

SPRING WORKSHOP SERIES

FRANCE - 6 APRIL 2022



ON TODAY'S CALL



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AGENDA

WELCOME AND INTRODUCTION

Dr Christian Thun, European DataWarehouse

THE USE OF ESMA DATA FOR THE VALUATION OF COLLATERAL

Olivier Clementin, CFA, Banque de France

THE IMPORTANCE OF DATA QUALITY IN MOODY'S CREDIT ANALYSIS

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PROPOSAL FOR THE RECAST OF THE ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE (EPBD) AND ENERGY PERFORMANCE CERTIFICATES (EPC)

Thibault Roy, European Commission

LATEST DEVELOPMENTS ON STS VERIFICATION

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UPDATE ON THE ESMA DATA QUALITY RULES AND NEW EDITOR FEATURES

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RECENT RESEARCH ACTIVITIES

Ludovic Thebault, PhD, European DataWarehouse



WELCOME AND INTRODUCTION DR CHRISTIAN THUN, EUROPEAN DATAWAREHOUSE



THE USE OF ESMA DATA FOR THE VALUATION OF COLLATERAL

OLIVIER CLEMENTIN, CFA, BANQUE DE FRANCE



UTILISATION DES DONNÉES ESMA POUR LA VALORISATION DU COLLATÉRAL

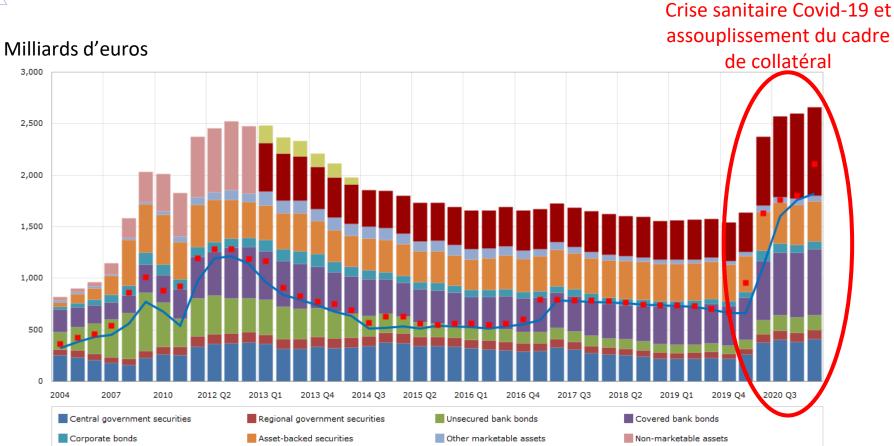


VALORISATION DES ACTIFS NÉGOCIABLES : DES GRANDS PRINCIPES ÉLABORÉS PAR L'EUROSYSTÈME

- Valorisation de tous les actifs éligibles tous les jours
 - ⇒ Une seule politique monétaire et une seule liste (d'actifs éligibles) ; un dispositif unifié de contrôle du risque
- Prix unique au sein de l'Eurosystème "Final Eurosytem Price" (FEP) pour toutes les Banques centrales nationales
 - ⇒ Egalité des chances concernant l'accès à la monnaie centrale et à la politique des garanties : une seule décote/ prix pour un actif donné
- Approche d'amélioration continue des méthodologies
 - ⇒ Capitaliser sur l'expertise locale et développer des synergies dans les Banques centrales (exemples récents: un travail sur la modélisation des prépaiements et une méthode de prise en compte des prix de marché pour les ABS)



UTILISATION DU COLLATÉRAL PAR TYPE D'ACTIFS ET ENCOURS DE CRÉDIT



Average outstanding credit

Fixed term and cash deposits

Source: Site internet BCE

Credit Claims

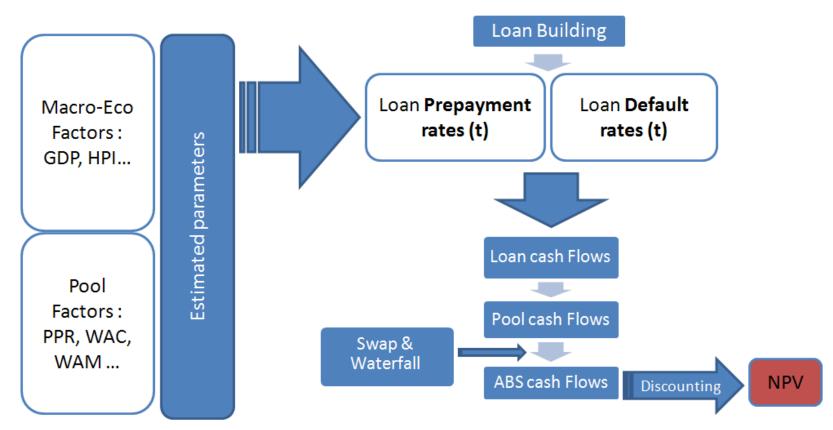
Les ABS sont un élément majeur du collatéral déposé

