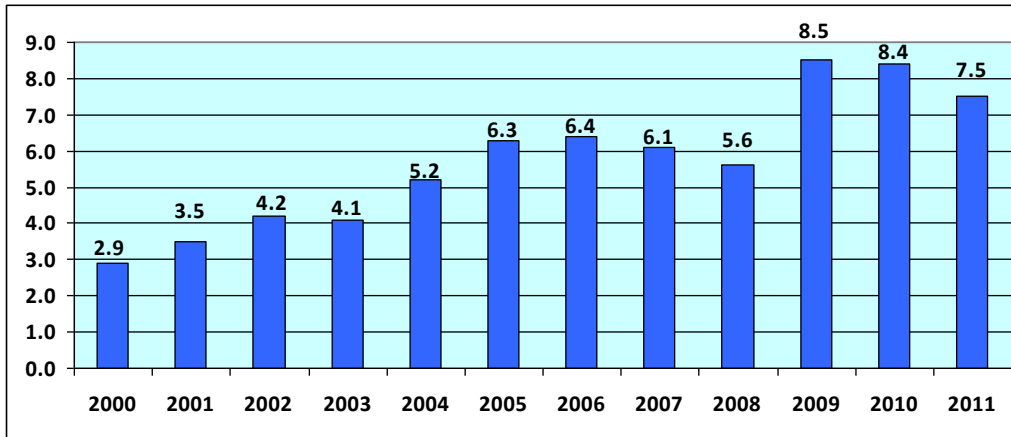**Figure 6   Revenues from exports to expenditures from imports ratio**

Source: our own findings based on data from the National Bank of Romania

The minimum score is 0 for foreign reserves to expenditures from imports lower than one month and the maximum score is 15 for foreign reserves to expenditures from imports higher than nine months.

According to Cosset and Roy (1991) the larger reserves are relative to imports the more reserves are available also to service external debt. Afonso et. al (2007) explained that higher (official) foreign reserves should shield the government from having to default on its foreign currency obligations. Haque et. al (1998) declared that the higher the ratio of international reserves to import, the less probable is a sudden liquidity crises and, correspondingly, the higher the rating. We agree these authors and we find in figure 7 that the foreign reserves to expenditures from imports are 7.5 months in Romania. The score of Romania is 12 for the seventh economic index.

**Figure 7 Foreign reserves to expenditures from imports (months)**

Source: our own findings based on data from the National Bank of Romania

The minimum score is 0 for short-term external debt to total external debt ratio higher than 25% and the maximum score is 15 for short-term external debt to total external debt ratio below 5%. Vesilind et. al (2001) explained that a higher debt burden should correspond to a higher risk of default. In our opinion it is important to avoid that a high part of the debt to be on short-term. Short-term external debt to total external debt ratio is 23% in Romania and the score for the eighth economic index is 3.

The minimum score is 0 for external debt at maturity to exports ratio higher than 70% and the maximum score is 15 for external debt at maturity to exports ratio below 10%. Cantor and Packer (1996) stated that usually the debt burden is measured as government foreign currency debt ratio to exports. We consider that an opportunity to improve the index is to increase the exports. External debt at maturity to exports ratio is 88.6% in Romania and the score for the ninth economic index is 0.

Figure 8   The scores for economic variables
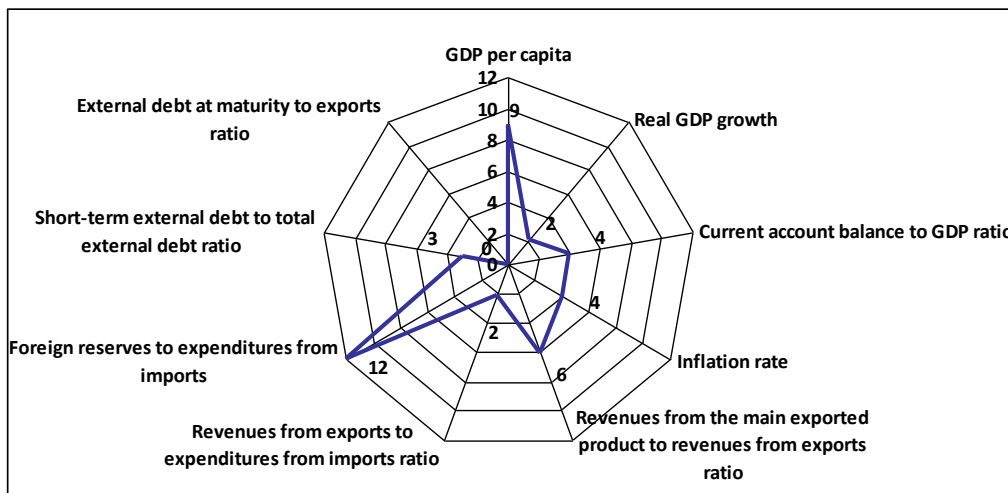
Source: our own findings

Romania's score according to methodology of EximBank for the economic variables is 42 points. In our opinion the increase of economic variables score determines the improvement of the score.

4.2. Analyzing the political variables

The score is 0 for ineffective governance, undemocratic and frequent changes of the government, corruption and the score is 20 for effective governance, regularly changes of the government. Afonso et. al (2007) explained that high quality of public service delivery and competence of bureaucracy should impinge positively of the ability to service debt obligations. To determine the score of current governance variable we will use two governance indicators provided by the World Bank ranging from minimum – 2.5 and maximum 2.5. The average between government effectiveness index (-0.22) and control of corruption index (-0.20) is – 0.21. The score of Romania is 0 for the first political index.

The minimum score is 0 for instability and inconsistency in economic policies and the maximum score is 15 for consistent economic policies. As Romania had a suitable consistency in economic policies the score is 7 for the second political index.

