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BANKS' CREDIT RATINGS – DOMESTIC AND FOREIGN NOTES

Abstract

The aim of the paper is to analyse the differences between foreign and domestic notes given to banks by credit rating agencies. Following a literature review, the following hypothesis was proposed: Financial indicators have a stronger impact on the credit ratings of domestic rather than of foreign banks. The hypothesis was verified using panel ordered probit models. The analysis was based on European banks' long-term issuer credit ratings given by S&P, Fitch and Moody between 2000 and 2015.

Keywords: credit rating, default risk, financial indicators, banking sector.
JEL Classification: G21, G24, G32, G33.

1. Introduction

Credit rating agencies play a significant role on the financial market. Their basic goal is to reduce the asymmetry of information between investors and issuers, especially when making investment decisions. Credit rating agencies present issuer-paid and investor-paid notes. In previous research it has been suggested that credit ratings paid by issuers are inflated (Griffin, Nickerson & Tang 2013, Bongaerts 2014, Xia & Strobl 2012, Jiang, Stanford & Xie 2012). Rating inflation can be an effect of the competition between credit rating agencies (CRAs). If issuers pay for notes, CRAs give better notes in order to attract customers (Griffin, Nickerson & Tang 2013). The use of private benefits allows for undesirable opportunistic behaviour in a fully rational model (Opp, Opp & Harris 2013, Winton & Yerramilli 2011). The rating inflation effect is not a result of naïve investors (Bolton, Freixas

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& Shapiro 2012) or unethical CRAs (Mathis, McAndrews & Rochet 2009). Private benefits for investors have similar effects (Bongaerts 2012).

The second type of credit rating is division into domestic and foreign notes. The literature suggests that the impact of financial factors can be differentiated. Foreign currency ratings refer to an entity's ability and willingness to meet its foreign-currency-denominated financial obligations as they become due. They take into account the likelihood of the government imposing restrictions on the conversion of local currency to foreign currency or on the transfer of foreign currency to residents and non-residents. On the other hand, local currency notes are an opinion of an entity's ability and willingness to meet all of its financial obligations on a timely basis, regardless of the currency in which those obligations are denominated, or absent transfer, or convertibility restrictions. Both mentioned types of ratings are internationally comparable assessments.

The described phenomenon suggests that differences may exist between the impact of factors on the domestic and on the foreign credit ratings. In previous studies issuer notes are used in most cases to analyse the impact of credit rating determinants. The aforementioned situation is connected with the fact that credit ratings are in most cases paid by issuers. Consequently, in this paper I focus on long-term issuer credit ratings. Notes proposed for banks by CRAs were used in the analysis. Credit ratings are most popular in banks, because they are notes used for correspondent banking, investment decisions, assessment of credit risk and international banking. As a result, banks are the most important clients of credit rating agencies.

According to the best knowledge of the author, the analysis concerning differences between domestic and foreign factors has not been previously verified. In previous studies we find some research that takes into account banks' credit rating determinants. The assessment of default risk during the estimation of credit ratings consists of three stages. The first is to verify the impact of the country's macroeconomic situation on the financial condition of the assessed entity. Then the impact of the condition of the sector is examined. The final step in the analysis prepared by credit rating agencies is to study the financial condition of the entity.

The aim of this paper is therefore to analyse the differences between foreign and domestic notes given to banks by credit rating agencies. As the factors analysed include the determinants of foreign and domestic credit ratings, only the financial factors of the issuers were taken into account in the analysis. The following hypothesis was proposed: Financial indicators have a stronger impact on the credit ratings of domestic rather than of

foreign banks. To verify the hypothesis, data for European banks between 2000 and 2015 was collected. The analysis was based on European banks' long-term issuer credit ratings given by S&P, Fitch and Moody.

The paper is organised as follows. Section 2 describes previous studies on the factors influencing banks' credit ratings. Section 3 describes the methodology and data. Next (section 4) the differences between the factors of particular credit rating agencies, divided into foreign and domestic credit ratings, are tested. Section 5 offers some conclusions.