Peak outstanding credit



ASSET-BACKED SECURITIES (ABS) TITRES ADOSSÉS À DES ACTIFS

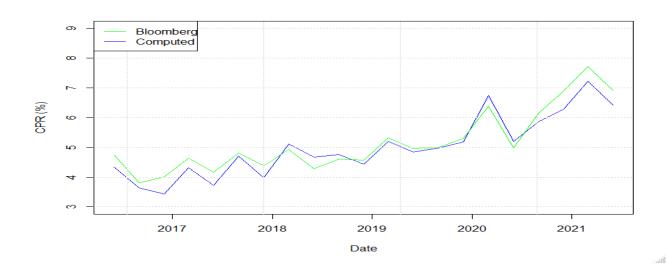
CEPH récupère les données de prêt d'EDW et les agrège pour la valorisation théorique





MODELISATION DES REMBOURSEMENTS ANTICIPES

- EDW fournit des données de remboursement anticipé qui permettent de préciser les données Bloomberg incomplètes.
 - par exemple, le 22/9/2021, parmi les 281 pools RMBS éligibles, seuls 196 ont un CPR sur Bloomberg, alors que les données Edwin permettent de calculer les CPR sur 279 pools
- L'analyse des differences entre les deux sources de données, quand elles sont disponibles, permettent de valider le niveau des CPR.
 - 91% des pools diffèrent de moins de 2%, 71% de moins de 1%



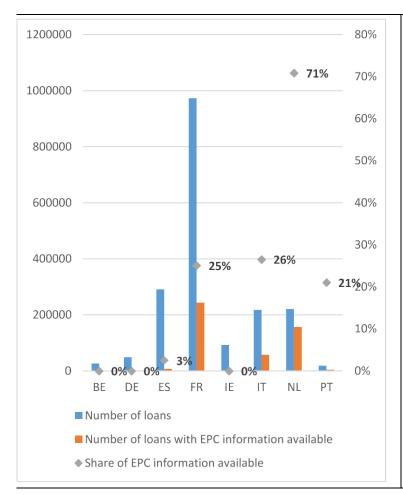


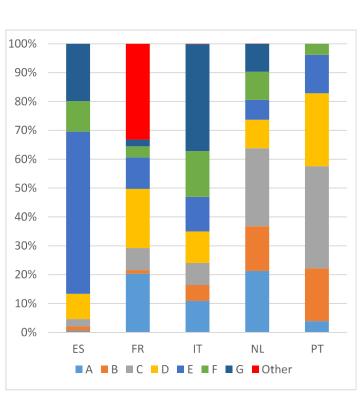
PRISE EN COMPTE DU RISQUE CLIMATIQUE

- Pour se protéger du risque climatique (tant physique que de transition), l'Eurosystème étudie le profil d'émission des actifs financiers qu'il reçoit en collatéral
 - ⇒ Les obligations d'entreprise peuvent être classées selon le profil de leur émetteur mais pour les ABS on doit étudier chaque prêt
- Le marché prend-il en compte les émissions de gaz à effet de serre dans la valorisation des ABS ?
 - ⇒ Par des études statistiques, la Banque de France surveille de près la manière dont le marché prend en compte le risque climatique dans la valorisation des actifs
- Les données ESMA contiennent un champ EPC avec une note de A à G ainsi qu'une note "Other"
 - ⇒ Aujourd'hui seuls les RMBS (prêts immobiliers) et les Prêts automobiles contiennent cette information mais elle est souvent incomplete
 - ⇒ Les données disponibles sont très hétérogènes, par exemple :
 - aucune donnée EPC disponible en Allemagne pour les RMBS car l'échelle utilisée est différente (echelle numérique et non A-G)
 - ➢ le recours à la rubrique "Other" est très variable selon les pays