The maximum score is 15 when there are no internal pressures in the country. For each type of pressure that occurs the maximum score decrease by 2 points. As Romania had social and political pressures the score is 11 for the third political index.

The minimum score is 0 when the country is facing international sanctions and the maximum score is 20 when the country has privileged affairs with the major economic powers. As Romania had fair dealings with the major economic powers the score is 15 for the fourth political index.

The minimum score is 0 when the country has stopped payments for public debt and the maximum score is 15 when the country never had such problems. Besides defaults, former rescheduling and subjective political considerations can also be paid attention to Haque et. al (1998). In the early 80s, as Călin (2006) stated the Paris Club rescheduled 3.8 billion USD from Romania's public debt. After that, Romania paid all public debts in advance. The score for Romania is 9 for the fifth index.

The minimum score is 0 when the country has failed to pay bilateral liabilities and the maximum score is 15 when the country has no problems to pay bilateral liabilities. As Romania has no problems to pay bilateral liabilities the score is 15 for the sixth political index.

Figure 9   The scores for economic variables
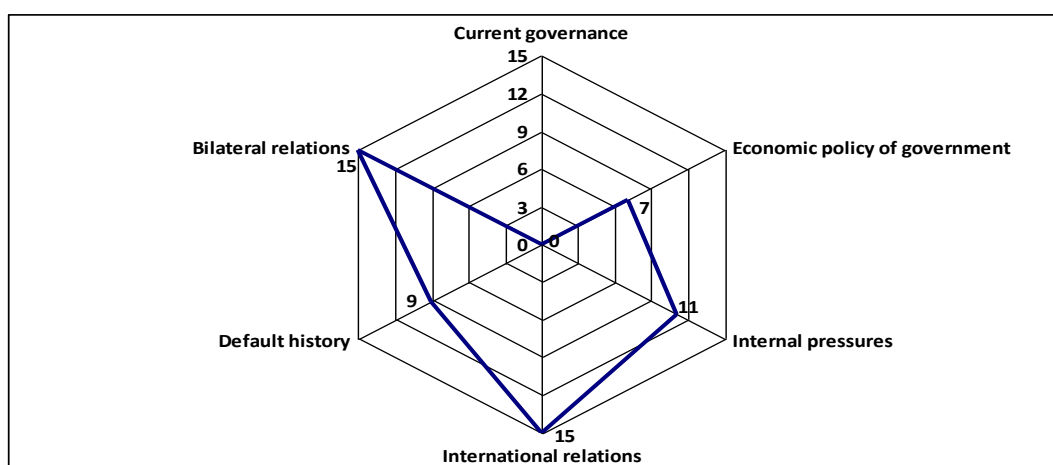
Source: our own findings

Romania's score according to methodology of EximBank for the political variables is 57 points.

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5. Conclusions

According to the methodology of EximBank the total score of Romania is 49.5 points. Romania's short-term sovereign rating is Bb. Consistent with EximBank's rating definition there are possible payment difficulties and insignificant losses. Comparing the results of our analysis with the rating provided by the global rating agencies we found that the highest short-term sovereign rating for Romania was achieved by applying the methodology of EximBank. In our belief, the public decision makers in Romania must improve both economic and political variables in order to increase the short-term sovereign rating and determines the improvement of the score.

Acknowledgements

References

Afonso, A., Furceri, D. and Gomes, P., 2011a. Sovereign credit ratings and financial markets linkages: Application to European data. European Central Bank Working Paper Series, No. 1347.

Afonso, A., Gomes, P. and Rother, P., 2011b. Short- and long-run determinants of sovereign debt credit ratings. International Journal of Finance and Economics, No. 16.

Afonso, A., Gomes, P. and Rother, P., 2007. What "hides" behind sovereign debt ratings?. European Central Bank Working Paper Series, No. 711.

Alexe, S., Hammer, P.L., Kogan, A. and Lejeune, M.A., 2003. A non-recursive regression model for country risk rating, Rutgers Center for Operational Research, No. 9.

Cantor, R. and Packer, F., 1996. Determinants and impact of sovereign credit ratings. Economic Policy Review, No. 2.

Călin, M., 2006. Datoria publică. Editura Didactică şi Pedagogică, Bucureşti.

Cosset, J.C. and Roy, J., 1991. The determinants of country risk ratings. Journal of International Business Studies, No. 22.

Eliasson, A. C., 2002. Sovereign credit ratings. Working Papers Deutsche Bank, No. 02-1.

Haque, N. U., Mark, N. and Mathieson D. J., 1998. The Relative Importance of Political and Economic Variables in Creditworthiness Ratings. IMF Working Paper, No. 46.

Lăzărescu, S., 2003. Rating financiar. Editura ASE, Bucureşti.

Miricescu, E.C., 2011. Ratingul de ţară. Editura ASE, Bucureşti.

Miricescu, E.C., 2012. The correlation of sovereign rating and bonds' interest rate in the EU member states. The Proceedings of the 6th International Conference on Globalization and Higher Education in Economics and Business Administration.

Postole, M., Duca, I., Gherghina, R. and Văduva, 2011. Sustainability Management and Policy of Public Debt. Journal of Knowledge Management, Economics and Information Technology, No. 7.

Stoian, A. and Câmpeanu, E., 2010. Fiscal policy reaction in the short term for assessing fiscal sustainability in the long run in Central and Eastern European Countries. Finance a úvěr-Czech Journal of Economics and Finance, No. 60.

Vesilind, A., Toming, I. and Lättemäe, R., 2001. Determinants of Estonian sovereign credit rating. Bank of Estonia Working Papers, No. 11.