EUROPEAN
DATAWAREHOUSE

RESEARCH UPDATE

Q3 2025

SEPTEMBER 2025

WELCOMING REMARKS

ON TODAY'S CALL

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AGENDA

WELCOMING REMARKS
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

EDW RESEARCH PUBLICATIONS
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

EUROPEAN BENCHMARKING EXERCISE UPDATE
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

GAS UPDATE
USMAN JAMIL, EUROPEAN DATAWAREHOUSE

AUTO ABS: CAPTIVES VS NON CAPTIVES, LOANS VS LEASES
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

FAQ ON CDRS
MARINE MAITRE, EUROPEAN DATAWAREHOUSE

ALL IN ONE DATABASE STATUS
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

Q&A

UPCOMING EVENTS: H2 2025

Date	EDW Hosted Event
23 September	**Q3 Research Webinar**
22 October	Autumn Virtual Update Webinar
28 October	2025 Dutch Securitisation Event - Amsterdam
4 November	2025 Spanish Securitisation Event - Madrid
18 November	2025 Portuguese Securitisation Event - Lisbon
20 November	2025 German Securitisation Event - Frankfurt
20 November	2025 GAS Workshop - Frankfurt
25 November	2025 Italian Securitisation Event – Rome
16 December	Q4 Research Update
TBC	2025 French Securitisation Event – Paris

Date	Third-Party Conferences
25-26 September	Ca Foscari - Venice
29 September	SIBOS - Frankfurt
29 September	Deal Catalyst UK Mortgage Finance - London
7 October	The European CLO Summit - London
9-10 October	TSI Congress - Berlin
25-26 November	Australian Securitisation Conference - Sydney

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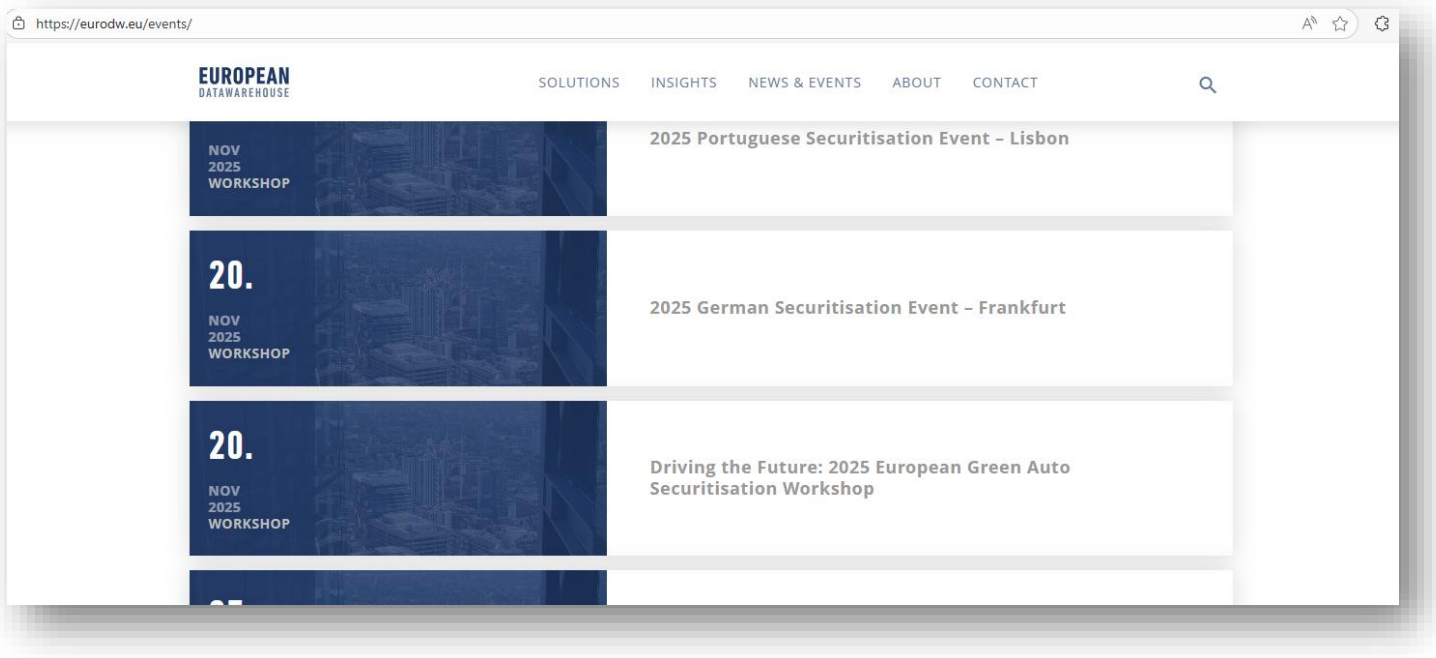
UPCOMING EVENTS: REGISTRATION LINKS



