BANQUE CENTRALE DU LUXEMBOURG
EUROSYSTÈME

Report AnaCredit

Methodology used for the comparison between “AnaCredit” and S 1.1/ S 1.5 (BSI/MIR) reports from 2023/12 onwards

Version 4.4

November 2025

Summary of versions

Version	Date	Comments
1.0.0	30 November 2020	Initial Version
1.0.1	23 February 2021	Update of the definitions of the aggregates Minor update on the “Maturity” calculation
1.0.2	5 August 2021	The flag STTLD_FLG has been added to the BSI instruments identification flags
1.0.3	14 March 2022	Minor general update
1.0.4	1 June 2022	Update of the DQI calculation of the BSI comparison
2.0	22 June 2022	Update of the DQI calculation of the BSI comparison
3.0	13 November 2023	Small updates and introduction of flag “DBTR_RIAD_FND” Introduction of new MIR comparison Update of the DQI calculation
3.1	5 February 2024	Minor update on IS_FRBRN_UNDR_MRKT_CNDTNS Update of the deadline for any corrections
3.2	28 February 2024	Minor update on IS_FRBRN_UNDR_MRKT_CNDTNS
4.0	27 January 2025	Update of MIR comparison scope, DQI thresholds and DQI calculations Update on the table of the items on the MIR comparison Update of the calculation of the BSI_AGGRGBL_BLNC and IMIR_AGGRGBL_BLNC_NEW_BSNSS Update on the following flags: MTRTY, RCGNTN_FLG, STTLD_FLG, IS_BSI_INSTRMNT, IS_PRTLY_TRNSFRD, APPLCBLTY_PRTLLY_TRNSFRRD, IMPRMNT_FLG, FR_VL_FLG, ACQSTN_PRC_FLG, DQ_FLG, IMIR_AMNT_CTGRY, IS_RVLVNG, IS_FRBRN_UNDR_MRKT_CNDTNS, NOT_BD_LN_FLG, IS_NOT_FRBRNC_BLW_MRKT_CNDTNS, IS_IMIR_ONA_INSTRMNT, IS_IMIR_NB_INSTRMNT
4.1	31 March 2025	Update of the following flags: NON_TRDTNLLY_SEC_FLG, IMPRMNT_FLG, FR_VL_FLG, ACQSTN_PRC_FLG, DQ_FLG
4.2	30 April 2025	Precision of deadlines
4.3	30 May 2025	Update on the following flags: INTR_CMPNY_FLG, IS_PRTLY_TRNSFRD, DQ_FLG, IS_INCPTD, IS_IMIR_NEW_BSNSS, IS_IMIR_ONA_INSTRMNT, IS_IMIR_NB_INSTRMNT, IMIR_INSTRMNT_BLNC_NEW_BSNSS Creation of new flags for better data quality issue identification: IS_INCPTD_LST_MNTH, IS_RNGTTD_LST_MNTH, IS_NOT_FCTRNG, IS_ONA_PSTV, IS_OBSA_PSTV, IS_UNSD_CRDT_LN Renaming of flags: IS_FRBRN_UNDR_MRKT_CNDTNS to IS_RNGTTD

4.4	10 November 2025	Introduction of new aggregates Update on the following flags: IS_INCPTD, IS_RNGTTD Update of DQI priorities and addition of alternative DQI

Contents

1 Introduction

The European Central Bank (ECB) and the national central banks (NCB) have introduced a quarterly comparison report between AnaCredit and the balance sheet items report (BSI / S 1.1). The main objective of these reports consists in evaluating the consistency between the reports and in verifying the completeness of AnaCredit data.

From 2021, the comparison report applies to all reporting agents reporting BSI data to the BCL. Moreover, from December 2023, a new comparison report between AnaCredit and interest rate data (MIR / S 1.5) has been put in place as well[1].

In this context, the BCL wishes to inform its reporting agents of any inconsistencies detected in order to anticipate their corrections. It is important to note that the ECB relies on the reference data of the RIAD database for the classification of counterparties. It is therefore conceivable that DQIs considered acceptable at the BCL are not acceptable at the ECB. This discrepancy could possibly require a resubmission of the reporting agent.

2 Methodology

2.1 Basic principles

The comparison between AnaCredit and BSI reports comprises fourteen items (“aggregates”) and one total item (“Total EA loans”). From 2025-12 onwards, three new aggregates have been introduced: EA MFIs, EA General Government and EA NFCs. As for the comparison with MIR data, the three summary items have to be corrected from December 2023 onwards, while 43 sub-aggregates have to be corrected from March 2025 onwards. Data quality checks via data quality indicators (DQIs) on each of the items for the BSI comparison are applied from the reference month of March 2021 onwards.

The level of consistency of AnaCredit reports compared to BSI / S 1.1 and MIR / S 1.5 reports is assessed based on a DQI calculated by the BCL. In addition, the alternative DQI is calculated by the ECB, which is multiplying the DQI with the severity of the error (calculation will not be published). The table below summarizes the qualitative requirements according to the reference periods.

Up to 2025-09 included		
Items	**Threshold**	
BSI item “Total EA loans”	DQI < 0,75%	
BSI Other items	DQI < 2,5%	
MIR Summary items	DQI < 2,5%	

[1] The comparison report between AnaCredit and MIR will only be sent to banks submitting the S 1.5 report in Luxembourg.

MIR Other Items	DQI < 3%	From 2025-03 onwards

From 2025-12 included onwards		
Items	**Threshold**	
BSI item “Total EA loans” BSI item “EA NFCs”	DQI < 0,75%	Alternative DQI < 0,75%
BSI item “EA MFIs” BSI item “EA General Government” BSI item “EA OFIs and non-MMF investment funds” BSI item “EA ICPFs”	DQI < 2,50%	Alternative DQI < 2,50%
BSI Other items	DQI < 3,00%	Alternative DQI < 9,00%
MIR Summary items	DQI < 2,5%	Alternative DQI < 2,50%
MIR Other items	DQI < 3,00%	Alternative DQI < 9,00%

The DQI is calculated as the amount affected divided by the total outstanding nominal amount of the observed agent. In addition, the alternative DQI introduces a severity factor into the DQI calculation. Please find below the calculations for the different DQIs:

$$BSI\ DQI\ for\ Volumes = \frac{\text{abs}(\text{AnaCredit\_Amount} - \text{BSI\_Amount})}{\text{Outstanding nominal amount of OA}}$$

$$MIR\ DQI\ for\ Interest\ Rates = \frac{\text{MAX\_V} * \min\left(\frac{\max(0, \text{abs}(\text{AnaCredit}_{\text{IR}} - \text{MIR}_{\text{IR}}) - T)}{0{,}01}, 1\right)}{\text{Outstanding nominal amount of OA}}$$

$$MIR\ DQI\ for\ Volumes = \frac{\text{MIR\_Amount\_affected}}{\text{Outstanding nominal amount of OA}}$$

$$Alternative\ DQI = \text{DQI} * \text{Severity Factor}$$

, where MAX_V = max(AnaCredit_Amount, MIR_Amount)

IR=Interest rate

OA=Observed agent

Amount= respective aggregable balance amounts

T= discrepancy allowed due to methodological differences defined by the ECB

Severity Factor = Factor calculated by the ECB and will not be published

```
IF AnaCredit_Amount < MIR_Amount THEN MIR_Amount_Affected = max(0,abs(AnaCredit_Amount – ((1-T) * MIR_AMOUNT)));
ELSE IF AnaCredit_Amount >= MIR_Amount THEN MIR_Amount_Affected = abs(AnaCredit_Amount - MIR_Amount)
```

We would like to remind you that all attributes and acceptable values are described more in detail in manual part II.

Please note that the threshold of 25 kEUR applied in AnaCredit does not exist in S 1.1 reporting. Therefore, the amount reported in AnaCredit should never be greater than the amount shown in report S 1.1.

2.2 Comparison with BSI (S 1.1)

2.2.1 Calculation method

The aggregates calculated for the comparison of AnaCredit and BSI data are described in this chapter.