2. Literature Review

The first group of research relies on an analysis of the macroeconomic factors in banks' credit ratings. B. Aver (2008) found that the employment or unemployment rate, short- and long-term interest rates and the stock exchange index have a significant impact on the banks' credit risk. The informant factors include the GDP growth (industrial production), exchange rates, and the growth of imports and exports. G. M. Caporale and R. Matousek and C. Stewart (2009) prepared a country index as a measure of macroeconomic risk. In their opinion, a strong relationship exists between the mentioned factor and banks' notes. On the other hand, E. Bissoondoyal--Bheenick and S. Treepongkaruna (2009) found that macroeconomic factors, such as GDP and inflation, have no significant impact on banks' credit ratings. The same results were obtained by W. P. H. Poon, M. Firth and H. Fung (1999) and A. Peresetsky and A. Karminsky (2008).

In the methodology presented by the three largest credit rating agencies, the impact of the sector's financial condition is also taken into consideration. The analysis prepared by F. Pasiouras, C. Gaganis and C. Zopounidis (2006) suggests that banks' notes can have a statistically significant influence on banks' regulations, supervision (measured by capital requirements, restrictions imposed on bank activities, disciplinary power, auditing, entry requirements, economic freedom) and market structure (treated as the share of banks owned by governments or foreign investors), and on bank ratings, apart from traditional bank-specific variables.

The next group of research verifies the impact of the financial indicators' impact on banks' credit ratings. O. A. G. Hassan and R. Barell (2013) prepared an analysis on a sample of US and UK banks based on data from 1994 to 2009 using an ordered probit model. They found out that only a small number of variables had a significant impact on banks' notes. The size, liquidity, efficiency and profitability of banks correctly assign

credit ratings for approximately 74% to 78%. CRAs do not take into consideration leverage asset quality and capital during the estimation of notes. A similar type of research was presented by E. Bissoondoyal-Bheenick and S. Treepongkaruna (2009), who verified factors influencing UK and Australian banks. To prepare the analysis they used short-term and long--term issuer credit ratings proposed by the three largest rating agencies. They found that non-performing loans, total capital ratio, liquid assets to total assets, and return on assets provide relevant information for CRAs to estimate the default risk and banks' notes. W. P. H. Poon, M. Firth and H. Fung (1999) performed an analysis on banks from 50 countries that received notes from Moody. They found out that loan loss provision and profitability ratios are significant for estimation of credit ratings. A. Peresetsky and A. Karminsky (2008) suggested that profitability, liquidity and loan loss provisions were taken into account as major bank characteristics. Credit rating determinants were also studied by G. M. Caporale and R. Matousek and C. Stewart (2009). They used Fitch notes for their analysis. They divided their research into four categories. As variables for banks' financial condition they used total assets, net interest margin, return on equity, liquid to total assets ratio, operating expenses and non-performing loans. F. Pasiouras, C. Gaganis and C. Zopounidis (2006) found that banks with higher profitability, liquidity and efficiency receive higher credit ratings. On the other hand, the negative impact of capital adequacy has been observed. Credit rating agencies suggest that banks' notes largely rely on historical data, which makes them respond sluggishly and after any financial problems are already known to the public (Gogas, Papadimitriou & Agrapetidou 2013).

An analysis of the factors influencing banks' credit ratings has been prepared for subsamples. C. Shen, Y. Huang and I. Hasan (2012) verified the factors influencing banks' credit ratings from 86 countries in the years 2002–2008. They take into consideration: profitability, liquidity, capital, efficiency and quality factors. They divided their sample according to the country's level of development, its geographical location, the quality of the industrial environment (traditions of respect for law and order, the bureaucracy, the level of corruption, and the quality of information), and those with low or high information asymmetry. The effects of financial ratios on ratings are significantly affected by information asymmetries. E. Laere, J. Vantieghem and B. Baesens (2012), by using the classification notes for Moody's and S&P's credit ratings, found that Moody's notes are more sensitive to the condition of the economy. In their opinion, the

level of discretion in the rating process increases with bank opacity and this effect seems higher for Moody's. The analysis of the impact of the size of the assessment of banks was verified by H. Hau, S. Langfield and D. Marques-Ibanez (2012). Rating agencies receive additional earnings from securitisation business provided by larger banks. The analysis of the methodology prepared by a particular credit rating agency was also prepared for a period before and after the crisis (Packer & Tarashev 2011).