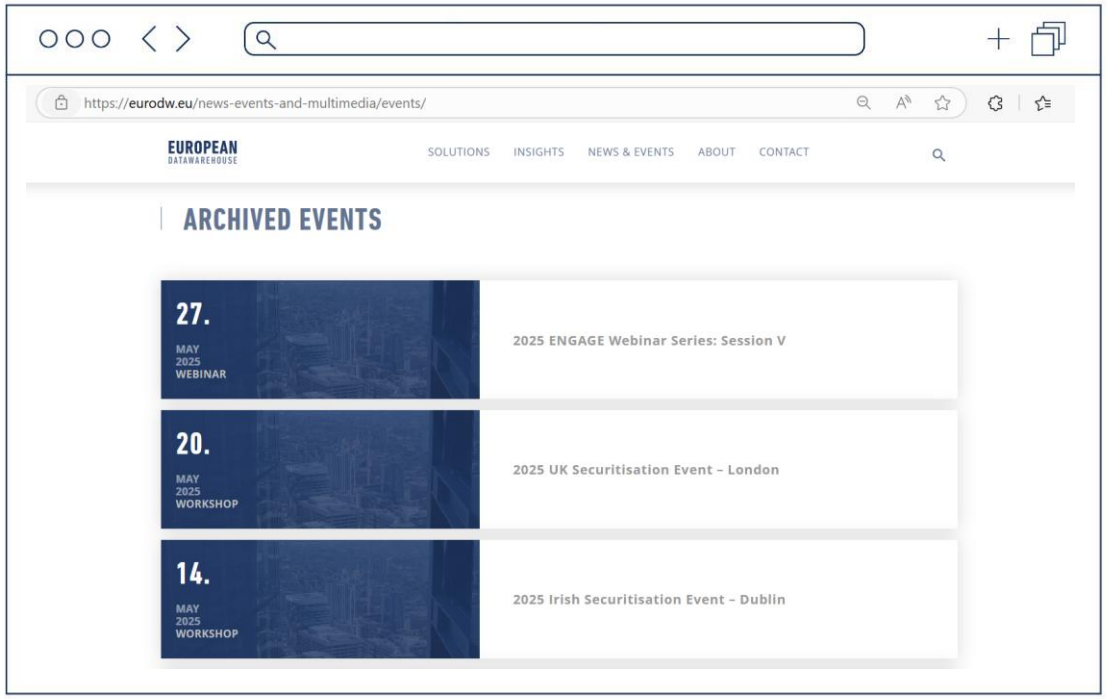
[EDW 2025 German Securitisation Event Frankfurt]

[Driving the Future : 2025 European Green Auto Securitisation Workshop]