DISPONIBILITE DES DONNEES EPC POUR LES RMBS

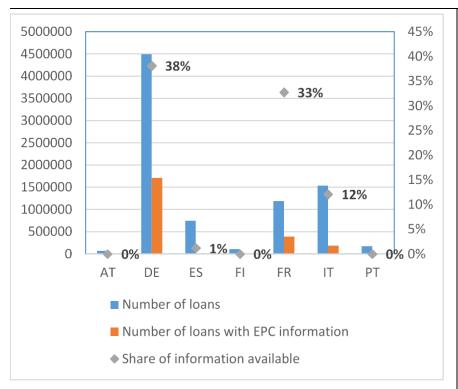


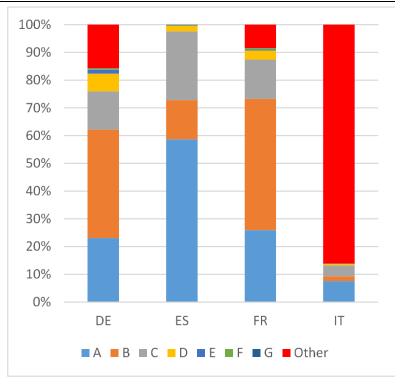






DISPONIBILITE DES DONNEES EPC POUR LES ABS AUTO









THE IMPORTANCE OF DATA QUALITY IN MOODY'S CREDIT ANALYSIS

ANNE-SOPHIE SPIRITO, MOODY'S INVESTORS SERVICE

APRIL 2022 13



The importance of data quality in Moody's credit analysis

Agenda

- 1. Data quality is key for credit analysis
- ESMA templates will raise data quality, but additional information is needed for credit analysis
- 3. Examples of information missing from ESMA's framework

Data quality is key in structured finance transactions credit analysis

The evaluation of the characteristics of the underlying assets is a key element of our rating analysis

Hence our rating analysis relies, in part, on the quality of the data provided



Data should provide an accurate representation of the asset characteristics

We rate transactions only if we have sufficient information from reliable sources

- » Data quality concerns may limit the rating assigned
- Data quality concerns may result in an assessment that, for a given rating level, a higher credit enhancement is needed than would otherwise be the case



Data quality is important through the life of the transactions and essential for our surveillance process

Accurate and complete information is needed at origination and during the life of the transactions

- » Data quality concerns can lead to surveillance rating committees
- Consequences could be an increase in the credit enhancement needed for a particular rating, a rating downgrade or a rating withdrawal

ESMA templates will raise data quality but additional information is needed for credit analysis

Standardised disclosures ease credit risk analysis and benchmarking

Ongoing access to data beyond the ESMA templates is needed

Securitisation repositories support data consistency and availability

ency and

ESMA reporting requirements introduce consistent disclosures on collateral, performance, counterparties, triggers and bonds information

- » Increased transparency and comparability of data
 - All fields are mandatory
 - Consistent format
 - But certain aggregated data lack

It is crucial that servicers continue to provide missing information on a voluntary basis, to ease credit analysis

- » Missing loan by loan information:
 - Needed at closing and during the life of the transaction for revolving pools
- » Missing investor report information:
 - Key aggregated and cumulative asset information is needed to access consistent asset level performance indicators

Securitisation repositories gather, maintain and make available transaction reports. This is increasing data quality.

» Data repositories have the right to reject a report if too much information is missing

Loan by loan fields missing from ESMA templates

Examples of RMBS loan-by-loan data outside of ESMA's framework

| Additional loan-by-loan data | Details |
|---|---|
| Additional information on property postcode | For non-EU deals that do not use NUTS3 code |
| Additional information on repayment method | To also identify interest only loans associated with savings deposit, investment portfolio or life insurance policy |
| Prior repossessions | Indicator of prior repossessions, Yes/No, if available |
| Additional information if an automated valuation model (AVM) is used as a method for property valuation | Information about the AVM provider and its stated confidence interval |
| Additional information on borrower's bad credit history | For example, regarding county court judgements or previous mortgage arrears, if applicable |

Nomenclature of Territorial Units for Statistics (NUTS) is a hierarchical classification of administrative areas. Source: Moody's Investors Service

Examples of investor reports data missing from ESMA templates

| Additional investor report data | Details |
|---|---|
| Aggregate principal outstanding balance | Current aggregate pool balance at the end of the reporting period; to be stated whether defaulted loans have been included or not |
| Cumulative additions | Since closing, cumulative amount of receivables added to the portfolio (for nonrevolving transactions, for example in case of tap issuance) |
| Cumulative and periodic replenishments | Cumulative (since closing) and periodic amount of receivables added to the portfolio during revolving period (for revolving transactions) |
| Cumulative substitutions | Since closing, cumulative amount of substituted loans |
| Cumulative and periodic prepayments | Cumulative (since closing) and periodic unscheduled principal payments received |
| 90+ days delinquent loan amount | 90+ days delinquent loan balance, excluding defaulted loans as relevant |
| Cumulative and periodic losses | Cumulative (since closing) and periodic loss amount |
| Cumulative recoveries | Since closing, cumulative amounts recovered from property sale and other sources |
| Gross cumulative and periodic defaults | Cumulative (since closing) and periodic defaulted loan amounts |
| Cumulative and periodic properties sold (loan amount) | Cumulative (since closing) and periodic loan amount relating to properties sold |
| Receiver of rent outstanding amount | t Mainly for UK buy-to-let RMBS |
| Cumulative and outstanding amount of repossessions | Mainly for UK and Irish RMBS |
| | |