AnaCredit instruments are broken down based on the following attributes:

- Country (CNTRY), where:
  - CNTRY_OA = the country of residence of the observed agent
  - CNTRY_DBTR = the country of residence of the debtor
- Institutional sector (INSTTTNL_SCTR), where:
  - INSTTTNL_SCTR_DBTR = the debtor's institutional sector
- Type of instrument (TYP_INSTRMNT)
- Original maturity (MTRTY), where:

```
IF (CNTRY_OA in {“LT”, “GR”} AND TYP_INSTRMNT IN {“Revolving credit other than overdrafts and credit card debt”, “Overdraft”, “Credit card debt”}) OR (CNTRY_OA = “AT” AND TYP_INSTRMNT = “Credit card debt”) OR (CNTRY_OA = “PT” AND TYP_INSTRMNT = “Revolving credit other than overdrafts and credit card debt”) THEN MTRTY = “Up to 1 year”;
ELSE IF NEVS_DT_LGL_FNL_MTRTY = “0” THEN DO;
        IF TYP_INSTRMNT IN {“Revolving credit other than overdrafts and credit card debt”, “Overdraft”, “Credit card debt”, “Credit lines other than revolving credit”} OR (TYP_INSTRMNT = “Trade receivables” AND CNTRY_OA in {“CY”, “FR”, “IT”, “AT”} ) OR (TYP_INSTRMNT = “Reverse repurchase agreements” AND CNTRY_OA = “AT”) OR RPYMNT_RGHTS = “On demand or short notice” THEN MTRTY = “Up to 1 year”;
        ELSE MTRTY = “Above 5 years”;
        END;
ELSE DO;
        IF CNTRY_OA = “DE” THEN DO;
                ELSE IF DT_LGL_FNL_MTRTY - DT_STTLMNT < 1 year THEN MTRTY = “Up to 1 year”;
                ELSE IF DT_LGL_FNL_MTRTY - DT_STTLMNT < 5 years THEN MTRTY = “Over 1 year and up to 5 years”;
                ELSE IF DT_LGL_FNL_MTRTY - DT_STTLMNT >= 5 years THEN MTRTY = “Above 5 years”;
                ELSE MTRTY = “”;
        END;
        ELSE DO;
                ELSE IF DT_LGL_FNL_MTRTY - DT_STTLMNT <= 1 year THEN MTRTY = “Up to 1 year”;
                ELSE IF DT_LGL_FNL_MTRTY - DT_STTLMNT <= 5 years THEN MTRTY = “Over 1 year and up to 5 years”;
                ELSE IF DT_LGL_FNL_MTRTY - DT_STTLMNT > 5 years THEN MTRTY = “Above 5 years”;
                ELSE MTRTY = “”;
        END;
END;
```

Similarly, the BSI sub-aggregates are aggregated taking into account the following variables:

- Country
- Currency
- Sector
- Initial Maturity
- Syndicated contract ID
- IS_RVLVNG Flag

Thus, the AnaCredit-BSI comparison will include the following 24 aggregates[2] (4.1 and 4.2 are applicable from 2026-03 onwards):

Item	Description	AnaCredit	S 1.1 (BSI)				
		Condition	Item	Country	Currency	Sector	Maturity
1.	Loans to EA NFCs	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR IN {“S.11”}	1-002000	LU X3	EUR XX2	21000	I000-01A I01A-02A I02A-05A I05A-999
2.	Loans to EA MFIs	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR IN {“S.121”, “S.122”, “S.123”}	1-002000	LU X3	EUR XX2	31000 32100 32200 33000	I000-01A I01A-02A I02A-05A I05A-999
3.	Loans to EA General Government	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR IN {“S.1311”, “S.1312”, “S.1313”, “S.1314”}	1-002000	LU X3	EUR XX2	11000 12000	I000-01A I01A-02A I02A-05A I05A-999
4.	Loans to euro area OFIs and non-MMF investment funds	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR IN {“S.124”, “S.125”, “S.126”, “S.127”}	1-002000	LU X3	EUR XX2	41000 42000 43000 44000	I000-01A I01A-02A I02A-05A I05A-999

[2] Loans to debtors belonging to the institutional sector S.15 are excluded from the comparison.

5.	Loans to EA ICPFs (euro area insurance corporations and pension funds)	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR IN {“S.128”, “S.129”}	1-002000	LU X3	EUR XX2	45000 46000	I000-01A I01A-02A I02A-05A I05A-999
1.1.	Loans to domestic NFCs	CNTRY_DBTR. = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR = “S11”	1-002000	LU	EUR XX2	21000	I000-01A I01A-02A I02A-05A I05A-999
1.1.1.	Loans to domestic NFCs, up to 1 year	CNTRY_DBTR. = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR = “S11” **AND** MTRTY = “Up to 1 year”	1-002000	LU	EUR XX2	21000	I000-01A
1.1.2.	Loans to domestic NFCs, over 1 year and up to 5 years	CNTRY_DBTR = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR = “S11” **AND** MTRTY = “Over 1 year and up to 5 years”	1-002000	LU	EUR XX2	21000	I01A-02A I02A-05A
1.1.3.	Loans to domestic NFCs, over 5 years	CNTRY_DBTR = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR = “S11” **AND** MTRTY = “Above 5 years”	1-002000	LU	EUR XX2	21000	I05A-999
1.2.	Loans to other euro area NFCs (excluding Luxembourg)	CNTRY_DBTR <> CNTRY_OA **AND** CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = “S.11”	1-002000	X3	EUR XX2	21000	I000-01A I01A-02A I02A-05A I05A-999

1.2.1.	Loans to other euro area NFCs (excluding Luxembourg), up to 1 year	CNTRY_DBTR <> CNTRY_OA **AND** CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** MTRTY = "Up to 1 year"	1-002000	X3	EUR XX2	21000	I000-01A
1.2.2.	Loans to other euro area NFCs (excluding Luxembourg), over 1 year and up to 5 years	CNTRY_DBTR <> CNTRY_OA **AND** CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** MTRTY = "Over 1 year and up to 5 years"	1-002000	X3	EUR XX2	21000	I01A-02A I02A-05A
1.2.3.	Loans to other euro area NFCs (excluding Luxembourg), over 5 years	CNTRY_DBTR <> CNTRY_OA **AND** CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** MTRTY = "Above 5 years"	1-002000	X3	EUR XX2	21000	I05A-999
1.3	Loans to euro area NFCs denominated in euro	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** CRRNCY_DNMNTN = "EUR"	1-002000	LU X3	EUR	21000	I000-01A I01A-02A I02A-05A I05A-999
1.4	Revolving loans to euro area NFCs denominated in euro	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** CRRNCY_DNMNTN = "EUR" **AND** IS_RVLVNG = 1	1-RD2000 1-CP2000 1-CD2000	LU X3	EUR	21000	I000-01A I01A-02A I02A-05A I05A-999
1.5	Syndicated loans to euro area NFCs	CNTRY_DBTR IN {Euro area countries} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_SYNDCTD = 1	1-S02000	LU X3	XXX	21000	I000-01A I01A-02A I02A-05A

							I05A-999
2.1	Loans to domestic MFIs	CNTRY_DBTR = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR IN {“S.121”, “S.122”, “S.123”}	1-002000	LU	EUR XX2	31000 32100 32200 33000	I000-01A I01A-02A I02A-05A I05A-999
2.2	Loans to domestic central banks	CNTRY_DBTR = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR = “S.121”	1-002000	LU	EUR XX2	31000	I000-01A I01A-02A I02A-05A I05A-999
2.3	Loans to other euro area MFIs (excluding Luxembourg)	CNTRY_DBTR <> CNTRY_OA **AND** (CNTRY_DBTR IN {Euro area countries}) **AND** INSTTTNL_SCTR_DBTR IN {“S.121”, “S.122”, “S.123”}	1-002000	X3	EUR XX2	31000 32100 32200 33000	I000-01A I01A-02A I02A-05A I05A-999
3.1	Loans to domestic general government	CNTRY_DBTR = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR IN {“S.1311”, “S.1312”, “S.1313”, “S.1314”}	1-002000	LU	EUR XX2	11000 12000	I000-01A I01A-02A I02A-05A I05A-999
3.2	Loans to other euro area general government (excluding Luxembourg)	CNTRY_DBTR <> CNTRY_OA **AND** (CNTRY_DBTR IN {Euro area countries}) **AND** INSTTTNL_SCTR_DBTR IN {“S.1311”, “S.1312”, “S.1313”, “S.1314”}	1-002000	X3	EUR XX2	11000 12000	I000-01A I01A-02A I02A-05A I05A-999
4.1	Loans to domestic CCPs – reverse repos	CNTRY_DBTR = CNTRY_OA **AND** INSTTTNL_SCTR_DBTR IN {“S.125_E”}	1-P02000	LU	XXX	42200	I000-01A I01A-02A

		AND TYP_INSTRMNT in {“Reverse repurchase agreements”}					I02A-05A I05A-999
4.2	Loans to other euro area CCPs – reverse repos	CNTRY_DBTR <> CNTRY_OA AND (CNTRY_DBTR IN {Euro area countries}) AND INSTTTNL_SCTR_DBTR IN {“S.125_E”} AND TYP_INSTRMNT in {“Reverse repurchase agreements”}	1-P02000	X3	XXX	42200	I000-01A I01A-02A I02A-05A I05A-999
6.	Loans to the rest of the world	CNTRY_DBTR NOT IN {Euro area countries}	1-002000	X4	EUR XX2	11000 12000 21000 31000 32100 32200 33000 40000	I000-01A I01A-02A I02A-05A I05A-999

2.2.2 Instruments excluded from BSI calculation

It is important to note that only instruments eligible for BSI and meeting a certain level of quality are considered in the calculation of aggregates. In this regard, flags have been created in order to i) identify BSI instruments and to ii) check the data quality. The methodology is described in detail below.

2.2.2.1 BSI instruments identification flags

Four flags are calculated to determine the eligibility of instruments for the calculation of BSI aggregates and they can take the value of:

- 1 (included for the calculation of BSI aggregates)
- 0 (excluded for the calculation of BSI aggregates)
- -1 (attribute missing)

Instruments for which at least one flag equals 0 or -1 are excluded from the calculation of the aggregates. These instruments are therefore listed in the excluded instruments sheet. The data should be checked and, if necessary, corrected.

- IS_NOT_FDCRY

  Only non-fiduciary instruments are considered in the calculation of BSI aggregates.