This literature review suggests that in previous studies the strength of the impact of financial indicators on the domestic and on the foreign credit ratings was not verified. As a result, the aim of this paper is to analyse the differences between the aforementioned notes given to banks by credit ratings agencies. The following hypothesis has been proposed: Financial indicators have a stronger impact on the credit ratings of domestic rather than of foreign banks.

3. Methodology

The aim of the paper is to analyse the differences between foreign and domestic notes given to banks by credit rating agencies. Quarterly data from 2000 to 2015 was collected for 731 banks from European countries[1] from Thomson Reuters. Credit ratings were decomposed linearly according to the methodology proposed by G. Ferri, L. G. Liu and J. Stiglitz (1999). The results of the decomposition are presented in Table 1.

The dependent variable is the banks' long-term issuer credit ratings published by S&P, Fitch and Moody. As independent variables are treated financial factors belong to: capital adequacy, assets quality, management quality, efficiency and liquidity. To verify the hypothesis, the sample was divided into two groups: foreign long-term issuer credit ratings and domestic long-term issuer credit ratings. The panel ordered probit model was used:

$$y_{it}^{*} = \beta F_{it}^{'} + \gamma Z_{it} + \delta (F \cdot Z)_{it} + \varepsilon_{it},$$

where:

y_{it} is an unobservable latent variable that measures the credit-worthiness of a bank i in period t (Fitch Long-term Issuer Rating, S&P Long-term Issuer Rating, Moody's Long-term Issuer Rating) for European banks.

[1] Albania, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lichtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldavia, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Table 1. Long-term Issuer Credit Ratings Decomposition

Moody's Long-term Issuer Rating		S&P's Long-term Issuer Rating		Fitch's Long-term Issuer Rating	
Rating	Code	Rating	Code	Rating	Code
Aaa	100	AAA	100	AAA	100
Aa1	95.24	AA+	95	AA+	94.74
Aa2	90.48	AA	90	AA	89.47
Aa3	85.71	AA–	85	AA–	84.21
A1	80.95	A+	80	A+	78.95
A2	76.19	A	75	A	73.68
A3	71.43	A–	70	A–	68.42
Baa1	66.67	BBB+	65	BBB+	63.16
Baa2	61.90	BBB	60	BBB	57.89
Baa3	57.14	BBB–	55	BBB–	52.63
Ba1	52.38	BB+	50	BB+	47.37
Ba2	47.62	BB	45	BB	42.11
Ba3	42.86	BB–	40	BB–	36.84
B1	38.10	B+	35	B+	31.58
B2	33.33	B	30	B	26.32
B3	28.57	B–	25	B–	21.05
Caa1	23.81	CCC+	20	CCC	15.79
Caa2	19.05	CCC	15	CC	10.53
Caa3	14.29	CCC–	10	C	5.26
Caa	9.52	CC	5	RD	–5
Ca	4.76	NR	0	D	–5
C	0	SD. D	–5	WD	–5
WR	–5	NULL	0	–	–
NULL	0	–	–	–	–

Source: prepared by the author.

F_{it} is a vector of explanatory variables, i.e.:

$$F_{it} = (tier_{it}, lev_{it}, llp_{it}, npl_{it}, ef_{it}, sec_{it}, nii_{it}, roe_{it}, roa_{it}, opl_{it}, lg_{it}, dg_{it}, dep_{it}, sht_{it}, liq_{it}, dep_{it}),$$

where:

$tier_{it}$ is the Tier 1 ratio, lev_{it} is the leverage ratio, llp_{it} is the loan loss provisions as a percentage of average total loans, npl_{it} is the non-performing loans to total loans, ef_{it} is the efficiency ratio, sec_{it} is the value of securities

as a percentage of earnings assets, nii_{it} is the net interest income ratio, roe_{it} is the return on equity, roa_{it} is the return on assets, opl_{it} is the operating leverage, lg_{it} is the loan growth, dg_{it} is the deposit growth, dep_{it} is the ratio of loans to deposit, sht_{it} is the value of short-term borrowing to total liabilities, liq_{it} is the value of liquid assets to total assets, Z_{it} contains time invariant regressors that are generally dummy variables, ε_{it} is a random disturbance term.