EDW RESEARCH PUBLICATIONS

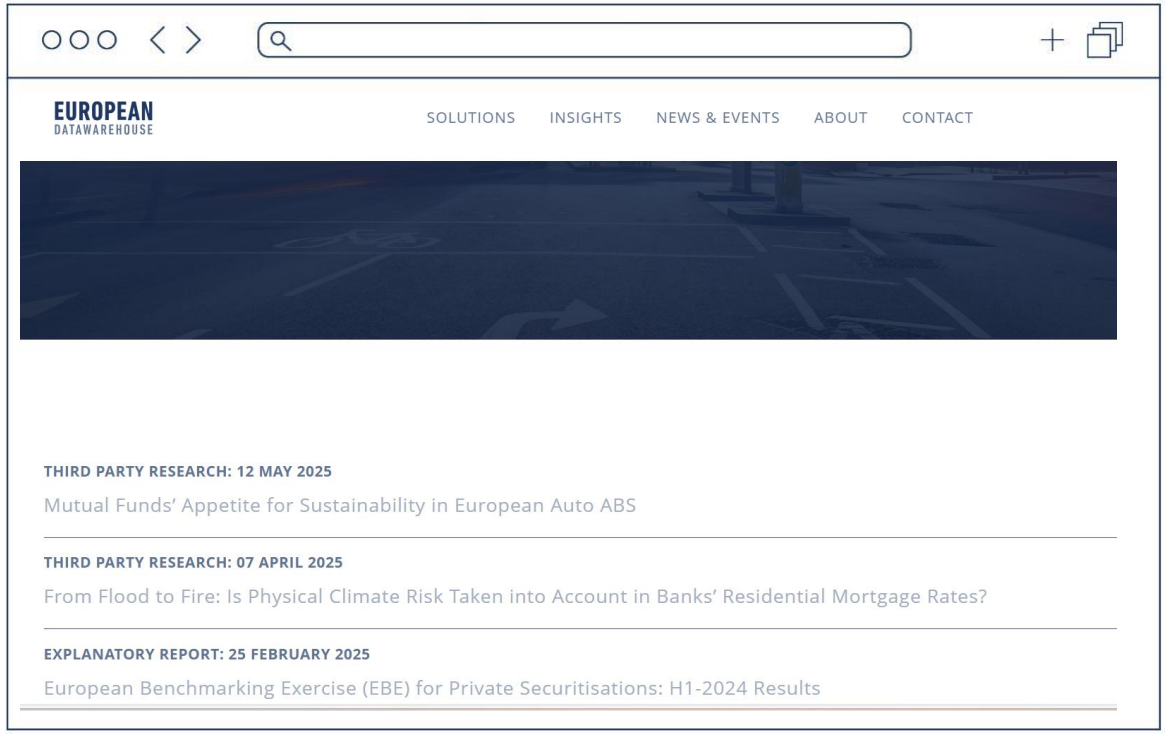
ARCHIVED EVENTS

RECORDS AND SLIDES OF PAST WEBINARS: HTTPS://EURODW.EU/NEWS-EVENTS-AND-MULTIMEDIA/EVENTS/



RESEARCH SECTION

THIRD PARTY PUBLICATIONS USING OUR DATA: HTTPS://EURODW.EU/KNOWLEDGE/RESEARCH/

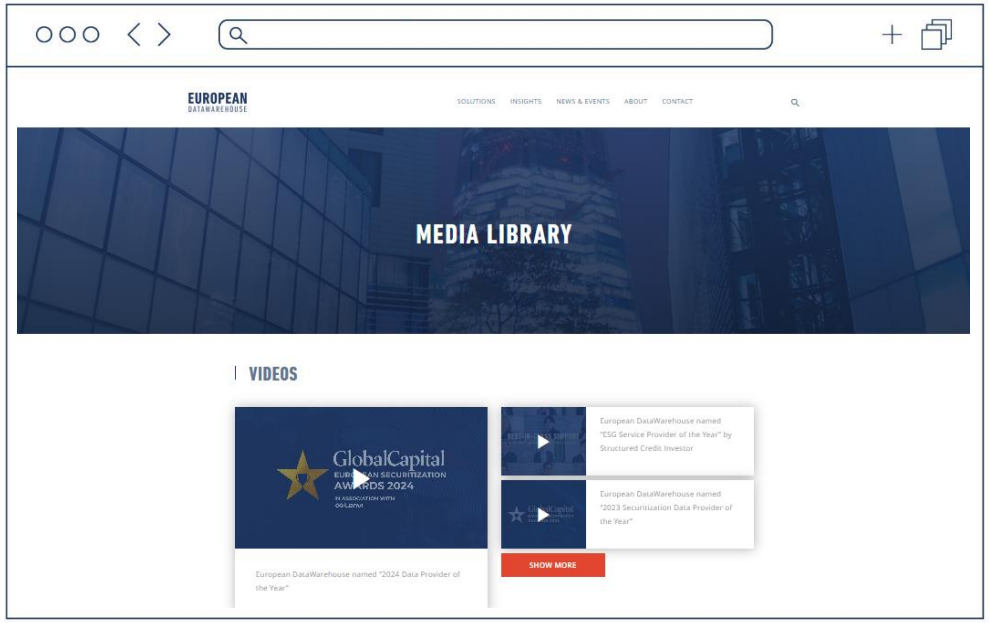


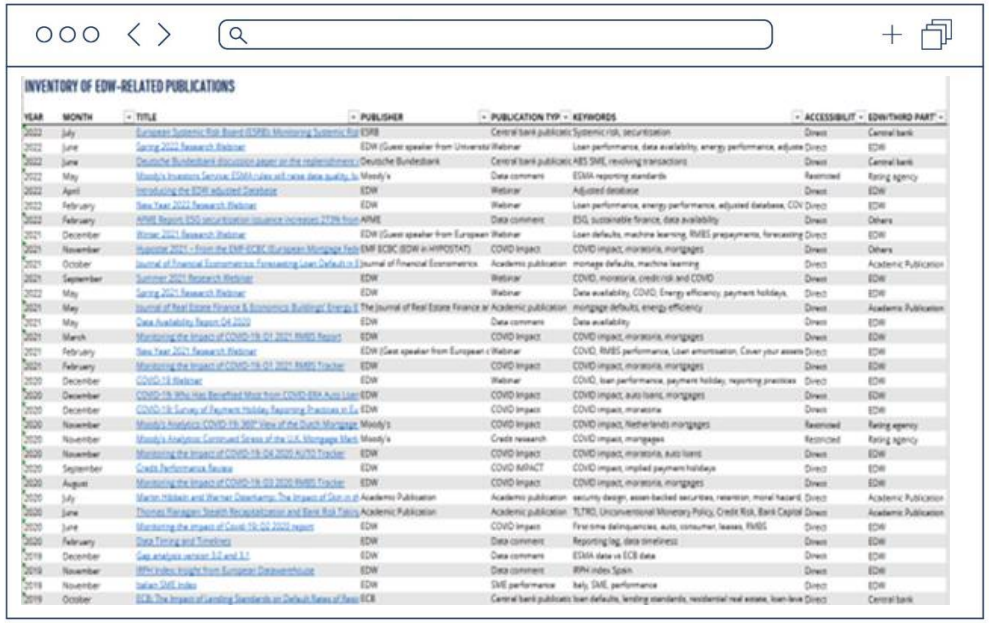
Latest publications

- A standardised Methodology to Calculate Vehicle Emissions with CO2 (GAS related publication)
- European Benchmarking Exercise (EBE)

LIST OF RESEARCH PUBLICATIONS

OUR OWN PUBLICATIONS PLUS THIRD-PARTY RESEARCH: MEDIA LIBRARY - EUROPEAN DATAWAREHOUSE (EURODW.EU)





