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Statistics
on credit ratings assigned
by the EuroRating credit rating agency

Annual report
as of the end of the year 2022

EuroRating

January 2023

1. General information

The report presents historical statistics regarding credit ratings (public and distributed by subscription) issued by the EuroRating credit rating agency.

The statistics presented in the report relate to:

- the number of issued credit ratings, as well as to the average change of rating levels;
- default rates for the entities rated by the EuroRating credit rating agency;
- ratings' migration rates between rating classes (transition matrix).

When analysing default statistics presented in the report, it should be noted that ratings assigned by the EuroRating credit rating agency do not constitute solely estimated probability of default (PD), but form a total estimate assessment of a risk of loss (i.e. final loss of a part of, or entire, receivable along with interest) by the creditors of the rated entity in the event of the entity's default. Ratings assigned by EuroRating therefore express a combination of the estimated probability of default (PD) of the rated entity and the estimated level of loss of receivables by its creditors in case of actual insolvency (Loss Given Default).

The presented statistics concern only the data on defaults of rated entities and reflect actual average default ratios for individual rating classes, with division into individual periods and into groups of rated entities.

These statistics do not include data on actual losses incurred by the creditors of insolvent entities, as such information is usually hard to obtain and verify, and, in addition, bankruptcy processes and recovery by creditors of receivables (in part or in whole) may even take several years, which additionally hinders referring such data to current rating statistics.

Therefore, it should be considered that default rates (DR) presented in the report may deviate from the long-term estimates of the average collective credit risk assigned to individual rating classes according to the rating methodology applied by the EuroRating credit rating agency.

2. Reporting period

Rating statistics presented in this report cover the entire period of 15 full calendar years of the operation of the EuroRating credit rating agency (i.e. the years 2008-2022).

3. Analysed entities

The report presents statistics for all rated entities, to which the EuroRating credit rating agency assigned in the analyzed period credit ratings disclosed publicly or distributed by subscription.

The statistics include in the entire analysed period an average of 48 entities, including:

- banks – average 20 entities,
- corporates – average 16 entities,
- guarantee funds – average 13 entities.

4. Types of statistics

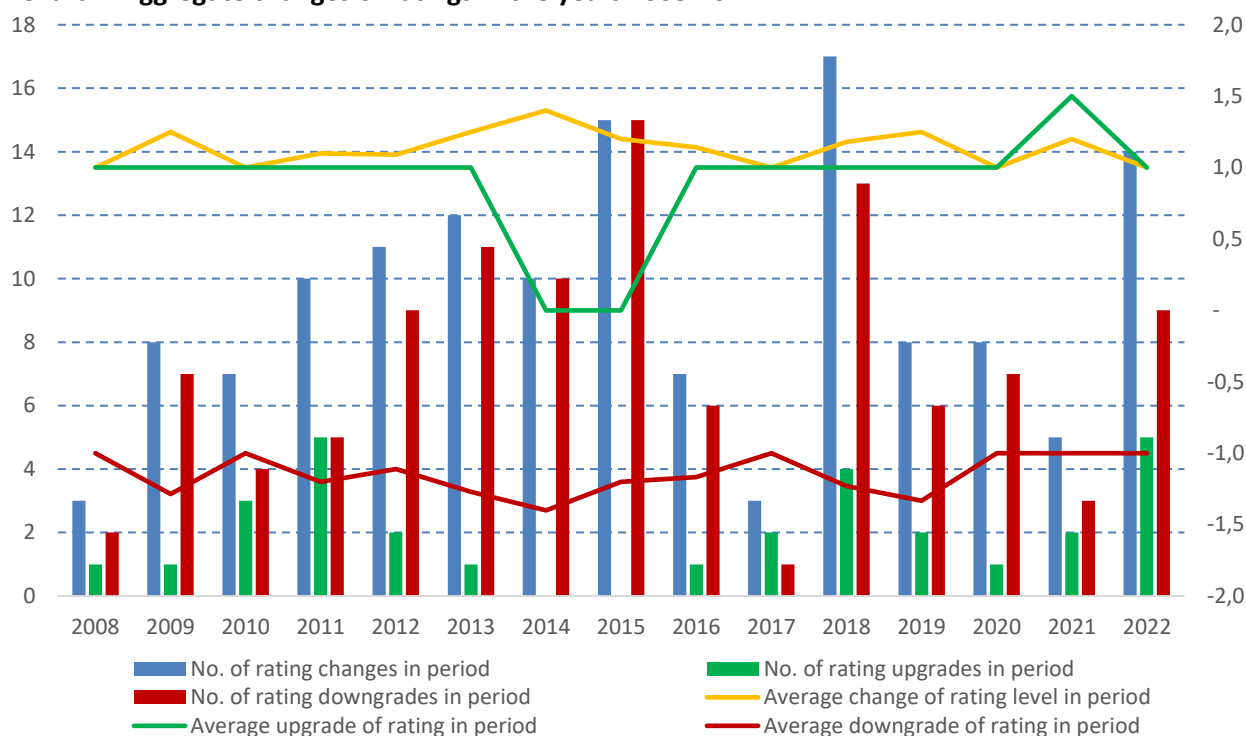
The presented rating statistics include:

- the number of issued credit ratings and the average changes of rating level
(in total and broken down by types of rated entities) – see: Annex No. 1;
- default rates for the rated entities
(in total and broken down by types of rated entities) – see: Annexes No. 2-5;
- rating transition matrix – see: Annexes No. 6-9.

5. Average changes of rating level (Annex No. 1)

In the aggregate, the number of issued ratings ranged from 19 (in 2008) to 58 (year end 2010).

As of the end of 2022 the number of rated entities amounted to 50 (versus 50 entities at the end of 2021).

Chart 1. Aggregate changes of ratings in the years 2008-2022

In the context of assessing the stability of the ratings assigned by EuroRating, noteworthy are generally very low values of the average changes in rating levels (the average change of a rating level in period). In the individual years they were for all rated entities (in absolute terms) on a level of 1.0 to 1.8 (right axis of the chart). The average for the entire analyzed period (2008-2022) is 1.2 (the average rating upgrade was 1.0, and the average rating downgrade was 1.2). This means, that changes of ratings are made gradually (usually about one notch), which indicates a high degree of stability of the methodologies applied by the EuroRating credit rating agency.

A detailed analysis of the average changes of rating levels broken down by banks, companies and guarantee funds (see Annex No. 1) leads to the same conclusions.

It is worth to note, that also in 2020, i.e. during the outbreak of the Covid-19 pandemic and the related global economic downturn, which contributed to the deterioration of the financial condition of many companies, the average rating change (calculated both in total and separately for ratings upgrades and downgrades) was 1.0.

6. Default statistics (Annexes No. 2-5)

EuroRating considers a rated entity as defaulted where any of the following type of event has occurred:

- a submission by the rated entity of an application for bankruptcy (arrangement or liquidation bankruptcy), or announcement by the court of bankruptcy, or appointing a receiver, which events will probably result in a lack or delays in future payments of financial liabilities;
- a missed or delayed disbursement of a contractually required interest or principal payment in respect to debt or debt-like obligations, unless payments are made within a contractually allowed grace period or are missed due to purely technical or administrative errors, which are not related to the ability or willingness to make the payments and are cured in a very short time;
- a distressed exchange of debt if the offer implies the investor will receive less value than the promise of the original securities;
- due to its bad financial situation, the rated entity is covered by formal regulatory receivership and/or a rescue programme or liquidation programme (this applies only to banks).

In the entire analyzed period (years 2008-2022), only three events of default has hitherto occurred among entities rated by the EuroRating credit rating agency. These events took place: in the first half of 2018, in the second half of 2020 and in the second half of 2022. The first of these events concerned one of the rated corporations and the other two of the rated banks.