Source: Moody's Investors Service

Additional information for auto ABS transactions

Examples of auto ABS data outside of ESMA's framework

| Additional loan-by-loan data | Details |
|---------------------------------|---|
| Engine type | Engine type (e.g. Diesel, Electric, Hybrid PHEV, Hybrid MHEV, Hybrid Other, Petrol) |
| Emission engine standard | Euro emission engine standard |
| Year of registration | Year of the first registration |
| Balloon final amount | Balloon final amount for German balloon contracts with 3-way financing option |
| Additional investor report data | Details |
| Cumulative PCP handbacks | Cumulative amount of Personal Contract Purchase (PCP) handbacks since closing; mainly UK auto ABS |
| Cumulative PCP recovery | Cumulative amount of PCP recovery since closing; mainly UK auto ABS |
| VT amount in the period | Periodic amount of voluntary terminations (VT); mainly UK auto ABS |
| Cumulative VT amount | Cumulative amount of VT since closing; mainly UK auto ABS |
| VT periodic recoveries amount | Mainly UK auto ABS |
| Cumulative VT recoveries amount | Mainly UK auto ABS |

Source: Moody's Investors Service



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PROPOSAL FOR THE RECAST OF THE ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE (EPBD) AND ENERGY PERFORMANCE CERTIFICATES (EPC)

THIBAULT ROY, EUROPEAN COMMISSION



Delivering on the European Green Deal and Fit for 55

Proposal for the recast of the

Energy Performance of Buildings Directive (EPBD) and energy performance certificates (EPCs)

Thibault Roy
European Commission – Directorate-General for
Energy

Outline

- Background and objectives
- Some key provisions from the EPBD proposal
- Financing
- Focus on EPCs / data



Background and objectives

- Green Deal
- Renovation Wave
- Fit for 55/Delivering the Green Deal package. Links with other initiatives, including EED, ETS, RED2
- EPBD proposal adopted on 15 December 2021 -COM(2021) 802 final
- Discussions in Council and Parliament



Some key provisions from the EPBD proposal

Minimum Energy Performance Standards (MEPS)

- Union-wide MEPS to phase out worst-performing buildings
 - Public and other non-residential buildings: at least EPC class F by 2027 &
 EPC class E by 2030
 - Residential buildings: at least EPC class F by 2030 & EPC class E by 2033

Zero emission buildings (ZEBs)

- Benchmarks per climatic zones, to be applied by 2030 (2027 for public buildings)
- On-site renewables, efficient district heating and energy communities



Financing

- Some key provisions from EPBD, FF55 and beyond
 - National building renovation plans
 - Link with deep renovation, taxonomy
 - Innovative financing mechanisms
 - Prudential initiatives
 - Reporting initiatives



Focus on EPCs / data

Energy Performance Certificates (EPCs)

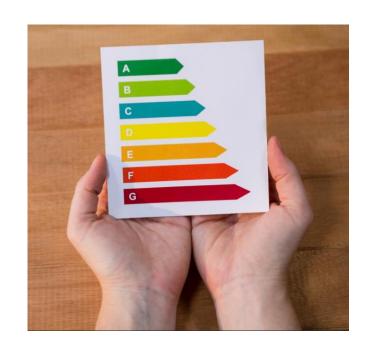
- By 2025, harmonised scale of energy performance classes (from A to G, with A = ZEB and G = 15% worst buildings)
- Common template with energy and GHG indicators
- Trigger points for compulsory EPCs
- Validity of energy performance certificates of the lower D to G classes reduced to five years

Databases

National and EU level

Access to data

- Differentiating btw. personal and non-personal data
- Personal data: who should have access to what when? To be continued







LATEST DEVELOPMENTS ON STS VERIFICATION

ROB KONING, PRIME COLLATERALISED SECURITIES (PCS)