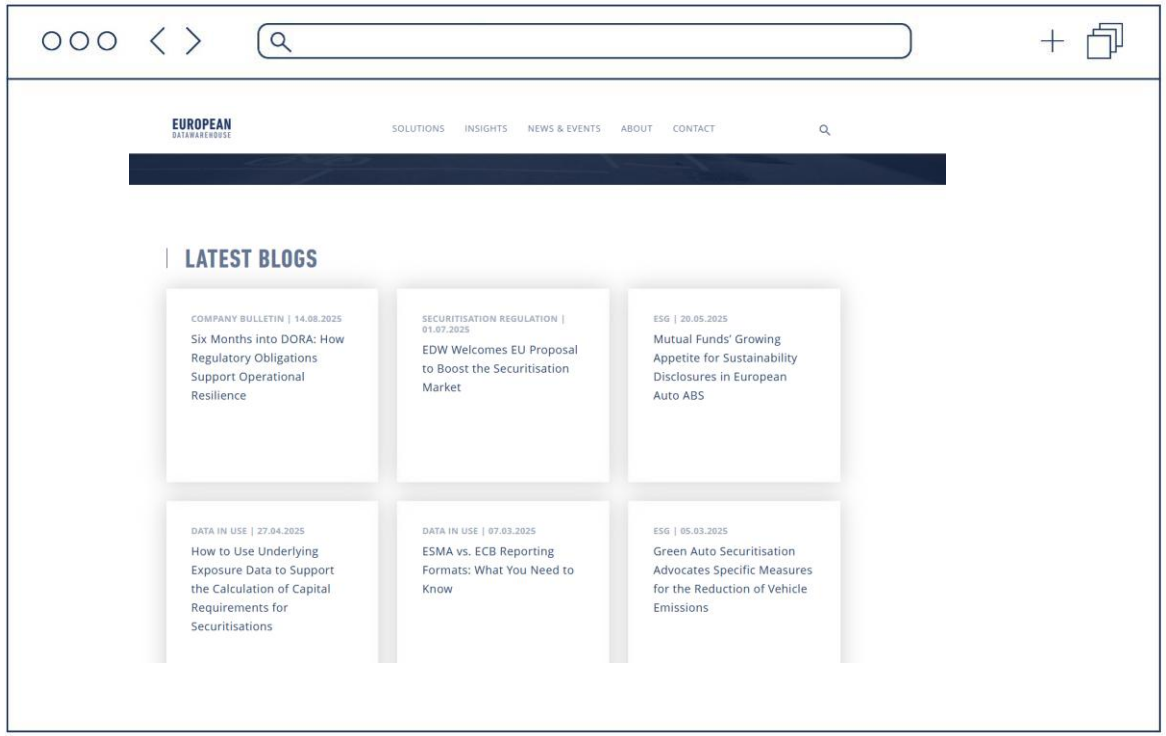
LIST OF RESEARCH PUBLICATIONS

INVENTORY OF EDW-RELATED PUBLICATIONS

YEAR	MONTH	TITLE	PUBLISHER	PUBLICATION T	KEYWORDS	ACCESSIBI
2023	April	Understanding EDW's Loan Identifier Reoccurrence Score	EDW	Special Report	Loan ID Reoccurrence, Borrower ID Consistency, Data Quality	Direct
2023	January	European Auto ABS: Have Delinquencies Hit Rock Bottom?	DBRS	Credit research	European auto asset-backed securities (ABS)	Direct
2023	January	Impact of Rising Rates on UK Mortgages	DBRS	Credit research	UK Mortgages	Direct
2022	October	Navigating the housing channel of monetary policy across euro area regions	European Central Bank (ECB)	Credit research	housing market, business cycles, regional inequality	Direct
2022	October	European Benchmarking Exercise (EBE) for Private Securitisations	AFME/ EDW/ TSI	EBE	Private securitisation market	Direct
2022	October	Swiss Finance Institute: Do Lenders Price the Brown Factor in Car Loans?	Swiss Finance Institute	Academic publication	loan level data, Diesel vehicles	Direct
2022	september	DBRS Morningstar Commentary on European Auto ABS: German Portfolios Transition to Alternatively Fuelled Vehicles	DBRS	Credit research	European Auto ABS	Restricted
2022	August	Matteo Benetton, Sergio Mayordomo, Daniel Paravisini: Credit Fire Sales: Captive Lending as Liquidity in Distress	Academic publication	Academic publication	Captive Finance, Fire Sales, Vertical Integration, Liquidity	Direct
2022	July	European Systemic Risk Board (ESRB): Monitoring Systemic Risks in the EU Securitisation Market	ESRB	Central bank publicatic	Systemic risk, securitisation	Direct
2022	June	Spring 2022 Research Webinar	EDW (Guest speaker from Universitat	Webinar	Loan performance, data availability, energy performance, adjuste	Direct
2022	June	Deutsche Bundesbank discussion paper on the replenishment of ABS backed by SME loans	Deutsche Bundesbank	Central bank publicatic	ABS SME, revolving transactions	Direct
2022	May	Moody's Investors Service: ESMA rules will raise data quality, but additional fields would aid credit analysis (originally published 7 May 2020)	Moody's	Data comment	ESMA reporting standards	Restricted
2022	April	Introducing the EDW adjusted Database	EDW	Webinar	Adjusted database	Direct
2022	February	New Year 2022 Research Webinar	EDW	Webinar	Loan performance, energy performance, adjusted database, CO	Direct
2022	February	AFME Report: ESG securitisation issuance increases 273% from 2020 to 2021	AFME	Data comment	ESG, sustainable finance, data availability	Direct
2021	December	Winter 2021 Research Webinar	EDW (Guest speaker from European	Webinar	Loan defaults, machine learning, RMBS prepayments, forecasting	Direct
2021	November	Hypostat 2021 - From the EMF-ECBC (European Mortgage Federation - European Covered Bond Council)	EMF ECBC (EDW in HYPOSTAT)	COVID Impact	COVID impact, moratoria, mortgages	Direct
2021	October	Journal of Financial Econometrics: Forecasting Loan Default in Europe with Machine Learning	Journal of Financial Econometrics	Academic publication	mortage defaults, machine learning	Direct
2021	September	Summer 2021 Research Webinar	EDW	Webinar	COVID, moratoria, credit risk and COVID	Direct
2022	May	Spring 2021 Research Webinar	EDW	Webinar	Data availability, COVID, Energy efficiency, payment holidays,	Direct
2021	May	Journal of Real Estate Finance & Economics: Buildings' Energy Efficiency & the Probability of Mortgage Default - The Dutch Case	The Journal of Real Estate Finance a	Academic publication	mortgage defaults, energy efficiency	Direct