4. Findings

The analysis of the determinants influencing banks' foreign and domestic credit ratings begins with a presentation of the descriptive statistics. The results of the estimation are presented in Table 2. The results obtained suggest that some variables have too few observations to prepare panel ordered probit models. The aforementioned factors include: the efficiency ratio, the return on equity, and non-performing loans to total loans. Because of the small number of observations, separate models have been prepared taking into account the tier 1 ratio and the value of short-term borrowing to total liabilities. The results of the estimation of the impact of financial indicators on credit ratings given by the three biggest CRAs are presented in Tables 3 and 4.

The first group of factors includes those connected with capital adequacy. Tier 1 and leverage ratios are taken into consideration in the group of factors analysed. The Tier 1 ratio has a stronger influence on the foreign notes than on the domestic ones, except for Moody's credit ratings. These differences are quite small. In all cases the increase of Tier 1 causes the downgrade of notes. If the aforementioned variable is too high, it may suggest a higher risk. The impact of the leverage ratio is nearly 0, and in most cases statistically insignificant. No differences between the influence on the domestic and on the foreign credit ratings have been observed either.

The second group of variables verified are those responding to asset quality. One of the measures taken into consideration in the analysis is loan loss provisions as a percentage of average total loans. An increase in the aforementioned variable causes a decrease in credit ratings, except for notes proposed by Moody's. A stronger impact of S&P foreign credit ratings changes than domestic ones was also observed. The negative relationship between the aforementioned variables may be connected with the size of the financial market. On the other hand, if banks make higher-risk loans, they

have to create higher loan loss provisions. As a result, in most cases credit rating agencies treat the higher value of this indicator as a higher credit risk.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
nim	294	3.314888	2.064696	0.496	14.697
ef	546	49.61538	79.48469	–1358.437	327.9935
opl	5241	0.7564703	373.9874	–21059.19	10346.08
llp	4771	1.040742	40.34527	–939.1807	2524.489
tier	2966	12.0013	4.319903	1	52.32019
npl	1258	14.4946	45.35921	0.0000118	475.2475
dep	5170	38.72783	1025.769	–0.0378518	59681.4
sec	5131	20.13894	16.69626	0	129.0259
roa	5592	0.1219394	2.948981	–94.76012	49.42894
roe	378	–1.072151	27.54114	–436.544	57.72256
dg	4678	1.661267	74.27182	–1	4135.54
lg	4720	0.2407734	14.00431	–24.55279	960.9088
lev	5723	16.26293	45.79581	–920.5047	1934.706
nii	5057	0.0676625	0.2712278	–0.010065	18.63425
sht	1806	0.1153017	0.1836614	0	0.9723631
liq	5185	0.0585781	0.061167	6.08e-06	0.4501707
Fitchf	13387	25.14443	37.11777	–5	100
Moodyf	5675	74.32159	18.28831	–5	100
SPf	16199	64.33021	19.96738	–5	100
Fitchd	2169	4.095145	20.10829	–5	78.94736
Moodyd	5662	73.82904	18.64864	–5	100
SPd	17031	61.86542	23.57325	–5	100

Source: prepared by the author.

Credit rating agencies also take management quality factors into consideration. In this analysis, as a measure of the aforementioned group of indicators the value of securities as a percentage of earnings assets was used. In most cases this variable has an insignificant impact on banks' credit ratings, both in the domestic and foreign group of notes.