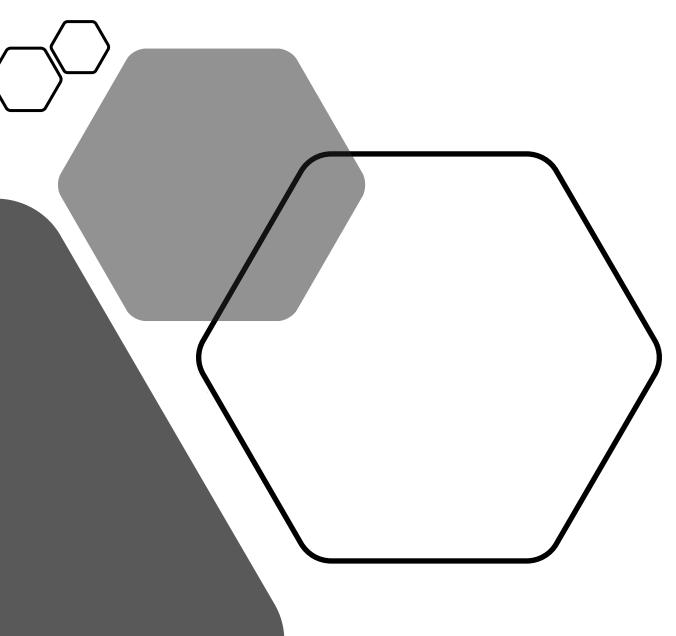
Setting the Standard for Securitisation

March 2022



Agenda

- The (STS) Securitisation Regulation:
- History
- Quick fix (CMRP)
- Review
- Sustainable securitisation



(STS) Regulation

History

- EU 2017/2402 General framework for securitisation and creating a specific framework for simple, transparent and standardised securitisation ("STS Regulation")
- Most articles apply irrespective of the STS status (Art 5 Due diligence, Art 6 Risk Retention, Art 7 Disclosure, Chapter 3 Repositories)
- Chapter 4: STS (Art 20 Simplicity; Art 21 Standardisation; Art 22 Transparency; Art 23-26 STS for ABCP)
- Art 28: Third party verification
- Art 45: Review (by 1-1-2022)
- Art 46: Framework for (balance sheet) synthetic STS
- EU 2017/2401 Amending the CRR

(STS) Regulation

Quick Fix (CMRP)

- EU 2021/557 Amending EU 2017/2402 to help the recovery from the Covid-19 crisis
- NPL securitisation (not eligible for STS)
- STS for (on balance) synthetic securitisation
- Art 22.6: Sustainability indicators in relation to adverse impacts
- Art 45: Developing a specific sustainable securitisation framework
- EU 2021/558 Amending the CRR
- Art 248.4: Synthetic Excess Spread



(STS) Regulation

- 17-5-2021: ESAs Report on the implementation and functioning of the Securitisation Regulation
- Private securitisations (definition, repositories)
- Jurisdictional scope
- Better coordination of the supervision
- 23-7-2021: EC Consultation on the functioning of the EU securitisation framework
- 25-10-2021: Call for Advice of the EC to the ESAs for the purpose of the securitisation prudential framework: answer due September 2022



(STS) Regulation

Sustainable Securitisation

- 2-3-2022: EBA Report Developing a Framework for Sustainable Securitisation
- For sustainable securitisation: use the EU Green Bond Standard (EU GBS)
- Asset backed bonds should also be based on Use of Proceeds
- Disclosure on both the collateral and the use of proceeds
- No framework for social or green synthetic
- Sustainable Finance Disclosure Regulation (SFDR)
- Securitisation not defined as financial product
- RTS on adverse impacts still pending