After taking into account the occurrence of the insolvency of one company in 2018, the default rate for the year 2018 alone, for the rating group 'B' (high credit risk), in which the defaulted company was classified when the event of default occurred, was for all types of rated entities 21.4% (it was relatively high due to a low number of 4.7 rated entities with a rating in the 'B' group).

After taking into account the occurrence of the insolvency of one company in 2018, the default rate for 2018 alone for the rating group 'B' (high credit risk), in which the defaulted company was classified when the event of default occurred, for all types of rated entities was 21.4% (it was relatively high due to the low annual average number (4.7) of rated entities with a rating in the 'B' group).

A similar situation was in 2020, when the bank's default occurred. The default rate for 2020 alone for the 'CCC' rating group (very high credit risk), in which the defaulted bank was classified when the event of default occurred, amounted to 57.1% for all types of rated entities (it was high due to the low annual average number (1.8) of rated entities with a rating in the 'CCC' group).

In 2022, taking into account a default of the second bank, the default rate for 2022 alone for the 'CCC' rating group (very high credit risk), to which the bank was assigned at the time of the default, was for all types of rated entities at 100% (it was very high due to the fact that the defaulted bank was the only rated entity with a rating in the 'CCC' group).

The long-term (calculated for the whole analysed period 2008-2022) average default rate for all rated entities in the 'B' rating group was 1.43% (see – Annex No. 2). Therefore, there was no breach of the maximum acceptable deviation (in plus) of long-term default rate from benchmarks in the rating group 'B' for all rated entities.

There was no breach in the rating group 'B' of the maximum allowable deviation (in plus) of the long-term average default rate calculated only for non-financial corporations, which for this rating group amounted to 3.33% at the end of 2022 (see – Annex No. 3). There was also no breach in the 'CCC' rating group of the above default rate calculated only for banks, which for this rating group amounted to 10.48% at the end of 2022 (see – Annex No. 4).

It should be noted, that the current default rates for rated entities may differ from the assumed long-term average default rates for individual rating classes and rating groups adopted in the rating methodology used by EuroRating. However, these are only deviations in minus (i.e. default rates are lower than the assumed long-term rates).

The above situation is largely due to the fact, that the entities rated up to date by EuroRating are mostly the largest and most stable companies in Poland (corporates included in the Warsaw Stock Exchange's blue chips stock index WIG20 and a group of the largest Polish banks), or by definition belong to entities characterized by a low credit risk (guarantee funds).

Taking into consideration the fact, that for no rating classes there were default rates higher than the assumed average long-term default rates, and hence there was no breach in plus of the thresholds set out in the internal regulations of the EuroRating credit rating agency, there are also no indications for an extraordinary verification of the correctness of the rating methodologies applied by EuroRating besides the standard periodic validation.