  IF FDCRY = “Non-fiduciary instrument” **THEN** IS_NOT_FDCRY = 1;

  ELSE IF FDCRY = “Fiduciary instrument” **THEN** IS_NOT_FDCRY = 0;

  ELSE IS_NOT_FDCRY = -1;

- RCGNTN_FLG

  Fully derecognized instruments are not considered in the calculation of BSI aggregates, except for “intra-company” instruments.

  IF RCGNTN_STTS is Null **THEN** RCGNTN_FLG = -1;

  ELSE IF RCGNTN_STTS in {“Entirely recognised”, “Recognised to the extent of the institution's continuing involvement”} **THEN** RCGNTN_FLG = 1;

  ELSE RCGNTN_FLG = 0;

- INTR_CMPNY_FLG

  All “intra-company” instruments are included in the calculation of the BSI aggregates, including fully derecognized instruments.

  IF HD_OFFC_UNDRT_ID_DBTR is NULL **AND** HD_OFFC_UNDRT_ID_OA is NULL **THEN** INTR_CMPNY_FLG = 0;

  ELSE IF HD_OFFC_UNDRT_ID_DBTR = HD_OFFC_UNDRT_ID_OA **OR** ENTTY_ID_DBTR = HD_OFFC_UNDRT_ID_OA **OR** HD_OFFC_UNDRT_ID_DBTR = ENTTY_ID_OA **THEN** INTR_CMPNY_FLG = 1;

  ELSE INTR_CMPNY_FLG = 0;

  Where:

  - HD_OFFC_UNDRT_ID_DBTR = debtor’s head office identifier
  - HD_OFFC_UNDRT_ID_OA = observed agent’s head office identifier
  - ENTTY_ID_DBTR = entity id of the debtor
  - ENTTY_ID_OA = entity id of the observed agent

- NON_TRDTNLLY_SEC_FLG

  This flag on traditional securitisation does not apply to Luxembourgish observed agents.

  IF CNTRY_OA = “Ireland” **AND** TYP_SCRTSTN = “Traditional securitisation” **THEN** NON_TRDTNLLY_SEC_FLG = 0;

  ELSE NON_TRDTNLLY_SEC_FLG = 1;

- STTLD_FLG

  Instruments, which have not been settled, are not considered in the calculation of BSI aggregates.

  IF DT_STTLMNT is Null **THEN** STTLD_FLG = -1;

  ELSE IF DT_STTLMNT <= DT_RFRNC **AND** NEVS_DT_STTLMNT <> “0” **THEN** STTLD_FLG = 1;

  ELSE STTLD_FLG = 0;

- IS_SYNDCTD

  Identifies the part of the portfolio, which relates to syndicated instruments (used only for certain items).

  IF SYNDCTD_CNTRCT_ID is not Null **THEN** IS_SYNDCTD=1;

  ELSE IS_SYNDCTD = 0;

- IS_RVLVNG
  This flag is going to find the instrument, which are revolving (used only for certain items).

> **IF** TYP_INSTRMNT is NULL **OR** (TYP_INSTRMNT = "Deposits other than reverse repurchase agreements" **AND** RPYMNT_RGHTS is NULL) **THEN** IS_RVLVNG = -1;
>
> **ELSE IF** TYP_INSTRMNT in {"Overdraft", "Credit card debit", "Revolving credit other than overdrafts and credit card debt"} **OR** (TYP_INSTRMNT = "Deposits other than reverse repurchase agreements" **AND** RPYMNT_RGHTS = "On demand or short notice") **THEN** IS_RVLVNG= 1;
>
> **ELSE** IS_RVLVNG = 0;

Finally, the flag on the BSI eligibility of an instrument in AnaCredit is calculated taking into account the results of the four flags described above:

> **IF** IS_NOT_FDCRY = 1 **AND** NON_TRDTNLLY_SEC_FLG = 1 **AND** (RCGNTN_FLG = 1 **OR** (RCGNTN_FLG = 0 **AND** INTR_CMPNY_FLG = 1) **AND** STTLD_FLG = 1 **THEN** IS_BSI_INSTRMNT = 1;
>
> **ELSE** IS_BSI_INSTRMNT = 0;

All instruments whose flag "IS_BSI_INSTRMNT" is equal to 1 are taken into account when calculating BSI aggregates. Conversely, instruments with a flag equal to 0 or -1 are excluded from the calculation. These are listed in the feedback "BSI_EXC_INSTRMNT".

2.2.2.2 Data quality flags

Similar to the BSI instrument identification flags described above, the data quality flags are first calculated individually before they are added to the global flag. The latter indicates whether the data quality of an instrument is sufficient to be included in the BSI aggregates. The data quality flags can take three values:

- 1 (the quality is good)

  No correction is expected.

- 0 (quality cannot be measured)

  It is up to the reporting agent to verify the data if a difference is noted in the DQI.

- -1 (an error was detected)

Instruments for which at least one flag equals 0 or -1 are excluded from the calculation of the aggregates. These instruments are therefore listed in the excluded instruments sheet. The data should be checked and, if necessary, corrected.

- IS_ACCNTNG_RPRTD

  This flag checks if accounting data has been reported.

  IF INSTRMNT.INSTRMNT_ID **EXISTS IN** ACCNTNG.INSTRMNT_ID **THEN** IS_ACCNTNG_RPRTD = 1;

  ELSE IS_ACCNTNG_RPRTD = -1;

- IS_PRTLY_TRNSFRD

  This flag checks if the instrument has been partially transferred.

  IF NEVS_OTSTNDNG_NMNL_AMNT is not Null **OR** NEVS_TRNSFRRD_AMNT is not Null **OR** OTSTNDNG_NMNL_AMNT < TRNSFRRD_AMNT **THEN** IS_PRTLY_TRNSFRD = -1;

  ELSE IF OTSTNDNG_NMNL_AMNT = TRNSFRRD_AMNT **OR** TRNSFRRD_AMNT = 0 **THEN** IS_PRTLY_TRNSFRD = 0;

  ELSE IF OTSTNDNG_NMNL_AMNT > TRNSFRRD_AMNT > 0 **THEN** IS_PRTLY_TRNSFRD = 1;

  ELSE IS_PRTLY_TRNSFRD = -1;

- APPLCBLTY_PRTLLY_TRNSFRRD

  This flag checks if the partially transferred flag is applicable.

  IF CNTRY_OA <> “ES” **THEN** APPLCBLTY_PRTLLY_TRNSFRRD = 1;

  ELSE APPLCBLTY_PRTLLY_TRNSFRRD = 0;

- IMPRMNT_FLG

  This flag checks if the instrument has been impaired.

  IF (CNTRY_OA= “FI” **AND** ACCMLTD_IMPRMNT is not NULL) **OR** (CNTRY_OA= “DE” **AND** ACCMLTD_IMPRMNT is not NULL **AND** IMPRMNT_ASSSSMNT_MTHD = “Individually assessed”) **THEN** IMPRMNT_FLG = 1;

  ELSE IMPRMNT_FLG = 0;

- FR_VL_FLG

  This flag checks if a instrument has to be accounted for at fair value.

  IF CNTRY_OA in {“DE”,“FI”} **AND** ACCMLTD_CHNGS_FV_CR is not NULL **THEN** FR_VL_FLG = 1;

  ELSE FR_VL_FLG = 0;

- ACQSTN_PRC_FLG

  This flag checks if the instrument has to transformed into the acquisition price.

  IF (CNTRY_OA in {“AT”,”BE”,“DE”,“SI”} **AND** FV_CHNG_CR_BFR_PRCHS is not NULL) **OR** (CNTRY_OA = “IT” **AND** FV_CHNG_CR_BFR_PRCHS is not NULL **AND** DT_RFRNC < 202201)**THEN** ACQSTN_PRC_FLG = 1;

  ELSE ACQSTN_PRC_FLG = 0;

- IS_JNT_LBLTY_RPRTD_ALL

  This flag checks whether joint liabilities have been reported for each pair instrument-debtor.

  IF JNT_LBLTY_AMNT is not NULL **THEN** IS_JNT_LBLTY_RPRTD_ALL_PRP = 1;

  ELSE IS_JNT_LBLTY_RPRTD_ALL_PRP = -1;

  The flag below checks that if no joint liability is reported, the number of debtors linked to the instrument is equal to 1. If this condition is not met (i.e. more than one debtor is linked to the instrument), then the flag is equal to -1.

  IF min(IS_JNT_LBLTY_RPRTD_ALL_PRP) = 1 **THEN** IS_JNT_LBLTY_RPRTD_ALL = 1;

  ELSE IF min(IS_JNT_LBLTY_RPRTD_ALL_PRP) = -1 **AND** NMBR_DBTRS = 1 **THEN** IS_JNT_LBLTY_RPRTD_ALL = 0;

  ELSE IS_JNT_LBLTY_RPRTD_ALL = -1;

  Where:

  - NMBR_DBTRS = the number of debtors in an instrument

- IS_JNT_LBLTY_CMPLT

  This flag checks if the sum of joint liability amount is greater or equal to the outstanding nominal amount for multi-debtor instruments.