2021	May	Data Availability Report Q4 2020	EDW	Data comment	Data availability	Direct
2021	March	Monitoring the Impact of COVID-19: Q1 2021 RMBS Report	EDW	COVID Impact	COVID impact, moratoria, mortgages	Direct
2021	February	New Year 2021 Research Webinar	EDW (Gest speaker from European c	Webinar	COVID, RMBS performance, Loan amortisation, Cover your assets	Direct
2021	February	Monitoring the Impact of COVID-19: Q1 2021 RMBS Tracker	EDW	COVID Impact	COVID impact, moratoria, mortgages	Direct
2020	December	COVID-19 Webinar	EDW	Webinar	COVID, loan performance, payment holiday, reporting practices	Direct
2020	December	COVID-19: Who Has Benefited Most from COVID-EBA Auto Loan Extensions?	EDW	COVID Impact	COVID impact, auto loans, mortgages	Direct
2020	December	COVID-19: Survey of Payment Holiday Reporting Practices in Europe	EDW	COVID Impact	COVID impact, moratoria	Direct
2020	November	Moody's Analytics: COVID-19: 360° View of the Dutch Mortgage Market	Moody's	COVID Impact	COVID impact, Netherlands mortgages	Restricted
2020	November	Moody's Analytics: Continued Stress of the U.K. Mortgage Market	Moody's	Credit research	COVID impact, mortgages	Restricted
2020	November	Monitoring the Impact of COVID-19: Q4 2020 AUTO Tracker	EDW	COVID Impact	COVID impact, moratoria, auto loans	Direct
2020	September	Household Debt and Economic Growth in Europe	SSFIN	Academic publication	Household Debt, Great Recession, Economic Growth	Direct
2020	September	Credit Performance Review	EDW	COVID IMPACT	COVID impact, implied payment holidays	Direct
2020	August	Monitoring the Impact of COVID-19: Q3 2020 RMBS Tracker	EDW	COVID Impact	COVID impact, moratoria, mortgages	Direct
2020	July	Martin Hibbeln and Werner Osterkamp: The Impact of Skin in the Game on Bank Behavior in the Securitization Market	Academic Publication	Academic publication	security design, asset-backed securities, retention, moral hazard,	Direct
2020	June	Thomas Flanagan: Stealth Recapitalization and Bank Risk Taking: Evidence from TLTROs	Academic Publication	Academic publication	TLTRO, Unconventional Monetary Policy, Credit Risk, Bank Capita	Direct
2020	June	Monitoring the impact of Covid-19: Q2 2020 report	EDW	COVID Impact	First time delinquencies, auto, consumer, leases, RMBS	Direct
2020	February	Data Timing and Timeliness	EDW	Data comment	Reporting lag, data timeliness	Direct
2019	December	Gap analysis version 3.0 and 3.1	EDW	Data comment	ESMA data vs ECB data	Direct
2019	November	IRPH Index: Insight from European Datawarehouse	EDW	Data comment	IRPH index Spain	Direct
2019	November	Italian SME Index	EDW	SME performance	Italy, SME, performance	Direct
2019	October	ECB: The Impact of Lending Standards on Default Rates of Residential Real Estate Loans	ECB	Central bank publicatic	loan defaults, lending standards, residential real estate, loan-leve	Direct
2019	October	Bank of Spain: Beyond the LTV Ratio: New Macroprudential Lessons from Spain	Bank of Spain	Central bank publicatic	housing market, lending standards, defaults, macroprudential poli	Direct
2019	October	Framing Bias in Mortgage Refinancing Decisions and Monetary Policy Pass-Through	Academic Publication	Academic publication	reference points, mortgage refinancing, household finance, intere	Direct
2019	September	Data Availability Report (2019 - Q1 (Excel)	EDW	Data comment	Data availability, ABS, SME, RMBS, Auto, Leases, Consumer	Direct