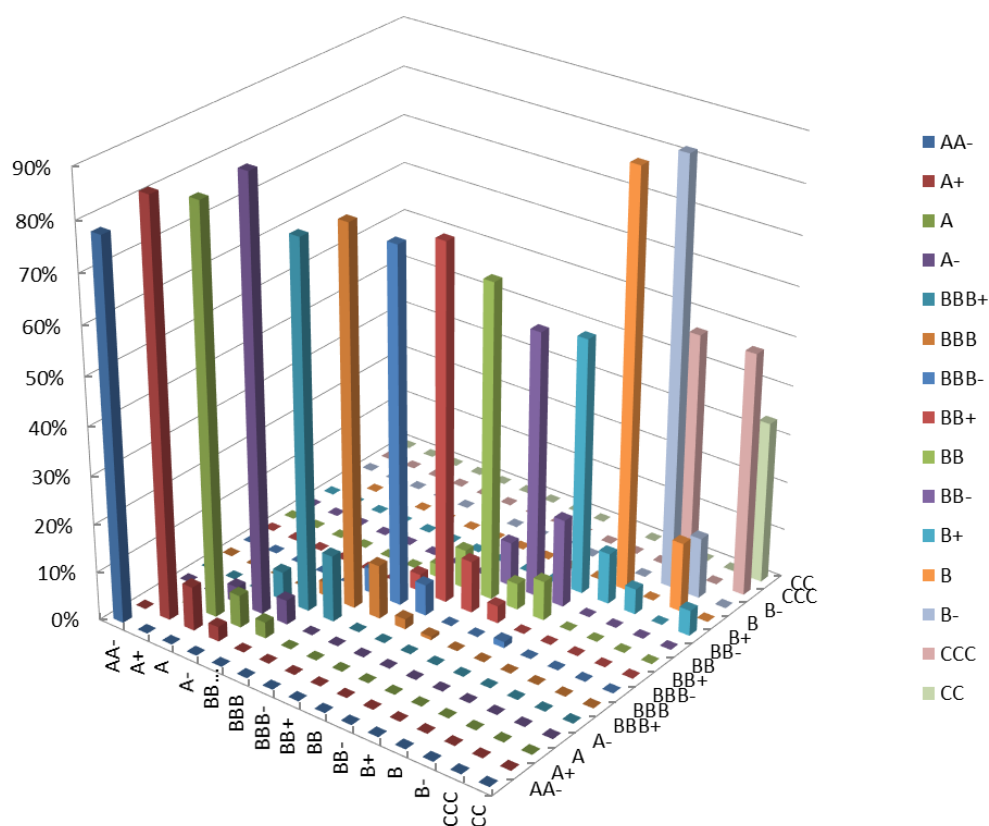
7. Transition matrix statistics (Annexes No. 6-9)

Statistics on migration of ratings (changes between rating classes per year) indicate a high stability of the ratings assigned by the EuroRating credit rating agency. On average over the analyzed period (2008-2022), the overwhelming majority of the ratings maintained its level during a calendar year. The migration rate was generally slightly higher for the ratings at lower levels (higher ratings were characterized by slightly higher stability).

In cases of rating changes, the most common change during a year was of one rating class, in rare cases – of two rating classes, and only in individual cases there were changes of more than two notches in a year. The analysis of migration matrix divided into corporates, banks and guarantee funds confirms those conclusions.

The generally low range and low level of rating migration of the assigned credit ratings confirm the stability of the rating methodologies applied by the EuroRating credit rating agency.

Chart 2. Distribution of ratings migration in the years 2008-2022



The rating statistics and the report have been prepared by:

Witold Szczepaniak, Ph.D.

Head of the Review Unit

EuroRating Sp. z o.o.