  IF NMBR_DBTRS > 1 **AND** IS_JNT_LBLTY_RPRTD_ALL =-1 **THEN** IS_JNT_LBLTY_CMPLT = -1;

  ELSE IF NMBR_DBTRS > 1 **AND** sum(JNT_LBLTY_AMNT) => OTSTNDNG_NMNL_AMNT **THEN** IS_JNT_LBLTY_CMPLT = 1;

  ELSE IF NMBR_DBTRS > 1 **AND** sum(JNT_LBLTY_AMNT) < OTSTNDNG_NMNL_AMNT **THEN** IS_JNT_LBLTY_CMPLT = 0;

- IS_JNT_LBLTY_CN_ONA

  This flag checks whether the maximum amount of all joint liabilities of an instrument is less than or equal to the outstanding nominal amount.

  ```
  IF max(JNT_LBLTY_AMNT) <= OTSTNDNG_NMNL_AMNT THEN
  IS_JNT_LBLTY_CN_ONA = 1;
  ELSE IS_JNT_LBLTY_CN_ONA = -1;
  ```

- IS_DBTR_NOT_THE_OA

  This flag verifies that the observed agent[3] is not the debtor of the instrument.

  ```
  IF DBTR_RIAD <> OBSRVD_AGNT_CD THEN IS_DBTR_NOT_THE_OA = 1;
  ELSE IS_DBTR_NOT_THE_OA = -1;
  ```

  Where:

  - DBTR_RIAD = RIAD identifier of the debtor

- IS_INSTTTNL_SCTR_RPRTD

  This flag checks whether the institutional sector of the debtor has been reported.

  ```
  IF INSTTTNL_SCTR_DBTR is not NULL THEN IS_INSTTTNL_SCTR_RPRTD = 1;
  ELSE IS_INSTTTNL_SCTR_RPRTD = -1;
  ```

  Where:

  - INSTTTNL_SCTR_DBTR = institutional sector of the debtor

- IS_DBTR_CNTRY_RPRTD

  This flag checks whether the country of residence of the debtor has been reported.

  ```
  IF CNTRY_DBTR is not NULL THEN IS_DBTR_CNTRY_RPRTD = 1;
  ELSE IS_DBTR_CNTRY_RPRTD = -1;
  ```

  Where:

  - CNTRY_DBTR = country of residence of the debtor

[3] The attribute “OBSRVD_AGNT_CD” depicts the RIAD identifier of the observed agent.

- IS_DT_LGL_FNL_MTRTY_RPRTD

  This flag checks whether the date of legal final maturity has been reported.

  IF DT_LGL_FNL_MTRTY is NULL **AND** NEVS_DT_LGL_FNL_MTRTY is NULL **THEN** IS_DT_LGL_FNL_MTRTY_RPRTD = -1;

  ELSE IS_DT_LGL_FNL_MTRTY_RPRTD = 1;

Most of the flags described above are used to identify quality issues. If one of the below flags is equal to -1, the data quality for a specific instrument is insufficient and the instrument is excluded from the BSI calculation. The data quality is summarized in the following flag:

IF IS_ACCNTNG_RPRTD = -1 **OR** IS_PRTLY_TRNSFRD = -1
OR IS_JNT_LBLTY_RPRTD_ALL = -1 **OR** IS_JNT_LBLTY_CMPLT = -1
OR IS_JNT_LBLTY_CN_ONA = -1 **OR** IS_DBTR_NOT_THE_OA = -1
OR IS_INSTTTNL_SCTR_RPRTD = -1 **OR** IS_DBTR_CNTRY_RPRTD = -1
OR IS_DT_LGL_FNL_MTRTY_RPRTD = -1 **OR** VLDTN_RLS = -1
THEN DQ_FLG = -1;
ELSE DQ_FLG = 1;

In addition to the flags calculated above, some validation rules are also provided in the form of flags (grouped under “VLDTN_RLS” in the box above). This is the result of data quality checks on attributes necessary for the mapping of a counterparty to RIAD. If one of these flags is equal to -1, then the counterparty cannot be associated with a counterparty in RIAD and the instruments linked to these counterparties are excluded from the calculation of the aggregates.

Finally, the feedback sheet “BSI_EXC_INSTRMNT” also contains the flag “DBTR_RIAD_FND”, tells the reporting agent if a RIAD code has been found for the counterparty or not. In the case where no code was found, the reporting agent should verify the identification of the counterparty and in the case where no error is spotted contact sig@bcl.lu, with the concerned counterparty.

2.2.3 Solution indications

There are many sources of inconsistency between reports. Below are listed some recurring errors.

1 Insufficient data quality

Insufficient data quality is highlighted by the flags in chapter 2.2.2.2. Data with errors should be analysed first. As a first step, it is recommended to focus on instruments with a high outstanding nominal amount. In fact, the more the quality of an instrument with a high outstanding amount improves, the greater the impact on the DQI. It is for this reason that the instruments are sorted in descending order compared to the outstanding nominal amount in the feedback "BSI_EXC_INSTRMNT".

The most frequent quality deficiencies are as follows:

- Country not reported
- National identifier not reported
- National identifier type not reported and/or inconsistent national identifier
- The sum of the outstanding nominal amounts is equal to the sum of the transferred amounts

2 The portfolio is incomplete (non-reported instruments)

If the total BSI aggregable balance of instruments listed in the excluded instruments sheet does not explain the difference between BSI and AnaCredit aggregates, then it is very likely that part of the AnaCredit portfolio has not been reported.

However, inconsistencies can be detected without requiring corrections. These are mainly reporting agents whose portfolio contains a large number of instruments with an outstanding nominal amount of less than 25 kEUR.

We would also like to remind you that intra-group and interbank instruments as well as positions with the BCL must be reported in AnaCredit.

3 Some counterparties were broken down incorrectly (diverging institutional sector or country)

When inconsistencies detected at the level of the sub-aggregates are substantial while the totals are very similar, it is very likely that the classification of the counterparties is not correct (e.g. a non-financial corporation reported with an institutional sector "S.121").

4 Some instruments were broken down incorrectly (diverging maturities)

The maturity of the instruments is calculated by subtracting the settlement date (DT_STTLMNT) from the legal final maturity date (DT_LGL_FNL_MTRTY). If the maturity aggregates (sections 4.1, 4.2, 4.3, 8.1, 8.2 and 8.3) present inconsistencies, we encourage you to check the two corresponding attributes and align them with the deadlines calculated for the BSI report.

2.3 Comparison with MIR (S 1.5)

2.3.1 Calculation method

The AnaCredit-MIR comparison compares the average interest rates, weighted by the BSI aggregable balance[4] for the stock positions, while also looking at the average interest rates for new business loans and its volumes (MIR_AGGRGBL_BLNC_NB[5]):

$$Interest\ Rate\ on\ stock\ postions = \frac{\Sigma(BSI\_AGGRGBL\_BLNC * ANNLSD\_AGGRD\_RT)}{\Sigma(BSI\_AGGRGBL\_BLNC)}$$

$$Interest\ Rate\ on\ new\ business = \frac{\Sigma(MIR\_AGGRGBL\_BLNC\_NB * ANNLSD\_AGGRD\_RT)}{\Sigma(MIR\_AGGRGBL\_BLNC\_NB)}$$

$$Volumes\ of\ new\ business = \Sigma(MIR\_AGGRGBL\_BLNC\_NB)$$

These aggregates are limited to euro-denominated instruments, the debtors of which are non-financial corporations resident in the euro area. Instruments are broken down using the following elements:

- Type of instrument
- Repayment rights
- Maturity
- Amount category
- If the instrument is settled
- If the interest rate is reported
- If it a new business loan
- Initial rate fixation

[4] In its simplest form, the BSI aggregable balance consists of the outstanding nominal amount. The detailed calculation of the aggregable balance can found in annex 4.3 of this document.
[5] Calculation of IMIR_AGGRGBL_BLNC_NEW_BSNSS defined in annex 4.3 of this document.