BLOG

SHORT ARTICLES ON CURRENT TOPICS: HTTPS://EURODW.EU/KNOWLEDGE/MAGAZINE//



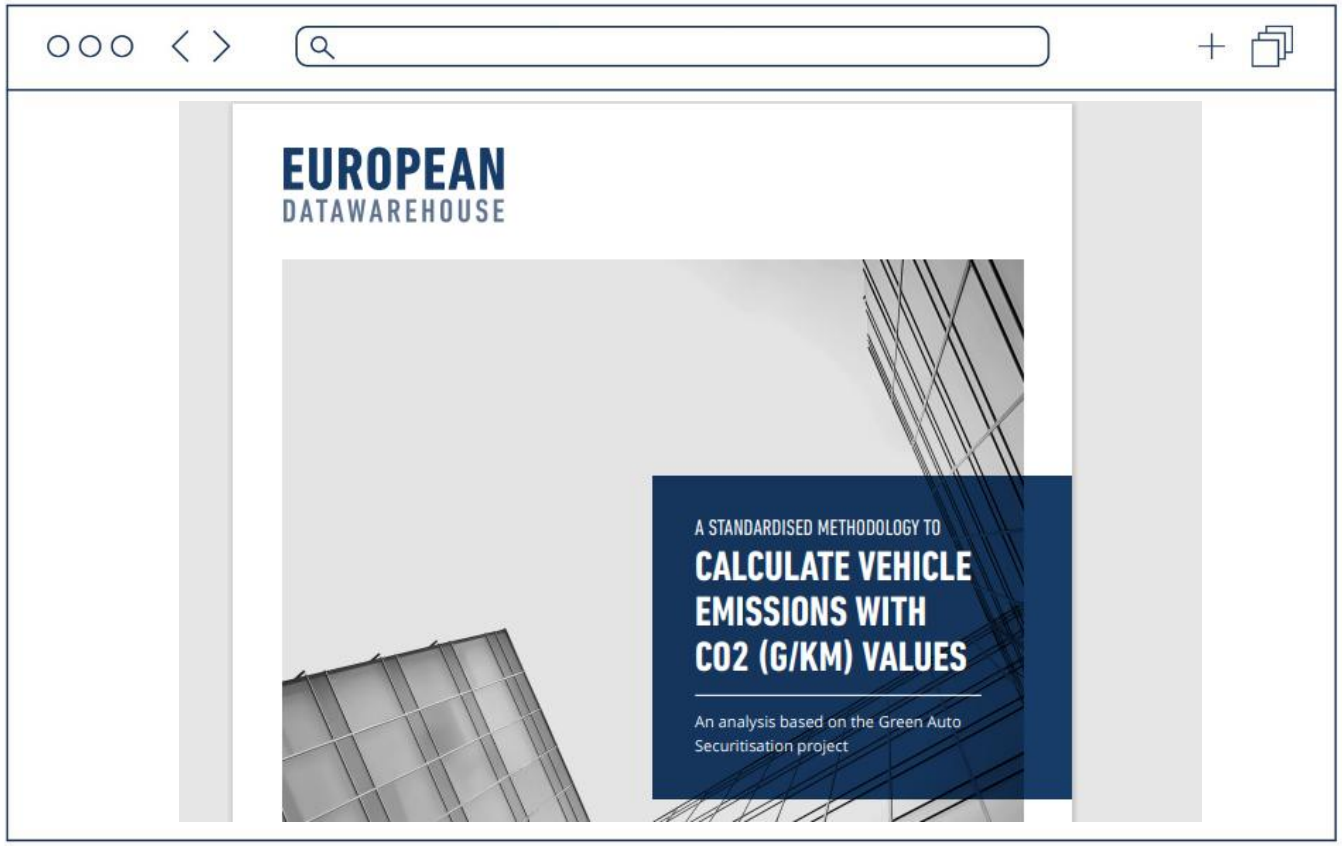
Latest publications

- Six Months into DORA: How Regulatory Obligations Support Operational Resilience
- EDW Welcomes EU Proposal to Boost the Securitisation Market

RECENT PUBLICATIONS

GAS RELATED PUBLICATION

A STANDARDISED METHODOLOGY TO CALCULATE VEHICLE EMISSIONS WITH CO2 VALUES – EUROPEAN DATAWAREHOUSE



EUROPEAN BENCHMARKING EXERCISE

EBE POWERPOINT-PRÄSENTATION

EUROPEAN BENCHMARKING EXERCISE UPDATE

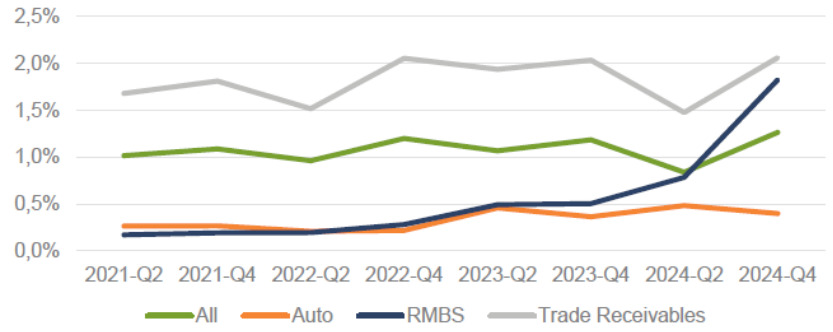
RECENT PUBLICATIONS: H2-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS COAUTHORED BY AFME AND TSI

- The **report** provides aggregated transaction-level data from 12 banks across 6 European countries on a voluntary basis.
- Its purpose is to enhance the quality and usefulness of disclosure in the private cash securitisation market, both ABCP and balance-sheet financed in the EU and the UK.

- **The loan level data on private deals stored at EDW was therefore not used for this report**
- Scope of the study:
  - NOT private CLOs (collateralised Loan Obligations)
  - NOT private NPL (non-performing loans)
  - NOT synthetic SRT deals (significant risk transfer)
- Private ABS only (most of which are used for ABCP collateral)

Figure 1 – Dynamic Delinquency Ratio 90 days



EBE HIGHLIGHTS

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS

Table 1 – Overview

		2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_P
Number of Participants	#	12	12	12	12	12	12	12	12	0.0%
Number of Commitments	#	637	595	610	610	556	525	527	504	7.1%
Number of Transactions	#	453	435	457	443	433	412	387	404	4.1%
Committed Amount	Million EUR	86,841	79,288	79,424	78,590	73,182	67,241	65,064	62,814	9.5%
Funded Amount	Million EUR	64,112	60,197	59,111	57,748	60,502	56,400	53,009	50,205	6.5%
Utilisation	%	73.8%	75.9%	74.4%	73.5%	82.7%	83.9%	81.5%	80.0%	-2.8%
Total Asset Amount	Million EUR	220,265	207,646	203,859	195,524	184,159	183,326	173,016	177,329	6.1%
Based on delivered data:										
Estimated Market Size	Million EUR	249,634	232,236	231,040	209,400	195,669	194,784	183,830	188,412	7.5%