Thank you for your attention

follow us on in



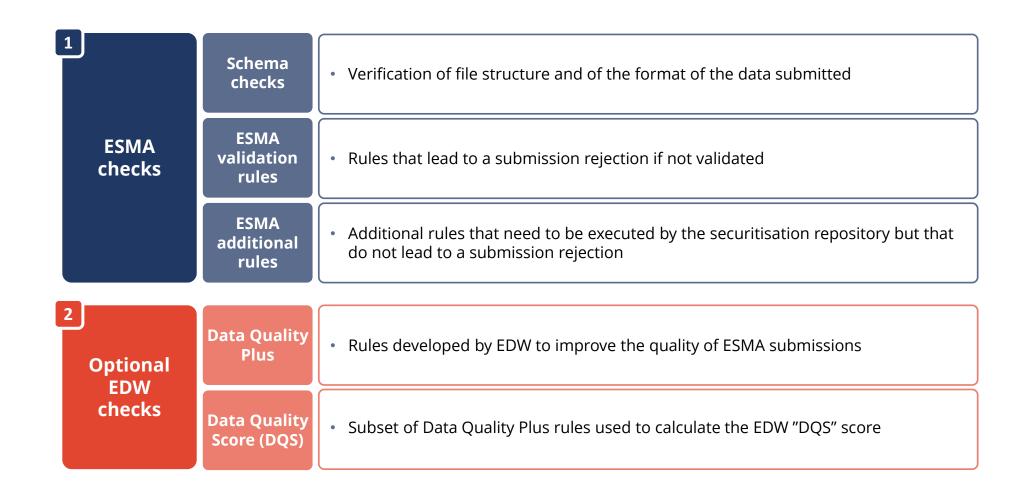


UPDATE ON THE ESMA DATA QUALITY RULES AND NEW EDITOR FEATURES NICOLAS DESCHAMPS, EUROPEAN DATAWAREHOUSE



UPDATE ON THE ESMA DATA QUALITY RULES

OVERVIEW OF EDW'S DATA QUALITY IMPROVEMENT PROCESSES



IDENTIFYING THE ADDITIONAL CHECKS DEVELOPED BY EDW

EDITOR's 'Download feedback' function allows issuers to view the failing checkIDs for the submitted ESMA templates

| RuleId | RuleDesc | TemplateType | Status | Records |
|-----------------|---|--------------|--------|---------|
| RREL63/UD/A/01 | Prepayment Date (RREL63) later than Data Cut-Off Date (RREL6). | RMB | RJCT | 5 |
| RREL4/IS/A/01 | [WARN] Original Obligor Identifier (RREL4) reports a different value than in the previous submission. | RMB | WARN | 6 |
| RREL37/IS/A/01 | [WARN] Scheduled Principal Payment Frequency (RREL37) reports a different value than in the previous submission. | RMB | WARN | 1 |
| RREL48/CZ/A/01 | [DQS] Interest Rate Cap (RREL48) equal to zero; for active loans. | RMB | WARN | 5467 |
| RREL49/IIC/A/01 | [Data Quality Plus] Interest Rate Floor (RREL49) higher than Current Interest Rate (RREL43). | RMB | WARN | 3320 |
| RREL68/UHV/A/01 | [Data Quality Plus] Number Of Days In Arrears (RREL68) greater than 180 when Account Status is not 'Defaulted' or 'Other' (RREL69 not in ('DFLT';'NDFT';'DTCR';'DADB';'OTHR')). | RMB | WARN | 12 |
| RREL69/OTH/A/01 | [Data Quality Plus] Account Status equal to 'Other' (RREL69 = 'OTHR'). | RMB | WARN | 22 |
| RREL73/ND5/A/01 | [DQS] Allocated Losses (RREL73) reports ND5 when Sale Price (RREC21) or Date Of Sale (RREC20) are populated; for active loans. | RMB | WARN | 6150 |
| RREL8/IIC/A/01 | [Data Quality Plus] Date Of Repurchase (RREL8) is populated when Account Status is not 'Repurchased' or 'OTHR' (RREL69 not in ('REBR'; 'REDF'; 'RERE'; 'REOT'; 'OTHR')). | RMB | WARN | 7421 |
| RREL8/UD/A/02 | [DQS] Date Of Repurchase (RREL8) earlier than 1980-01. | RMB | WARN | 7443 |

RJCT Status

ESMA validation rules

WARN Status

- **[WARN]**: ESMA additional rules
- [DATA QUALITY PLUS]: Rules developed by EDW to improve the quality of ESMA submissions
- [DQS]: Subset of Data Quality Plus rules used to calculate the EDW "DQS" score

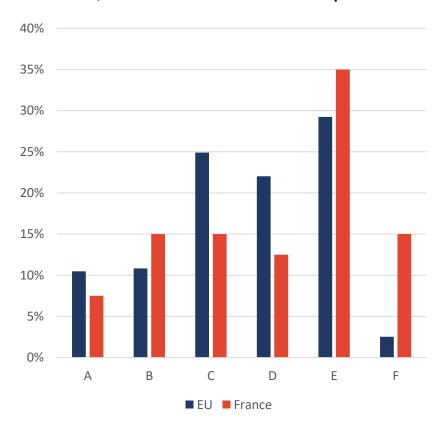
"DQS" SCORE DISTRIBUTION FOR ESMA TEMPLATES

Methodology

- Automated score based on DQS failed rules subset of all EDW Data Quality Plus rules
- Objective and common approach for all deals, jurisdictions, and asset classes
- Based on the following formula: $\frac{\sum (F_f)}{n \times MF}$ where:
 - F_f represents a field that failed a rule;
 - *n* is the total number of loans for each mandatory field;
 - *MF* represents the number of unique fields per each asset class with at least one DQS check implemented.