As a measure of liquidity, the following factors were used: the ratio of loans to deposits, the value of short-term borrowing to total liabilities, and the value of liquid assets to total assets. The impact of the first of

Table 3. Estimation of the Impact of Financial Indicators on the Domestic and Foreign Credit Ratings Given to Banks by S&P

Variable	S&P Foreign						S&P Domestic			
	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$
opl	–0.004	0.001	–0.003	0.000	–0.001	0.204	–0.003	0.000	–0.001	0.021
llp	0.175	0.001	0.109	0.011	–0.004	0.911	0.110	0.010	0.009	0.814
tier	–0.119	0.000	–0.088	0.000	–	–	–0.084	0.000	–	–
dep	1.122	0.005	0.068	0.618	0.473	0.000	0.109	0.422	0.284	0.001
sec	0.009	0.032	0.003	0.385	–0.002	0.567	–0.001	0.815	–0.004	0.208
roa	1.876	0.000	1.099	0.000	0.217	0.001	1.046	0.000	0.392	0.000
dg	2.443	0.002	0.280	0.027	–0.189	0.023	0.279	0.028	–0.210	0.011
lg	–0.908	0.111	–0.008	0.809	0.049	0.082	–0.007	0.839	0.055	0.053
lev	0.048	0.000	0.025	0.000	0.014	0.000	0.025	0.000	0.014	0.000
nii	20.452	0.000	13.195	0.000	7.200	0.000	12.934	0.000	5.577	0.000
sht	12.927	0.000	–	–	–	–	–	–	–	–
liq	4.910	0.097	6.323	0.000	1.078	0.304	6.017	0.000	–0.058	0.953
/cut1	–3.586	0.000	–5.504	0.000	–3.401	0.000	–3.431	0.000	–2.270	0.000
/cut2	–2.251	0.013	–4.319	0.000	–2.906	0.000	–2.810	0.000	–2.253	0.000
/cut3	–1.520	0.089	–3.333	0.000	–2.381	0.000	–2.433	0.000	–2.038	0.000
/cut4	–1.230	0.169	–2.765	0.000	–2.325	0.000	–2.187	0.000	–1.881	0.000
/cut5	–0.540	0.545	–2.503	0.000	–1.944	0.000	–1.952	0.000	–1.854	0.000
/cut6	0.163	0.855	–2.069	0.000	–1.751	0.000	–1.547	0.003	–1.695	0.000
/cut7	1.028	0.251	–1.614	0.000	–1.158	0.005	–1.114	0.030	–1.557	0.001
/cut8	1.236	0.168	–1.150	0.012	–0.566	0.173	–0.669	0.193	–1.072	0.027
/cut9	1.683	0.062	–0.928	0.044	–0.239	0.565	–0.463	0.368	–0.544	0.261
/cut10	3.579	0.000	–0.532	0.247	–0.032	0.939	0.062	0.904	–0.258	0.595
/cut11	4.938	0.000	0.111	0.808	0.406	0.329	0.685	0.184	–0.079	0.871
/cut12	6.440	0.000	0.999	0.030	0.977	0.019	1.558	0.003	0.695	0.153
/cut13	8.333	0.000	2.620	0.000	1.820	0.000	3.204	0.000	1.217	0.012
/cut14	9.663	0.000	3.634	0.000	3.243	0.000	4.211	0.000	2.050	0.000
/cut15	10.720	0.000	5.285	0.000	4.097	0.000	5.868	0.000	3.493	0.000
/cut16	–	–	6.097	0.000	5.537	0.000	6.684	0.000	4.340	0.000
/cut17	–	–	–	–	6.399	0.000	–	–	5.781	0.000
/cut18	–	–	–	–	–	–	–	–	6.649	0.000
obs	459	–	1265	–	1740	–	1310	–	2011	–
group	39	–	61	–	65	–	67	–	72	–
Wald	0.0000	–	0.0000	–	0.0000	–	0.0000	–	0.0000	–

Source: prepared by the author.

these indicators is stronger during the estimation of domestic notes. The small number of observations discouraged the author from comparing the influence of short-term borrowing as a percentage of total liabilities in the domestic and foreign subsamples. The last of these liquidity indicators, the value of liquid assets to total assets, strongly influences the domestic long-term issuer credit ratings presented by Fitch. A weaker reaction in the case of domestic notes was observed in the case of S&P and Moody's.