Δ_P=growth in last period

EBE HIGHLIGHTS

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS

Table 2 – Funding Type (Committed Amount)

	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_P
ABCP	74,922	68,889	69,833	69,635	65,235	59,412	57,491	55,524	9%
BS	11,919	10,399	9,591	8,954	7,947	7,829	7,573	7,291	15%
Total	**86,841**	**79,288**	**79,424**	**78,590**	**73,182**	**67,241**	**65,064**	**62,815**	10%

Table 3 – Evolution of STS share (Committed Amount)

	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_P
STS share (in % by Committed Amount)	61.6%	63.2%	61.2%	58.6%	56.6%	56.7%	55.0%	ND	-3%
Committed Amounts	53.521	50.084	48.571	46.090	41.452	38.140	35.784	ND	7%
No. of STS commitments	387	371	366	356	305	275	256	ND	4%

EBE HIGHLIGHTS

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS FOR PRIVATE ABS

Table 4 – Asset Type (Committed Amounts)

	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
Trade Receivables	50,904	45,684	46,784	47,505	42,523	40,682	38,966	35,689	11%
Auto Loan or Leasing	12,918	13,075	11,986	11,023	11,132	10,162	11,187	13,985	-1%
Equipment Leasing	6,692	6,130	5,598	4,830	5,096	4,327	4,183	3,417	9%
Consumer Loans	5,087	4,879	5,580	5,115	4,891	4,704	3,760	3,197	4%
Diverse	11,238	9,520	9,476	10,117	9,540	7,366	6,968	6,527	22%
Total	**86,841**	**79,288**	**79,424**	**78,590**	**73,182**	**67,241**	**65,064**	**62,815**	**10%**

Table 5 – Regional Distribution (Committed Amount)

	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
Germany	22,427	20,751	19,644	18,573	17,482	16,286	15,886	16,006	8%
France	17,614	12,062	12,527	13,468	11,903	11,142	11,113	10,115	46%
Italy	13,701	13,325	11,833	11,564	11,165	10,580	10,052	8,541	3%
UK	10,203	10,277	13,503	14,185	10,653	9,263	9,029	9,466	-1%
other EU27	6,642	7,573	10,117	9,789	9,884	9,174	8,276	7,926	-12%
other non-EU27	12,220	11,626	8,547	8,619	8,693	8,435	8,204	8,323	5%
ND	4,034	3,675	3,251	2,393	3,403	2,361	2,504	2,437	10%
Total	**86,841**	**79,288**	**79,424**	**78,590**	**73,182**	**67,241**	**65,064**	**62,814**	10%

EBE HIGHLIGHTS

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS FOR PRIVATE ABS

Table 8 – Seller Country Distribution (Total Asset Amount)

	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
Germany	67,263	63,619	61,306	59,004	47,784	45,132	41,355	-	6%
France	38,411	28,304	27,366	26,905	27,019	21,709	21,926	-	36%
Italy	28,922	20,322	16,453	18,327	18,871	16,879	15,019	-	42%
other EU27	19,441	20,499	19,734	19,385	18,036	16,382	14,855	-	-5%
UK	29,061	31,158	36,275	33,543	32,568	28,230	31,165	-	-7%
other non-EU27	27,589	31,339	29,698	27,653	25,916	36,352	33,327	-	-12%
ND	9,577	12,405	13,028	10,706	13,966	18,642	15,369	-	-23%
Total	**220,265**	**207,645**	**203,859**	**195,523**	**184,159**	**183,326**	**173,016**	**177,329**	**6%**

EBE HIGHLIGHTS

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS FOR PRIVATE ABS

Table 17 – Seller Rating Distribution (relative)

	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
AAA	3.9%	3,7%	1.3%	1.4%	1.1%	1.3%	1.3%	2.7%	6%
AA	3.6%	4,8%	1.9%	0.5%	0.6%	0.0%	0.0%	1.3%	-24%
A	21.5%	23,6%	11.4%	9.6%	7.5%	7.4%	6.5%	16.3%	-9%
BBB	29.7%	34,0%	35.6%	37.2%	41.8%	41.2%	40.6%	43.0%	-13%
BB and lower	24.4%	18,5%	17.9%	18.2%	17.2%	20.7%	20.4%	22.8%	32%
NR or undisclosed	16.9%	15,5%	32.0%	33.1%	31.8%	29.3%	31.1%	13.9%	9%
Total	**100%**	**100,0%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Table 13 – Transaction Rating Distribution