The table below shows the 3 items, which are to be corrected from December 2023 onwards, and the 43 additional items, which are to be corrected from March 2025 onwards (From the S 1.5 Table we consider only the data types AMT and TCA / For AnaCredit we only consider instruments denominated in EUR):

Item	Description	AnaCredit	S 1.5 (MIR)						
		Condition	SSTAB	Country	Rubrique	Secteur	Initial maturity	Initial rate periode	Amount category
1	Interest rate on outstanding amounts: loans to Euro area NFCs	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_ONA_INSTRMNT = "1"	1E	X2	1-002000	21000	I000-01A I01A-05A I05A-999	FIT999-999	Total
2 - 3	New business volumes and interest rate: loans to Euro area NFCs	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1"	3N	X2	1-002000	21000	I999-999	FIT000-03M FIT03M-01A FIT01A-03A FIT03A-05A FIT05A-10A FIT10A-999	AAA BBB CCC
			3N	X2	1-CP2000 1-CD2000 1-RD2000	21000	I999-999	FIT999-999	Total
4	Interest rate on outstanding amounts: loans to Euro area NFCs, Loans up to 1 year	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** STTLD_FLG = "1" **AND** MTRTY = "Up to 1 year"	1E	X2	1-002000	21000	I000-01A	FIT999-999	Total

5	Interest rate on outstanding amounts: loans to Euro area NFCs, Loans of 1 to 5 year	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** STTLD_FLG = "1" **AND** MTRTY = "Above 1 year and up to 5 years"	1E	X2	1-002000	21000	I01A-05A	FIT999-999	Total
6	Interest rate on outstanding amounts: loans to Euro area NFCs, Loans over 5 years	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** STTLD_FLG = "1" **AND** MTRTY = "Above 5 years"	1E	X2	1-002000	21000	I05A-999	FIT999-999	Total
7 - 8	New business volumes and interest rate: loans to Euro area NFCs, Revolving loans	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "1"	3N	X2	1-CP2000 1-CD2000 1-RD2000	21000	I999-999	FIT999-999	Total
9 - 10	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0"	3N	X2	1-002000	21000	I999-999	FIT000-03M FIT03M-01A FIT01A-03A FIT03A-05A FIT05A-10A FIT10A-999	AAA BBB CCC
11 - 12	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2"	3N	X2	1-002000	21000	I999-999	FIT000-03M FIT03M-01A FIT01A-03A FIT03A-05A FIT05A-10A FIT10A-999	AAA

13 - 14	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3"	3N	X2	1-002000	21000	I999-999	FIT000-03M FIT03M-01A FIT01A-03A FIT03A-05A FIT05A-10A FIT10A-999	BBB
15 - 16	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans above EUR 1 mio	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "1"	3N	X2	1-002000	21000	I999-999	FIT000-03M FIT03M-01A FIT01A-03A FIT03A-05A FIT05A-10A FIT10A-999	CCC
17 - 18	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio, Floating rate and up to 3M initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2" **AND** IMIR_AMNT_INTL_RT_FXTN = "D"	3N	X2	1-002000	21000	I999-999	FIT000-03M	AAA
19 - 20	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio, Over 3M and up to 1Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2" **AND** IMIR_AMNT_INTL_RT_FXTN = "Q"	3N	X2	1-002000	21000	I999-999	FIT03M-01A	AAA

21 - 22	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio, Over 1Y and up to 3Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2" **AND** IMIR_AMNT_INTL_RT_FXTN = "R"	3N	X2	1-002000	21000	I999-999	FIT01A-03A	AAA
23 - 24	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio, Over 3Y and up to 5Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2" **AND** IMIR_AMNT_INTL_RT_FXTN = "S"	3N	X2	1-002000	21000	I999-999	FIT03A-05A	AAA
25 - 26	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio, Over 5Y and up to 10Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2" **AND** IMIR_AMNT_INTL_RT_FXTN = "O"	3N	X2	1-002000	21000	I999-999	FIT05A-10A	AAA
27 - 28	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans up EUR 0.25 mio, Over 10Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "2" **AND** IMIR_AMNT_INTL_RT_FXTN = "P"	3N	X2	1-002000	21000	I999-999	FIT10A-999	AAA

29 - 30	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio, Floating rate and up to 3M initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3" **AND** IMIR_AMNT_INTL_RT_FXTN = "D"	3N	X2	1-002000	21000	I999-999	FIT000-03M	BBB
31 - 32	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio, Over 3M and up to 1Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3" **AND** IMIR_AMNT_INTL_RT_FXTN = "Q"	3N	X2	1-002000	21000	I999-999	FIT03M-01A	BBB
33 - 34	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio, Over 1Y and up to 3Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3" **AND** IMIR_AMNT_INTL_RT_FXTN = "R"	3N	X2	1-002000	21000	I999-999	FIT01A-03A	BBB
35 - 36	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio, Over 3Y and up to 5Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3" **AND** IMIR_AMNT_INTL_RT_FXTN = "S"	3N	X2	1-002000	21000	I999-999	FIT03A-05A	BBB

37 - 38	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio, Over 5Y and up to 10Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3" **AND** IMIR_AMNT_INTL_RT_FXTN = "O"	3N	X2	1-002000	21000	I999-999	FIT05A-10A	BBB
39 - 40	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans between EUR 0.25 mio and 1 mio, Over 10Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "3" **AND** IMIR_AMNT_INTL_RT_FXTN = "P"	3N	X2	1-002000	21000	I999-999	FIT10A-999	BBB
41 - 42	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans above EUR 1 mio, Floating rate and up to 1Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "1" **AND** IMIR_AMNT_INTL_RT_FXTN in {"D", "Q"}	3N	X2	1-002000	21000	I999-999	FIT000-03M FIT03M-01A	CCC
43 - 44	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans above EUR 1 mio, Over 1Y and up to 5Y initial rate fixation	CNTRY_DBTR IN {"Euro area"} **AND** INSTTTNL_SCTR_DBTR = "S.11" **AND** IS_IMIR_NB_INSTRMNT = "1" **AND** IS_RVLVNG = "0" **AND** IMIR_AMNT_CTGRY = "1" **AND** IMIR_AMNT_INTL_RT_FXTN in {"R", "S"}	3N	X2	1-002000	21000	I999-999	FIT01A-03A FIT03A-05A	CCC

45 - 46	New business volumes and interest rate: loans to Euro area NFCs, other than revolving loans above EUR 1 mio, Over 5Y initial rate fixation	CNTRY_DBTR IN {“Euro area”} **AND** INSTTTNL_SCTR_DBTR = “S.11” **AND** IS_IMIR_NB_INSTRMNT = “1” **AND** IS_RVLVNG = “0” **AND** IMIR_AMNT_CTGRY = “1” **AND** IMIR_AMNT_INTL_RT_FXTN = {“O”, “P”}	3N	X2	1-002000	21000	I999-999	FIT05A-10A FIT10A-999	CCC

2.3.2 Instruments excluded from MIR

Similar to the BSI comparison, some of the instruments are not taken into account in the calculation of MIR weighted averages (in addition to the instruments already excluded from the three categories detailed above). The flags calculated in the BSI comparison are also applicable to the MIR comparison.

2.3.2.1 Classifications flags for the MIR comparison

Further variables are calculated below, in order to perform the aggregations.

- IMIR_AMNT_CTGRY
  This variable is considering the MIR aggregable balance for the new business categories, in order to regroup three larger groups of loans according to their amount.

```
IF IMIR_INSTRMNT_BLNC_NEW_BSNSS is NULL THEN IMIR_AMNT_CTGRY = -1;
ELSE IF IMIR_INSTRMNT_BLNC_NEW_BSNSS <= 250'000 THEN IMIR_AMNT_CTGRY = 2;
ELSE IF IMIR_INSTRMNT_BLNC_NEW_BSNSS <= 1'000'000 THEN IMIR_AMNT_CTGRY = 3;
ELSE IMIR_AMNT_CTGRY = 1;
```

- IS_INCPTD
  This flag checks that the inception date has been reported and that it is not after the current reference date.

```
IF DT_INCPTN > DT_RFRNC THEN IS_INCPTD = -1;
ELSE IF NEVS_DT_INCPTN = "-5" THEN IS_INCPTD = 0;
ELSE IS_INCPTD=1;
```

- IS_INCPTD_LST_MNTH
  This flag checks that the inception date has been reported and that it is not after the current reference date.

```
IF IS_INCPTD = -1 THEN IS_INCPTD_LST_MNTH = -1;
ELSE IF IS_ INCPTD = 1 AND DT_INCPTN > Previous_DT_RFRNC THEN IS_INCPTD_LST_MNTH = 1;
ELSE IS_INCPTD_LST_MNTH = 0;
```

- IS_RNGTTD

This flag identifies instruments, which are forborne.

IF (DT_FRBRNC_STTS is not Null **AND** DT_FRBRNC_STTS > DT_RFRNC) **OR** (DT_FRBRNC_STTS is not NULL **AND** FRBRNC_STTS is NULL) **OR** (DT_FRBRNC_STTS is NULL **AND** FRBRNC_STTS is not in {"", "8"}) **OR** (FRBRNC_STTS is NULL **AND** DT_FRBRNC_STTS is NULL) **THEN** IS_RNGTTD = -1;

ELSE IF (DT_FRBRNC_STTS is not Null **AND** DT_FRBRNC_STTS <= DT_RFRNC) **AND** FRBRNC_STTS in {"Forborne: totally or partially refinanced debt", "Forborne: instruments with other modified terms and conditions", "Renegotiated instrument without forbearance measures"} **THEN** IS_RNGTTD = 1;

ELSE IS_RNGTTD = 0;

- IS_RNGTTD_LST_MNTH
  This flag identifies instruments, which are forborne during the last month.

IF IS_RNGTTD = -1 **THEN** IS_RNGTTD_LST_MNTH = -1;

ELSE IF IS_RNGTTD = 1 **AND** DT_FRBRNC_STTS > Previous_DT_RFRNC **THEN** IS_RNGTTD_LST_MNTH = 1;

ELSE IS_RNGTTD_LST_MNTH = 0;

- IS_IMIR_NEW_BSNSS
  This flag represents the new business portfolio of a bank.

IF IS_RVLVNG = 1 **OR** IS_INCPTD_LST_MNTH = 1 **OR** IS_RNGTTD_LST_MNTH = 1 **THEN** IS_IMIR_NEW_BSNSS = 1;

ELSE IF IS_RVLVNG = -1 **OR** IS_INCPTD = -1 **OR** IS_RNGTTD = -1 **OR** DT_INCPTN > DT_FRBRNC_STTS **THEN** IS_IMIR_NEW_BSNSS = -1;

ELSE IS_IMIR_NEW_BSNSS = 0;

- IS_INTRST_RT_FLTNG
  This flag identifies the instruments with a variable interest rate. Furthermore, it is used for the flag of initial rate fixation period.