| DQS1 Score | Min. Fail Ratio | Max. Fail Ratio | Ratio |
|---------------|-----------------|--------------------|--------------------------|
| A | 0.0000% | 0.0001% | Up until 1 in a million |
| В | 0.0001% | 0.005% | Up until 5 in 100k |
| С | 0.005% | 0.1% | Up until 1 in a thousand |
| D | 0.1% | 1% | Up until 1 in a hundred |
| Е | 1% | 4% | Up until 4 in a hundred |
| F | 4% | 100% | > 4 in a hundred |

DQS score distribution for ESMA templates



Note: data based on unique ESMA template submissions as of 10 March 2022 Source: EDW calculations

MAIN DRIVERS FOR "DQS" SCORE

| | Field |
|----|---------------------------|
| 1 | Credit Impaired Obligor |
| 2 | Purchase Price |
| 3 | Current Principal Balance |
| 4 | Origination Channel |
| 5 | Date Of Restructuring |
| 6 | Redemption Date |
| 7 | Maturity Date |
| 8 | Original Term |
| 9 | Number Of Days In Arrears |
| 10 | Original Term |

Note: based on data as of 10 March 2022

Source: EDW calculations



NEW EDITOR FEATURES

SELECTION OF THE REPORTING ENTITY DURING THE DEAL CREATION PROCESS

The Reporting Entity is now derived from the Securitisation Identifier

Create Deal

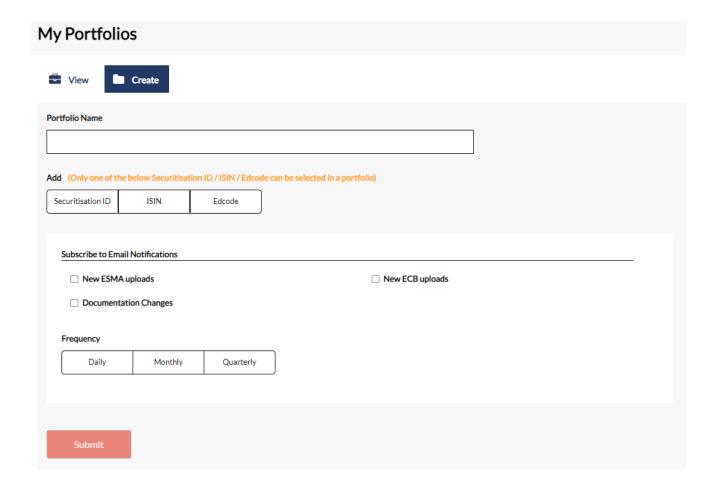
Ensure all details below are correct before confirming new deal.

| Data Owner | European DataWarehouse GmbH |
|-----------------------------|-------------------------------|
| Data Provider | European DataWarehouse GmbH |
| Reporting Entity LEI | 529900IUR3CZBV87LI37 2 |
| Reporting Entity Name | European DataWarehouse GmbH 2 |
| Securitization Identifier 1 | 529900IUR3CZBV87LI37N202245 |
| | |
| ➤ Edit Deal | Confirm |

ADD AND VISUALISE PREFERRED DEALS

Stay up to date with recent submissions and new document uploads using the MyPortfolio tool in EDITOR

- Via the EDITOR "Home" tab, create a personal portfolio and add specific deals based on the Securitisation ID, ISIN, or EDCode.
- Select the type of notifications you want to receive:
 - ✓ New ESMA uploads
 - ✓ New ECB uploads
 - ✓ Documentation Changes
- Select the frequency of the notifications: Daily, Monthly, or Quarterly.



COMPLIANCE WITH ARTICLE 5 OF THE SECURITISATION REGULATION

Get key transaction information in a standardised format with EDW Monitoring Report Solution

- Supports institutional investors in carrying out their due diligence assessment to comply with ongoing monitoring requirements under Article 5 of the Securitisation Regulation.
- Contains a transaction summary with the most important information for a selected deal, such as principal balance, average LTV ratio, risk retention method, and ISIN-level data.
- Allows in-depth insights on the pool of underlying assets, retrieved directly from EDW's database.
- Currently available for RMBS and Auto asset classes - others soon to come.