Annex 1. Average changes of rating level

(in total and broken down by: banks, corporates and guarantee funds)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2008-2022
All rated entities																
No. of ratings EOP	19	31	58	57	53	49	45	50	51	54	50	52	52	50	50	48
No. of new ratings in period	2	13	30	2	2	1	4	10	3	5	1	5	5	2	6	91
No. of withdrawals in period	0	1	3	3	6	5	8	5	2	2	5	3	5	4	6	58
No. of rating changes in period	3	8	7	10	11	12	10	15	7	3	17	8	8	5	14	138
Rating changes in period (%)	16%	32%	16%	17%	20%	24%	21%	32%	14%	6%	33%	16%	15%	10%	28%	20%
Average change of rating level in period	1.0	1.3	1.0	1.1	1.1	1.3	1.4	1.2	1.1	1.0	1.2	1.3	1.0	1.2	1.0	1.2
No. of rating upgrades in period	1	1	3	5	2	1	0	0	1	2	4	2	1	2	5	30
Average upgrade of rating in period	1.0	1.0	1.0	1.0	1.0	1.0	N/A	N/A	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0
No. of rating downgrades in period	2	7	4	5	9	11	10	15	6	1	13	6	7	3	9	108
Average downgrade of rating in period	-1.0	-1.3	-1.0	-1.2	-1.1	-1.3	-1.4	-1.2	-1.2	-1.0	-1.2	-1.3	-1.0	-1.0	-1.0	-1.2
Upgrades to downgrades ratio in period	50%	14%	75%	100%	22%	9%	N/A	N/A	17%	200%	31%	33%	14%	67%	56%	28%
Banks																
No. of ratings EOP	4	4	30	30	30	29	24	22	21	21	19	19	19	17	16	20
No. of new ratings in period	0	0	26	0	0	0	0	0	0	1	0	0	0	0	0	27
No. of withdrawals in period	0	0	0	0	0	1	5	2	1	1	2	0	0	2	1	15
No. of rating changes in period	0	2	2	6	4	7	4	10	4	1	8	4	3	2	7	64
Rating changes in period (%)	0%	50%	12%	20%	13%	24%	15%	43%	19%	5%	40%	21%	16%	11%	42%	22%
Average change of rating level in period	N/A	1.5	1.0	1.2	1.0	1.0	1.8	1.2	1.3	1.0	1.0	1.5	1.0	1.0	1.0	1.2
No. of rating upgrades in period	0	0	2	4	1	1	0	0	1	0	3	1	1	0	1	15
Average upgrade of rating in period	N/A	N/A	1.0	1.0	1.0	1.0	N/A	N/A	1.0	N/A	1.0	1.0	1.0	N/A	1.0	1.0
No. of rating downgrades in period	0	2	0	2	3	6	4	10	3	1	5	3	2	2	6	49
Average downgrade of rating in period	N/A	-1.5	N/A	-1.5	-1.0	-1.0	-1.8	-1.2	-1.3	-1.0	-1.0	-1.7	-1.0	-1.0	-1.0	-1.2
Upgrades to downgrades ratio in period	N/A	N/A	N/A	200%	33%	17%	N/A	N/A	33%	N/A	60%	33%	50%	N/A	17%	31%
Companies																
No. of ratings EOP	15	15	14	14	14	13	13	15	16	17	15	17	18	19	20	16
No. of new ratings in period	2	1	2	2	2	1	1	5	2	2	1	5	5	2	5	38
No. of withdrawals in period	0	1	3	2	2	2	1	3	1	1	3	3	4	1	4	31
No. of rating changes in period	3	6	4	2	5	2	6	4	1	2	6	1	5	2	5	54
Rating changes in period (%)	20%	40%	28%	14%	36%	15%	46%	29%	6%	12%	38%	6%	29%	11%	26%	24%
Average change of rating level in period	1.0	1.2	1.0	1.0	1.0	1.0	1.2	1.3	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.1
No. of rating upgrades in period	1	1	0	0	0	0	0	0	0	2	0	0	0	2	2	8
Average upgrade of rating in period	1.0	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0	N/A	N/A	N/A	1.5	1.0	1.1
No. of rating downgrades in period	2	5	4	2	5	2	6	4	1	0	6	1	5	0	3	46
Average downgrade of rating in period	-1.0	-1.2	-1.0	-1.0	-1.0	-1.0	-1.2	-1.3	-1.0	N/A	-1.5	-1.0	-1.0	N/A	-1.0	-1.1
Upgrades to downgrades ratio in period	50%	20%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67%	17%
Guarantee funds																
No. of ratings EOP	-	12	14	13	9	7	8	13	14	16	16	16	15	14	14	13
No. of new ratings in period	-	12	2	0	0	0	3	5	1	2	0	0	0	0	1	26
No. of withdrawals in period	-	0	0	1	4	2	2	0	0	0	0	0	1	1	1	12
No. of rating changes in period	-	0	1	2	2	3	0	1	2	0	3	3	0	1	2	20
Rating changes in period (%)	-	0%	8%	15%	18%	38%	0%	10%	15%	0%	19%	19%	0%	7%	14%	12%
Average change of rating level in period	-	N/A	1.0	1.0	1.5	2.0	N/A	1.0	1.0	N/A	1.0	1.0	N/A	1.0	1.0	1.2
No. of rating upgrades in period	-	0	1	1	1	0	0	0	0	0	1	1	0	0	2	7
Average upgrade of rating in period	-	N/A	1.0	1.0	1.0	N/A	N/A	N/A	N/A	N/A	1.0	1.0	N/A	N/A	1.0	1.0
No. of rating downgrades in period	-	0	0	1	1	3	0	1	2	0	2	2	0	1	0	13
Average downgrade of rating in period	-	N/A	N/A	-1.0	-2.0	-2.0	N/A	-1.0	-1.0	N/A	-1.0	-1.0	N/A	-1.0	N/A	-1.3
Upgrades to downgrades ratio in period	-	N/A	N/A	100%	100%	N/A	N/A	N/A	N/A	N/A	50%	50%	N/A	N/A	N/A	54%