IF TYP_INTRST_RT = "Variable" **THEN** IS_INTRST_RT_FLTNG = 1;

ELSE IF TYP_INTRST_RT in {"Fixed", "Mixed"} or NEVS_TYP_INTRST_RT = "0" **THEN** IS_INTRST_RT_FLTNG = 0;

ELSE IS_INTRST_RT_FLTNG = -1;

- INTRST_RT_RST_SNC_INCPTN_MNTHS
  This flag identifies the number of months between either the date of legal final maturity and the date of inception or the next interest rate reset date and the date of inception. Furthermore, it is used for the flag of initial rate fixation period.

IF DT_INCPTN is NULL **OR** (DT_LGL_FNL_MTRTY is NULL **AND** DT_NXT_INTRST_RT_RST is NULL) **THEN** INTRST_RT_RST_SNC_INCPTN_MNTHS = NULL;

ELSE IF NEVS_DT_NXT_INTRST_RT_RST is NULL **THEN**
INTRST_RT_RST_SNC_INCPTN_MNTHS = MONTHS_BETWEEN (DT_NXT_INTRST_RT_RST, DT_INCPTN);

ELSE INTRST_RT_RST_SNC_INCPTN_MNTHS **=** MONTHS_BETWEEN (DT_LGL_FNL_MTRTY, DT_INCPTN);

- INTL_RT_FXTN
  This flag identifies breakdowns expressed in terms of initial period of interest rate fixation for the aggregates of lending rate on new business.

IF IS_INTRST_RT_FLTNG=-1 **OR** (IS_INTRST_RT_FLTNG=0 **AND**
INTRST_RT_RST_SNC_INCPTN_MNTHS is NULL) **THEN** INTL_RT_FXTN="-1";

ELSE IF IS_INTRST_RT_FLTNG=1 **THEN** INTL_RT_FXTN="D";

ELSE IF INTRST_RT_RST_SNC_INCPTN_MNTHS <= 3 **THEN** INTL_RT_FXTN="D";

ELSE IF INTRST_RT_RST_SNC_INCPTN_MNTHS <= 12 **THEN** INTL_RT_FXTN="Q";

ELSE IF INTRST_RT_RST_SNC_INCPTN_MNTHS <= 36 **THEN** INTL_RT_FXTN="R";

ELSE IF INTRST_RT_RST_SNC_INCPTN_MNTHS <= 60 **THEN** INTL_RT_FXTN="S";

ELSE IF INTRST_RT_RST_SNC_INCPTN_MNTHS <= 120 **THEN** INTL_RT_FXTN="O";

ELSE IF INTRST_RT_RST_SNC_INCPTN_MNTHS > 120 **THEN** INTL_RT_FXTN="P";

2.3.2.2 MIR instruments identification flags

Regarding the identification of instruments eligible for the MIR calculation, following additional flags must however be added:

- NOT_BD_LN_FLG

  This flag identifies instruments, which are considered uncollectible. This is based on the default status of the counterparty or of the instrument respectively.

IF (CNTRY_OA = "ES" **AND** IMPRMNT_STTS is Null) **OR** (CNTRY_OA in {"AT", "FI"} **AND** PRFRMNG_STTS is Null) **OR** (CNTRY_OA = "PT" **AND** (FRBRNC_STTS is Null **OR** ARRS is Null)) **OR** (CNTRY_OA not in {"AT", "ES", "FI", "PT"} **AND** DFLT_STTS_INSTRMNT is Null **AND** ((CNTRY_OA not in {"EE", "FR", "GR", "IE", "LT", "LU", "MT", "NL", "SI", "SK"} **AND** DFLT_STTS_OF_MAIN_DBTR is Null) **OR** (CNTRY_OA in {"EE", "FR", "GR", "IE", "LT", "LU", "MT", "NL", "SI", "SK"} **AND** DFLT_STTS_OF_ANY_DBTR is Null))) **THEN** NOT_BD_LN_FLG = -1;

ELSE IF (CNTRY_OA = "ES" **AND** IMPRMNT_STTS in {"Stage 3 (IFRS)","POCI (IFRS)"}) **OR** (CNTRY_OA in {"AT", "FI"} **AND** PRFRMNG_STTS = "Non-performing") **OR** (CNTRY_OA = "PT" **AND** (FRBRNC_STTS in {"Forborne: totally or partially refinanced debt", "Forborne: instruments with modified interest rate below market conditions", "Forborne: instruments with other modified terms and conditions", "Renegotiated instrument without forbearance measures"} **OR** ARRRS > 0)) **OR** (CNTRY_OA not in {"AT", "ES", "FI", "PT"} **AND** DFLT_STTS_INSTRMNT in {"Default because both unlikely to pay and more than 90/180 days past due", "Default because unlikely to pay", "Default because more than 90/180 days past due"} **OR** ((CNTRY_OA not in {"EE", "FR", "GR", "IE", "LT", "LU", "MT", "NL", "SI", "SK"} **AND** DFLT_STTS_OF_MAIN_DBTR in {"Default because both unlikely to pay and more than 90/180 days past due", "Default because unlikely to pay", "Default because more than 90/180 days past due"}) **OR** (CNTRY_OA in {"EE", "FR", "GR", "IE", "LT", "LU", "MT", "NL", "SI", "SK"} **AND** DFLT_STTS_OF_ANY_DBTR in {"Default because both unlikely to pay and more than 90/180 days past due", "Default because unlikely to pay", "Default because more than 90/180 days past due"}))) **THEN** NOT_BD_LN_FLG = 0;

ELSE NOT_BD_LN_FLG = 1;

- IS_NOT_FRBRNC_BLW_MRKT_CNDTNS

  This flag identifies instruments, which have interest rates on bad loans and on debt restructuring at rates below market conditions have to be excluded from the MIR comparison.

IF FRBRNC_STTS is Null **THEN** IS_NOT_FRBRNC_BLW_MRKT_CNDTNS = -1;

ELSE IF (CNTRY_OA = "GR" **AND** FRBRNC_STTS in {"Forborne: totally or partially refinanced debt", "Forborne: instruments with modified interest rate below market conditions", "Forborne: instruments with other modified terms and conditions"}) **OR** (CNTRY_OA <> "GR" **AND** FRBRNC_STTS = "Forborne: instruments with modified interest rate below market conditions") **THEN** IS_NOT_FRBRNC_BLW_MRKT_CNDTNS = 0;

ELSE IS_NOT_FRBRNC_BLW_MRKT_CNDTNS = 1;

- IS_NOT_FCTRNG

  This flag identifies instruments, which should be excluded due to being a factoring instrument and where the country of the observed agent is Portugal.

```
IF CNTRY_OA = "PT" AND TYP_INSTRMNT = "71" AND (RCRS = "2" OR (RCRS = "1" AND ANNLSD_AGRD_RT = 0)) THEN IS_NOT_FCTRNG = 0;

ELSE IF CNTRY_OA = "PT" AND (NEVS_TYP_INSTRMNT = "-5" OR (TYP_INSTRMNT = "71" AND RCRS = "1" AND IS_INTRST_RT_RPRTD = -1) OR (TYP_INSTRMNT = "71" AND NEVS_RCRS = "-5" AND NEVS_ANNLSD_AGRD_RT <> "0")) THEN IS_NOT_FCTRNG=-1;

ELSE IS_NOT_FCTRNG = 1;
```

- IS_ONA_PSTV

  This flag identifies instruments, where outstanding nominal amount is present and above 0.

```
IF OTSTNDNG_NMNL_AMNT > 0 THEN IS_ONA_PSTV = 1;

ELSE IF OTSTNDNG_NMNL_AMNT = 0 THEN IS_ONA_PSTV = 0;

ELSE IS_ONA_PSTV = -1;
```

- IS_OBSA_PSTV

  This flag identifies instruments, where off-balance sheet amount is present and above 0.

```
IF OFF_BLNC_SHT_AMNT > 0 THEN IS_OBSA_PSTV = 1;

ELSE IF OFF_BLNC_SHT_AMNT = 0 THEN IS_OBSA_PSTV = 0;

ELSE IS_OBSA_PSTV = -1;
```

- IS_UNSD_CRDT_LN

  This flag identifies credit lines, which have not been settled yet.

```
IF RCGNTN_FLG = 0 AND IS_ONA_PSTV = 0 AND IS_OBSA_PSTV = 1 THEN IS_UNSD_CRDT_LN = 1;

ELSE IF RCGNTN_FLG <> -1 AND IS_ONA_PSTV <> -1 AND IS_OBSA_PSTV <> -1 THEN IS_UNSD_CRDT_LN = 0;

ELSE IS_UNSD_CRDT_LN = -1;
```

Finally, two flags on the MIR eligibility for the outstanding amount categories and the new business categories of an AnaCredit instrument are calculated taking into account the flags mentioned earlier in this document:

- IS_IMIR_ONA_INSTRMNT

IF IS_BSI_INSTRMNT = 1 **AND** IS_NOT_FCTRNG = 1 **AND** ((CNTRY_OA in {“CY”, “MT”, “NL”} **AND** IS_NOT_FRBRN_BLW_MRKT_CNDTNS = 1) **OR** (CNTRY_OA = “PT” **AND** NOT_BD_LN_FLG = 1 **AND** TYP_INSTRMNT <> “Trade receivables” **AND** (RCRS = “No Recourse” **OR** ANNLSD_AGRD_RT = 0)) **OR** (CNTRY_OA not in {“CY”, “MT”, “NL”, “PT”} **AND** IS_NOT_FRBRN_BLW_MRKT_CNDTNS = 1 **AND** NOT_BD_LN_FLG = 1)) **AND** IS_INTRST_RT_RPRTD = 1 **THEN** IS_MIR_ONA_INSTRMNT = 1;

ELSE IS_IMIR_ONA_INSTRMNT = 0;

- IS_IMIR_NB_INSTRMNT

IF (IS_BSI_INSTRMNT = 1 **AND** IS_RVLVNG = 1) **OR** (IS_RVLVNG = 0 **AND** IS_NOT_FDCRY = 1 **AND** IS_NOT_FCTRNG = 1 **AND** NON_TRDTNLLY_SEC_FLG = 1 **AND** (RCGNTN_FLG = 1 **OR** IS_UNSD_CRDT_LN = 1) **AND** NOT_BD_LN_FLG = 1 **AND** IS_IMIR_NEW_BSNSS = 1 **AND** IS_INTRST_RT_RPRTD = 1 **AND** (CNTRY_OA = “PT” **OR** (CNTRY_OA <> “PT” **AND** IS_NOT_FRBRN_BLW_MRKT_CNDTNS = 1))) **THEN** IS_IMIR_NB_INSTRMNT=1;

ELSE IS_IMIR_NB_INSTRMNT = 0;

All the instruments whose flags “IS_MIR_ONA_INSTRMNT” or “IS_MIR_NB_INSTRMNT” is equal to 1 are taken into account when calculating the MIR weighted averages. Conversely, the instruments whose both flags equal to 0 or -1 are excluded from the calculation and listed in the “MIR_EXC_INSTRMNT” feedback.

2.3.2.3 Data quality flags

The data quality flags calculated during the BSI comparison (see chapter 2.2.2.2) also apply to the MIR comparison.

In addition, following flag is calculated for the MIR comparison:

- IS_INTRST_RT_RPRTD

  This flag checks whether the interest rate has been reported.

  IF ANNLSD_AGRD_RT is not NULL **THEN** IS_INTRST_RT_RPRTD = 1;

  ELSE IF NEVS_ANNLSD_AGRD_RT = “0” **THEN** IS_INTRST_RT_RPRTD = 0;

  ELSE IS_INTRST_RT_RPRTD = -1;

2.3.3 Solution indications

It is recommended to identify and then resolve any inconsistencies detected during the AnaCredit-BSI comparison before starting the AnaCredit-MIR comparison. There are many sources of inconsistency between reports. The flags on data quality defined in chapter 2.2.2.2 also apply to the MIR comparison. Among the most frequent quality deficiencies, the interest rate reported in percentage format and not in decimal format should be considered.

2.4 Reports

2.4.1 Feedbacks provided

During the AnaCredit-BSI-MIR comparison, one file is made available to reporting agents. This .xlsx file includes two worksheets:

- **BSI_Overview** (overview of BSI DQI results)
- **MIR_Overview** (overview of MIR DQI results)

The feedback file can also contain four additional worksheets, namely:

- **BSI_EXC_INSTRMNT** (list of instruments excluded from BSI calculation)
- **BSI_INC_INSTRMNT** (list of instruments included in the BSI calculation)
- **MIR_EXC_INSTRMNT** (list of instruments excluded from the MIR calculation)
- **MIR_INC_INSTRMNT** (list of instruments included in the MIR calculation)

In the meantime, the BCL will include these four spreadsheets but they will only contain the following attributes:

- OBSRVD_AGNT_CD,
- DT_RFRNC,
- T1M_MSG_ID,
- T2M_MSG_ID,
- T2Q_MSG_ID,
- REF_MSG_ID,
- CNTRCT_ID,
- INSTRMNT_ID,
- all flags described in chapters 2.2.2 and 2.3.2.

The two types of “Overview” and “Excluded” worksheets are described in more detail below.

2.4.1.1 Results of the calculation of aggregates / weights

The “Overview” sheet includes the aggregates / weighted averages calculated for AnaCredit and BSI / MIR as well as the DQIs calculated on the comparison.

An example of an BSI comparison table is available in Annex 4.2.1. In order to facilitate the interpretation of this table, the DQIs are coloured as follows:

- Green: the DQI is below the required threshold and no correction is expected.
- Yellow: the DQI is above the required threshold. Correction is not required. However, reporting agents are strongly encouraged to correct these sub-aggregates in anticipation of more extensive requirements.
- Red: the DQI is above the required threshold. Correction is required.

2.4.1.2 List of instruments excluded from the calculation of aggregates

The “Excluded” sheet lists all the instruments excluded from the calculation of aggregates / weighted averages based on the flags described above. An instrument is added to the list when at least one of the three flags DQ_FLG or IS_BSI_INSTRMNT / IS_MIR_ONA_INSTRMNT / IS_MIR_NB_INSTRMNT is equal to 0 or -1.

In addition to the aforementioned flags, the list includes attributes to better identify inconsistencies between AnaCredit and BSI / MIR:

- OBSRVD_AGNT_CD
- DT_RFRNC
- CNTRCT_ID
- INSTRMNT_ID

The list is ordered as follows:

1 IS_BSI_INSTRMNT / IS_MIR_ONA_INSTRMNT / IS_MIR_NB_INSTRMNT , in descending order

2 DQ_FLG, in ascending order

3 BSI_AGGRGBL_BLNC, in descending order

Therefore, it is recommended to analyse the first observations in the list first, which are most likely to have the greatest impact on the aggregates. An example of the excluded instruments table can be found in Annex 4.2.

2.4.2 Communication frequency and delay

The comparison reports are sent quarterly, regardless of resubmissions sent by reporting agents. Ad hoc reports can be generated upon request from reporting agents.

2.4.3 Revision deadlines

Due to the implementation of the new non-compliance procedure at the ECB, the reporting agents have a maximum of 20 working days to correct any DQIs above the required threshold, starting from the date of the first feedback. For any feedback sent after, the reporting agent has the usual 5 days to correct remaining errors, as is the case for validation errors. In addition, before proceeding to a resubmission (regardless the type of report), reporting agents are asked to confirm by email the reports and the reference periods to be resubmitted. Please note that a modification or even a correction in report S 1.1 may also require modifications in the report S 2.5.

Future submissions should already take into account any inconsistencies detected.

3 Contact data at the BCL

For any question related to the AnaCredit report, please contact the AnaCredit team at the BCL (reporting.anacredit@bcl.lu).

For any question, which concerns more precisely referential data, please contact the referential data team at the BCL (sig@bcl.lu).

4 Annexes

4.1 Glossary

DQI	Data Quality Indicator
EA	Euro area
ECB	European central bank
BSI	Individual balance sheet items statistics (S 1.1 and S 2.5 reports in Luxembourg)
ICPFs	Insurance Corporations and Pension Funds
MIR	Individual MFI interest rate statistics (S 1.5 reports in Luxembourg)
MFI	Monetary and Financial Institutions
MMF	Money Market Funds
NCB	National central bank
NFC	Non-financial corporation
OFI	Other Financial Intermediaries

4.2 Examples of feedback reports

4.2.1 Example BSI / AnaCredit comparison (“Overview”)

Observed Agent: LUB00XXX

Aggregates per report and per reference date (in million)	202509				202512			
	AnaCredit	S 1.1 Report	DQI	Alternative DQI	AnaCredit	S 1.1 Report	DQI	Alternative DQI
First class priority								
Total EA Loans	34,00	60,00	0,43 %	4,33 %	34,00	60,00	0,43 %	4,33 %
1. EA NFCs	30,00	50,00	0,04 %	0,24 %	30,00	50,00	0,04 %	0,24 %
Second class priority								
2. EA MFIs	4,00	10,00	0,10 %	1,00 %	4,00	10,00	0,10 %	1,00 %
3. EA General government								
4. EA OFIs and non-MMF investment funds								
5. EA ICPFs								
Fourth class priority								
1.1 Dom NFCs	30,00	50,00	0,33 %	0,33 %	30,00	50,00	0,33 %	0,33 %
1.1.1 Dom NFCs, up to 1 year	30,00	50,00	0,33 %	0,33 %	30,00	50,00	0,33 %	0,33 %
1.1.2 Dom NFCs, over 1 year and up to 5 years								
1.1.3 Dom NFCs, over 5 years								
1.2 OEA NFCs								
1.2.1 OEA NFCs, up to 1 year								
1.2.2 OEA NFCs, over 1 year and up to 5 years								
1.2.3 OEA NFCs, over 5 years								
1.3 EA NFCs, euro denominated loans								
1.4 EA NFCs, revolving loans								
1.5 EA NFCs, syndicated loans								
2.1. Dom MFIs	4,00	10,00	0,10 %	0,10 %	4,00	10,00	0,10 %	0,10 %
2.2. Dom central banks	4,00	10,00	0,10 %	0,10 %	4,00	10,00	0,10 %	0,10 %
2.3. OEA MFIs								
3.1. Dom General government								
3.2. OEA General government								
4.1. Dom CCPs reverse repurchase								
4.2. OEA CCPs reverse repurchase								
6. RoW - Total Loans								