The last group of factors taken into consideration during the analysis is efficiency indicators. This group of determinants includes: the net interest income ratio, the return on assets, the loan growth and the deposit growth. In the case of Fitch and Moody's long-term issuer credit ratings, a stronger significant reaction to the net interest income ratio is observed in the case of domestic notes. In both cases credit ratings are very sensitive to changes in the aforementioned variable. The return on assets significantly influences each type of credit rating presented by all the credit rating agencies. A stronger reaction to these changes follows for domestic notes than for foreign ones. The last part of the analysis relies on verification of the impact of the growth of deposits and loans. Deposit growth is significant for notes proposed by all credit rating agencies. The domestic notes react strongly to the aforementioned changes, but the direction of the reaction is differentiated. If deposit growth is stronger than loan growth, problems with excess liquidity may occur. On the other hand, the opposite reaction can generate significant problems with liquidity shortage. The described relationship can also generate higher costs connected with bank financing. Deposit acquisition creates interest costs. On the other hand, a high value of deposits can reduce the default risk. Loan growth is more significant for domestic notes proposed by Fitch, Moody's and S&P.

The analysis suggests that financial indicators strongly influence the estimation of the domestic, but not so much the foreign credit ratings proposed by Fitch, S&P and Moody's. This situation could be an effect of using macroeconomic variables during the estimation of the countries' risk and the condition of the banking sector. On the other hand, it could suggest that, when analysing domestic notes, credit rating agencies rely on qualitative variables much more than in the case of foreign credit ratings. The presented findings are also similar for notes generated by Fitch and Moody.

Table 4. Estimation of the Impact of Financial Indicators on the Domestic and Foreign Credit Ratings Given to Banks by Moody and Fitch

Variable	Fitch Foreign						Fitch Domestic		Moody Foreign				Moody Domestic			
	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$
opl	–0.001	0.779	–0.001	0.477	0.000	0.947	0.001	0.870	–0.002	0.071	–0.002	0.116	–0.003	0.018	–0.002	0.168
llp	–4.677	0.020	–3.760	0.000	–0.120	0.173	0.332	0.201	0.133	0.020	0.112	0.038	0.175	0.007	0.111	0.057
tier	–0.169	0.023	–0.236	0.000	–	–	–	–	–0.109	0.000	–	–	–0.121	0.000	–	–
dep	–1.179	0.050	–0.840	0.000	0.000	0.335	–0.001	0.561	–0.002	0.873	–0.004	0.768	–0.002	0.893	–0.007	0.572
sec	0.021	0.087	0.010	0.107	0.006	0.103	0.046	0.104	0.004	0.454	–0.006	0.227	0.001	0.791	–0.007	0.162
roa	1.094	0.365	0.841	0.010	0.129	0.183	–0.023	0.929	1.216	0.001	0.493	0.065	1.629	0.000	0.526	0.071
dg	2.109	0.213	–0.238	0.685	–0.071	0.548	–0.561	0.282	0.318	0.500	–0.389	0.001	0.218	0.646	–0.396	0.001
lg	0.489	0.471	–0.005	0.949	–0.075	0.337	4.171	0.000	0.269	0.722	1.297	0.010	–0.090	0.701	0.230	0.002
lev	–0.022	0.099	0.000	0.972	0.006	0.000	–0.084	0.286	0.021	0.000	0.008	0.000	0.013	0.002	0.006	0.001
nii	–35.270	0.005	–1.559	0.489	2.306	0.001	7.241	0.230	5.175	0.041	0.248	0.876	5.967	0.019	0.517	0.751
sht	12.743	0.000	–	–	–	–	–	–	–	–	–	–	–	–	–	–
liq	–1.303	0.852	–5.402	0.024	–5.748	0.000	–9.191	0.117	–3.118	0.153	–14.192	0.000	–0.002	0.999	–12.551	0.000
/cut1	0.347	0.824	–2.222	0.000	1.213	0.000	2.698	0.095	–4.838	0.000	–4.523	0.000	–4.820	0.000	–4.267	0.000
/cut2	0.656	0.675	–1.810	0.000	1.536	0.000	3.251	0.046	–3.852	0.000	–3.608	0.000	–3.914	0.000	–3.448	0.000
/cut3	0.753	0.631	–1.757	0.000	1.543	0.000	3.509	0.031	–3.770	0.000	–3.540	0.000	–3.835	0.000	–3.385	0.000
/cut4	1.138	0.468	–1.612	0.001	1.547	0.000	4.558	0.006	–3.098	0.000	–2.943	0.000	–3.182	0.000	–2.815	0.000
/cut5	2.114	0.184	–1.520	0.002	1.602	0.000	–	–	–3.061	0.000	–2.884	0.000	–3.145	0.000	–2.758	0.000
/cut6	3.240	0.051	–1.310	0.007	1.626	0.000	–	–	–3.025	0.000	–2.715	0.000	–3.109	0.000	–2.730	0.000
/cut7	–	–	–0.379	0.441	1.634	0.000	–	–	–2.705	0.000	–2.472	0.000	–2.524	0.000	–2.230	0.000
/cut8	–	–	–0.339	0.491	1.641	0.000	–	–	–2.493	0.000	–2.295	0.000	–2.322	0.000	–1.964	0.000
/cut9	–	–	0.340	0.526	1.651	0.000	–	–	–1.798	0.000	–1.641	0.000	–1.804	0.000	–1.476	0.000
/cut10	–	–	–	–	1.696	0.000	–	–	–1.510	0.001	–1.304	0.001	–1.565	0.001	–1.179	0.002