Annex 2. Default rates – all rated entities

Rating group	Year 2008		Year 2009		Year 2010		Year 2011		Year 2012		Year 2013		Year 2014		Year 2015		Year 2016		Year 2017		Year 2018		Year 2019		Year 2020		Year 2021		Year 2022		2008-2022	
	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities **		
AAA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
AA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
A	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
BBB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
BB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
B	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	21.43%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
CCC	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	57.14%	0	0.00%	1	100.00%	2	10.48%		
D	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
No. of entities BOP	17		19		31		57		56		52		48		44		50		51		54		50		52		52		50		-	
No. of entities EOP	19		31		57		56		52		48		44		50		51		54		50		52		52		50		50		-	
Average No. of entities	18.0		25.0		44.0		56.5		54.0		50.0		46.0		47.0		50.5		52.5		52.0		51.0		52.0		51.0		50.0		46.6	

* Percentage of defaulted entities with a rating within the given group calculated in comparison with the average number of rated entities with a rating within this group during the year

** Average annual default rate for the given rating group calculated for the period 2008-2022

Annex 3. Default rates – corporations

Rating group	Year 2008		Year 2009		Year 2010		Year 2011		Year 2012		Year 2013		Year 2014		Year 2015		Year 2016		Year 2017		Year 2018		Year 2019		Year 2020		Year 2021		Year 2022		2008-2022	
	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	Liczba defaultów	% ocenianych podmiotów *	Liczba defaultów	% ocenianych podmiotów *	Liczba defaultów	% ocenianych podmiotów *	No. of defaults	% of rated entities **
AAA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
AA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
A	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
BBB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
BB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
B	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	50.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	3.33%
CCC	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
D	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
No. of companies BOP	13		15		15		14		14		14		13		13		15		16		17		15		17		18		19		-	
No. of companies EOP	15		15		14		14		14		13		13		15		16		17		15		17		18		19		20		-	
Avg No. of companies	14.0		15.0		14.5		14.0		14.0		13.5		13.0		14.0		15.5		16.5		16.0		16.0		17.5		18.5		19.5		15.4	

* Percentage of defaulted entities with a rating within the given group calculated in comparison with the average number of rated entities with a rating within this group during the year

** Average annual default rate for the given rating group calculated for the period 2008-2022

Annex 4. Default rates – banks

Rating group	Year 2008		Year 2009		Year 2010		Year 2011		Year 2012		Year 2013		Year 2014		Year 2015		Year 2016		Year 2017		Year 2018		Year 2019		Year 2020		Year 2021		Year 2022		2008-2022	
	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities **		
AAA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
AA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
A	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
BBB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
BB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
B	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
CCC	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	57.14%	0	0.00%	1	100.00%	2	10.48%
D	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%		
No. of banks BOP	4		4		4		30		30		30		29		24		22		21		21		19		19		19		17		-	
No. of banks EOP	4		4		30		30		30		29		24		22		21		21		19		19		19		17		16		-	
Average No. of banks	4.0		4.0		17.0		30.0		30.0		29.5		26.5		23.0		21.5		21.0		20.0		19.0		19.0		18.0		16.5		19.9	

* Percentage of defaulted entities with a rating within the given group calculated in comparison with the average number of rated entities with a rating within this group during the year