- 3. Prior to holding a securitisation position, an institutional investor, other than the originator, sponsor or original lender, shall carry out a due-diligence assessment which enables it to assess the risks involved. That assessment shall consider at least all of the following:
- (a) the risk characteristics of the individual securitisation position and of the underlying exposures;
- (b) all the structural features of the securitisation that can materially impact the performance of the securitisation position, including the contractual priorities of payment and priority of payment-related triggers, credit enhancements, liquidity enhancements, market value triggers, and transaction-specific definitions of default;

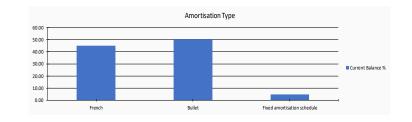
49

MONITORING REPORT SOLUTION FOR THE DUE DILIGENCE OF INVESTORS

Comprehensive overview. Easy to read. Quick to download.

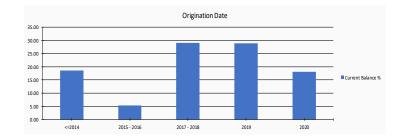
Amortisation Type

| | Current Balance Balance % | Number of | |
|-----------------------------|---------------------------|-----------|-------|
| | | Balance % | Loans |
| French | 200,963,505.00 | 44.87 | 2,612 |
| Bullet | 225,812,671.00 | 50.42 | 2,541 |
| Fixed amortisation schedule | 21,131,294.00 | 4.72 | 240 |



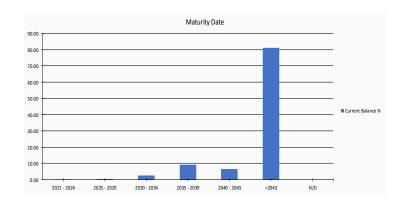
Origination Date

| | Current Balance | Current Balance % | Number of Loans |
|-------------|-----------------|----------------------|--------------------|
| <=2014 | 96,450,188.11 | 18.62 | 1,125 |
| 2015 - 2016 | 27,485,982.82 | 5.31 | 328 |
| 2017 - 2018 | 150,714,382.72 | 29.10 | 1,348 |
| 2019 | 149,883,468.21 | 28.94 | 1,341 |
| 2020 | 93,415,313.96 | 18.04 | 832 |



Maturity Date

| | Current Balance | Current Balance % | Number of Loans |
|-------------|-----------------|----------------------|--------------------|
| 2021 - 2024 | 64,727.22 | 0.01 | 8 |
| 2025 - 2029 | 2,274,397.25 | 0.45 | 59 |
| 2030 - 2034 | 13,146,238.84 | 2.58 | 194 |
| 2035 - 2039 | 46,352,073.62 | 9.11 | 538 |
| 2040 - 2043 | 33,746,284.18 | 6.63 | 366 |
| >2043 | 413,477,314.83 | 81.22 | 3,649 |
| N/D | 0 | 0 | 223 |
| | | | |

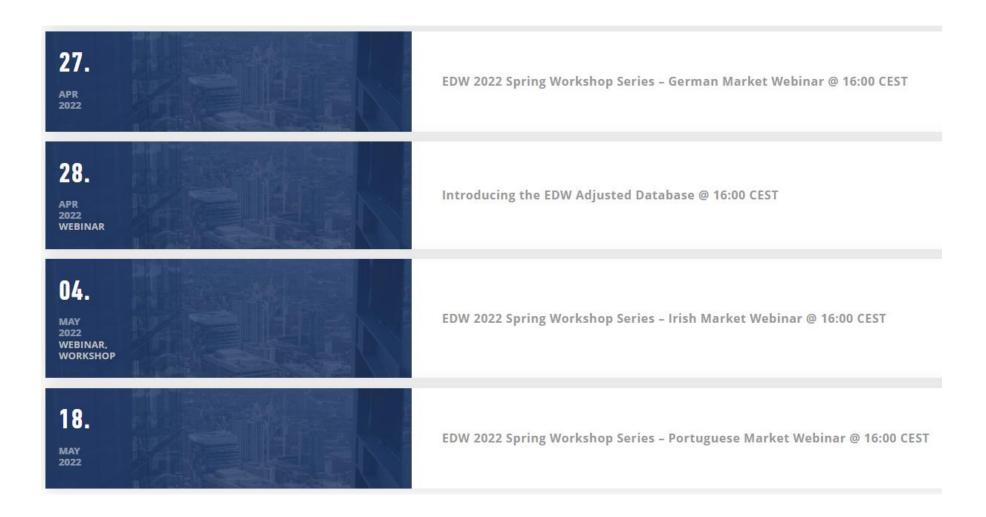




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