4.2.2 Example of list of excluded instruments in BSI calculation

Left-hand side of table:

RPRTNG_AGNT_CD	OBSRVD_AGNT_CD	DT_RFRNC	T1M_MSG_ID	T2M_MSG_ID	T2Q_MSG_ID	REF_MSG_ID	CNTRCT_ID	INSTRMNT_ID	IS_NOT_FDCRY	RCGNTN_FLG	INTR_CMPNY_FLG	NON_TRDTNLLY_SEC_FLG	STTLD_FLG	IS_RVLVNG	IS_SYNDCTD	IS_iBSI_INSTRMNT	IS_ACCNTNG_RPRTD	IS_PRTLY_TRNSFRD	IS_JNT_LBLTY_RPRTD_ALL	IS_JNT_LBLTY_CMPLT	IS_JNT_LBLTY_CN_ONA	IS_DBTR_NOT_THE_OA	IS_INSTTTNL_SCTR_RPRT	IS_DBTR_CNTR	IS_D
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C1	C1	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C2	C2	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C3	C3	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C4	C4	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C5	C5	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C6	C6	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C7	C7	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C8	C8	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C9	C9	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1

Right-hand side of table:

ACQSTN_PRC_FLG	IMPRMNT_FLG	FR_VL_FLG	CY0010	CY0011	CY0020	CY0060	CY0130	CS0010	CS0040	CS0050	CS0060	CS0080_TYP_ENTTY_NTNL_ID	CS0080_NM_ENTTY	CS0130	CS0140	CS0141	CS0150	CS0190	CS0200	RI0030	RI0060	DQ_FLG	DBTR_RIAD_FND
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

4.2.3 Example of list of included instruments in BSI calculation

RPRTNG_AGNT_CD	OBSRVD_AGNT_CD	DT_RFRNC	T1M_MSG_ID	T2M_MSG_ID	T2Q_MSG_ID	REF_MSG_ID	CNTRCT_ID	INSTRMNT_ID	ITEM	SPLIT_BY_DOM_OEA	CENTRAL_BANK	SPLIT_BY_MTRTY	NFC_IS_EUR	NFC_IS_RVLVNG	NFC_IS_SYNDC
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C1	C1	5. EA ICPFs						
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C2	C2	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year	1.3 EA NFCs, euro denominated loans	1.4 EA NFCs, revolving loans	
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C3	C3	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year	1.3 EA NFCs, euro denominated loans	1.4 EA NFCs, revolving loans	
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C4	C4	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year	1.3 EA NFCs, euro denominated loans	1.4 EA NFCs, revolving loans	
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C5	C5	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year	1.3 EA NFCs, euro denominated loans	1.4 EA NFCs, revolving loans	
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C6	C6	1. EA NFCs	1.2. OEA NFCs		1.2.3. OEA NFCs, over 5 years	1.3 EA NFCs, euro denominated loans	1.4 EA NFCs, revolving loans	
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C7	C7	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year	1.3 EA NFCs, euro denominated loans		
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C8	C8	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year			
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C9	C9	1. EA NFCs	1.2. OEA NFCs		1.2.1. OEA NFCs, up to 1 year	1.3 EA NFCs, euro denominated loans		
LUB00XXX	LUB00XXX	202509	XX1	XX1	XX1	XX1	C10	C10	1. EA NFCs	1.2. OEA NFCs		1.2.3. OEA NFCs, over 5 years	1.3 EA NFCs, euro denominated loans		

4.3 Calculation of the BSI aggregable balance

The BSI instrument balance (BSI_INSTRMNT_BLNC) is calculated as follows:

```
BSI_INSTRMNT_BLNC = max(OTSTNDNG_NMNL_AMNT - (APPLCBLTY_PRTLLY_TRNSFRRD
* IS_PRTLY_TRNSFRD * TRNSFRRD_AMNT) - (IMPRMNT_FLG * ACCMLTD_IMPRMNT) -
(FR_VL_FLG*ACCMLTD_CHNGS_FV_CR) -
(ACQSTN_PRC_FLG*FV_CHNG_CR_BFR_PRCHS), 0);
```

The pro-rata debtor share (PR_RT_DBTR_SHR) is calculated as follows:

```
IF NMBR_DBTRS = 1 THEN DO;
    IF JNT_LBLTY_AMNT is NULL THEN PR_RT_DBTR_SHR = 1;
    ELSE IF JNT_LBLTY_AMNT = 0 AND OTSTNDNG_NMNL_AMNT = 0 THEN
    PR_RT_DBTR_SHR = 1/2;
    ELSE PR_RT_DBTR_SHR = JNT_LBLTY_AMNT / OTSTNDNG_NMNL_AMNT;
END;
ELSE IF NMBR_DBTRS > 1 THEN DO;
    IF JNT_LBLTY_AMNT is NULL THEN PR_RT_DBTR_SHR is NULL;
    ELSE IF JNT_LBLTY_AMNT_Sum = 0 AND OTSTNDNG_NMNL_AMNT = 0 THEN
    PR_RT_DBTR_SHR = 1/NMBR_DBTRS;
    ELSE IF JNT_LBLTY_AMNT_Sum = 0 AND OTSTNDNG_NMNL_AMNT > 0 THEN
    PR_RT_DBTR_SHR = 0;
    ELSE IF JNT_LBLTY_AMNT_Sum > OTSTNDNG_NMNL_AMNT THEN
    PR_RT_DBTR_SHR = JNT_LBLTY_AMNT / JNT_LBLTY_AMNT_Sum;
    ELSE IF JNT_LBLTY_AMNT_Sum <= OTSTNDNG_NMNL_AMNT THEN
    PR_RT_DBTR_SHR = JNT_LBLTY_AMNT / OTSTNDNG_NMNL_AMNT;
END;
```

Where:

- NMBR_DBTRS = number of debtors in the instrument
- JNT_LBLTY_AMNT_Sum = sum of the joint liabilities in an instrument

The main debtor share (MN_DBTR_SHR) is calculated as follows:

```
IF PR_RT_DBTR_SHR = 0 THEN MN_DBTR_SHR = 0;

ELSE IF PR_RT_DBTR_SHR = max(PR_RT_DBTR_SHR) THEN MN_DBTR_SHR = 1 /
(COUNTIF(DBTR, where PR_RT_DBTR_SHR = max(PR_RT_DBTR_SHR))

ELSE MN_DBTR_SHR = 0;
```

The BSI aggregable balance (BSI_AGGRGBL_BLNC) is calculated as follows:

```
IF CNTRY_OA in {“AT”, “EE”, “FR”, “GR”, “IE”, “LT”, “LU”, “MT”, “NL”, “PT”, “SI”, “SK”} THEN
BSI_AGGRGBL_BLNC = PR_RT_DBTR_SHR * BSI_INSTRMNT_BLNC;

ELSE BSI_AGGRGBL_BLNC = MN_DBTR_SHR * BSI_INSTRMNT_BLNC;
```

4.4 Calculation of the MIR aggregable balance

For the outstanding positions, the same calculation as for the BSI aggregates is used.

For the new business comparisons, the MIR instrument balance is calculated as follows:

```
IF IS_IMIR_NEW_BSNSS ne “1” THEN IMIR_INSTRMNT_BLNC_NEW_BSNSS = NULL;

ELSE IF IS_RVLVNG = “1” THEN IMIR_INSTRMNT_BLNC_NEW_BSNSS =
OTSTNDNG_NMNL_AMNT

ELSE IF (DT_RFRNC >= DT_FRBRNC_STTS > Previous_DT_RFRNC) THEN
IMIR_INSTRMNT_BLNC_NEW_BSNSS = OTSTNDNG_NMNL_AMNT + OFF_BLNC_SHT_AMNT

ELSE IF CMMTMNT_INCPTN is not NULL THEN IMIR_INSTRMNT_BLNC_NEW_BSNSS =
CMMTMNT_INCPTN;

ELSE IMIR_INSTRMNT_BLNC_NEW_BSNSS = sum(OTSTNDNG_NMNL_AMNT,
OFF_BLNC_SHT_AMNT);
```

The MIR aggregable balance (IMIR_AGGRGBL_BLNC_NEW_BSNSS) is calculated as follows:

```
IF CNTRY_OA in {“AT”, “EE”, “FR”, “GR”, “IE”, “LT”, “LU”, “MT”, “NL”, “PT”, “SI”, “SK”} THEN
IMIR_AGGRGBL_BLNC_NEW_BSNSS = PR_RT_DBTR_SHR *
IMIR_INSTRMNT_BLNC_NEW_BSNSS;

ELSE IMIR_AGGRGBL_BLNC_NEW_BSNSS = MN_DBTR_SHR *
IMIR_INSTRMNT_BLNC_NEW_BSNSS;
```