** Average annual default rate for the given rating group calculated for the period 2008-2022

Annex 5. Default rates – guarantee funds

Rating group	Year 2009		Year 2010		Year 2011		Year 2012		Year 2013		Year 2014		Year 2015		Year 2016		Year 2017		Year 2018		Year 2019		Year 2020		Year 2021		Year 2022		2008-2022	
	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities *	No. of defaults	% of rated entities **		
AAA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
AA	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
A	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
BBB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
BB	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
B	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
CCC	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
D	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
No. of guarantee funds BOP	0		12		14		13		9		7		8		13		14		16		16		16		15		14		-	
No. of guarantee funds EOP	12		14		13		9		7		8		13		14		16		16		16		15		14		14		-	
Average No. of guarantee funds	6.0		13.0		13.5		11.0		8.0		7.5		10.5		13.5		15.0		16.0		16.0		15.5		14.5		14.0		12.4	

* Percentage of defaulted entities with a rating within the given group calculated in comparison with the average number of rated entities with a rating within this group during the year

** Average annual default rate for the given rating group calculated for the period 2009-2022

Annex 6. Transition matrix – averages for transition statistics for the years 2008-2022 for all the rated entities *

2008-2022	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	CC	C	D	Withdrawals
AAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA-	0.0%	0.0%	0.0%	77.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.2%
A+	0.0%	0.0%	0.0%	0.0%	84.8%	9.1%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%
A	0.0%	0.0%	0.0%	0.0%	0.0%	83.3%	6.7%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%
A-	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	88.2%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%
BBB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	75.5%	13.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%
BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	77.8%	11.1%	2.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%
BBB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	73.1%	6.4%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.1%
BB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	73.2%	10.7%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.9%
BB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	8.1%	64.9%	5.4%	8.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.8%
BB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	54.5%	18.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.2%
B+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	52.6%	10.5%	5.3%	0.0%	5.3%	0.0%	0.0%	26.3%
B	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.7%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%
B-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.5%	12.5%	0.0%	0.0%	0.0%	0.0%
CCC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%
CC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	66.7%
C	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
D	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Average one-year transition of a rating level (2008-2022)

Annex 7. Transition matrix – averages for transition statistics for the years 2008-2022 for corporations *

2008-2022	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	CC	C	D	Withdrawals
AAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A+	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
A-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	71.4%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%
BBB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	76.6%	14.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%
BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	70.7%	19.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.6%
BBB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	68.6%	5.9%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.6%
BB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	81.8%	9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	53.3%	6.7%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.7%
BB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
B+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.1%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	35.7%
B	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CCC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
D	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Average one-year transition of a rating level (2008-2022)

Annex 8. Transition matrix – averages for transition statistics for the years 2008-2022 *

2008-2022	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	CC	C	D	Withdrawals
AAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A	0.0%	0.0%	0.0%	0.0%	0.0%	75.0%	8.3%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	96.4%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%
BBB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	72.1%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.7%
BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	76.8%	5.8%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%
BBB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.5%	73.7%	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%
BB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	71.1%	11.1%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%
BB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.6%	72.7%	4.5%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	16.7%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	20.0%	20.0%	0.0%	20.0%	0.0%	0.0%	0.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%
B-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.5%	12.5%	0.0%	0.0%	0.0%	0.0%
CCC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%
CC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	66.7%
C	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
D	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Average one-year transition of a rating level (2008-2022)

Annex 9. Transition matrix – averages for transition statistics for the years 2010-2022 for guarantee funds *

2010-2022	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	CC	C	D	Withdrawals
AAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AA-	0.0%	0.0%	0.0%	77.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.2%
A+	0.0%	0.0%	0.0%	0.0%	87.1%	6.5%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%
A	0.0%	0.0%	0.0%	0.0%	0.0%	85.1%	6.4%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.4%
A-	0.0%	0.0%	0.0%	0.0%	0.0%	9.3%	86.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.7%
BBB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	66.7%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%
BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.2%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%
BBB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	87.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BB+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BB-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CCC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
D	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Average one-year transition of a rating level (2010-2022)