Table 4 cnt'd

Variable	Fitch Foreign						Fitch Domestic		Moody Foreign				Moody Domestic			
	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$	Coef.	$P > z$
/cut11	–	–	–	–	1.825	0.000	–	–	–0.756	0.098	–0.649	0.095	–0.887	0.054	–0.574	0.139
/cut12	–	–	–	–	1.939	0.000	–	–	–0.013	0.977	–0.021	0.957	–0.122	0.790	0.071	0.855
/cut13	–	–	–	–	2.113	0.000	–	–	0.919	0.046	1.013	0.009	0.815	0.077	1.049	0.007
/cut14	–	–	–	–	2.830	0.000	–	–	1.900	0.000	1.989	0.000	1.742	0.000	1.984	0.000
/cut15	–	–	–	–	3.143	0.000	–	–	3.471	0.000	3.412	0.000	3.937	0.000	3.976	0.000
/cut16	–	–	–		3.444	0.000	–	–	–	–	–	–	–	–	–	–
obs	507		1396		2192		329		529		648		482		583	
group	47		65		73		13		18		18		17		17	
Wald	0.0000		0.0000		0.0000		0.0006		0.0000		0.0000		0.0000		0.0000	

Source: prepared by the author.

5. Conclusions

Credit rating agencies prepare various types of notes. These include domestic and foreign long-term issuer credit ratings. As a result, the aim of the paper has been to analyse the differences between foreign and domestic notes given to banks by credit rating agencies. The hypothesis verified with the use of panel ordered probit models was as follows: Financial indicators have a stronger impact on the credit ratings of domestic rather than of foreign banks. The findings confirm this hypothesis, but the differences between the financial factors and their impact on the credit ratings are small.

In the opinion of practitioners, researchers and the European Commission, credit rating agencies can generate inflated ratings. In the present study, this phenomenon was not observed. To determine the national-scale credit rating, credit rating agencies use criteria that are similar to global-scale criteria. Typically, we first determine our view of creditworthiness on the global scale. Country-specific national-scale criteria provide additional guidance to determine the finer distinctions between credit quality on the national scale. The use of different methodology by credit rating agencies makes domestic issuer credit ratings typically remain within one or two notches of the foreign notes. The analysis suggests that efficiency indicators have the strongest influence on notes.

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Abstract

Credit ratingi banków – noty dotyczące zobowiązań w walucie krajowej i zagranicznej

Celem artykułu jest analiza różnic w notach dotyczących zobowiązań wyrażonych w walucie krajowej i zagranicznej. Przeprowadzono badania literaturowe i postawiono następującą hipotezę badawczą: wskaźniki finansowe silniej wpływają na credit rating banku dotyczący zobowiązań w walucie krajowej niż zagranicznej. Hipoteza została zweryfikowana z użyciem panelowych uproszczonych modeli probitowych. Analiza została przygotowana dla długoterminowych ratingów emitenta europejskich banków, które zostały nadane przez S&P, Fitch i Moody w latach 2000–2015.

Słowa kluczowe: credit rating, ryzyko upadłości, wskaźniki finansowe, sektor bankowy.