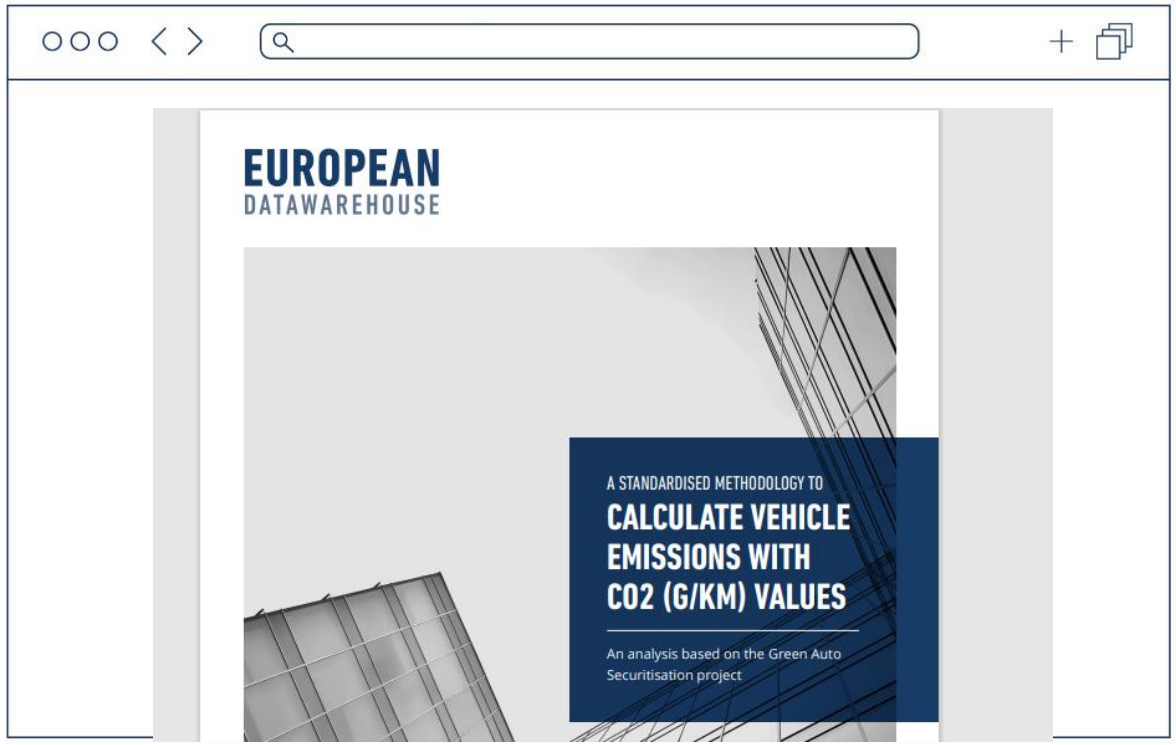
	2024-12	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
AAA	27.6%	30.3%	26.3%	29.0%	22.3%	22.6%	22.4%	20.2%	-9%
AA	34.9%	35.6%	36.2%	34.0%	35.2%	39.8%	38.8%	34.3%	-2%
A	19.1%	16.5%	20.4%	19.6%	25.9%	21.9%	23.9%	21.0%	16%
BBB	11.7%	11.0%	11.2%	12.3%	11.4%	11.1%	10.0%	9.6%	6%
BB and lower	0.3%	0.2%	0.2%	0.3%	0.4%	0.5%	0.4%	0.5%	29%
Undisclosed	6.4%	6.3%	5.6%	4.7%	4.9%	4.1%	4.6%	14.4%	0%
Total	**100,0%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

GAS UPDATE

GAS – RELATED PUBLICATION

GAS RELATED PUBLICATION

A STANDARDISED METHODOLOGY TO CALCULATE VEHICLE EMISSIONS WITH CO2 VALUES – EUROPEAN DATAWAREHOUSE



EXECUTIVE SUMMARY

THIS PAPER EXAMINES THE WORK CARRIED OUT UNDER THE GAS PROJECT SINCE OCTOBER 2022 WITH SAFE.

The GAS Project

- Part of the Climate Protection and Finance initiative; funded by the German ministry for Research, Technology and Space
- EDW was involved as a partner, supporting the data preparation and enrichment based on its Auto ABS data
- SAFE did the analysis (regressions, prob. of defaults etc.), focusing on green vehicles vs others

EDW's role

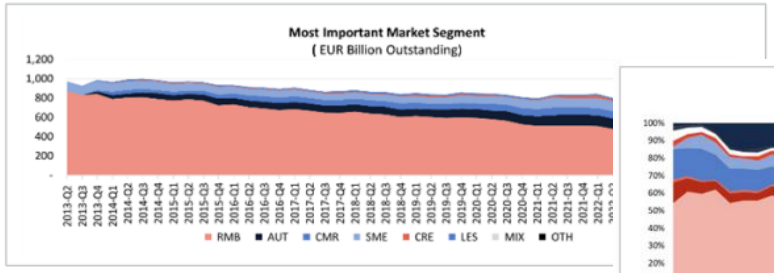
- Data cleaning, identification of the financed vehicles
- Addition of data from other sources, EEA database in particular
- Added CO2 values to the data-based vehicle brand and model and year of registration amongst others

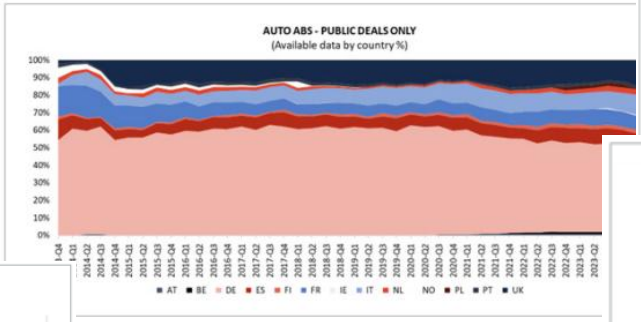
Paper in 4 sections

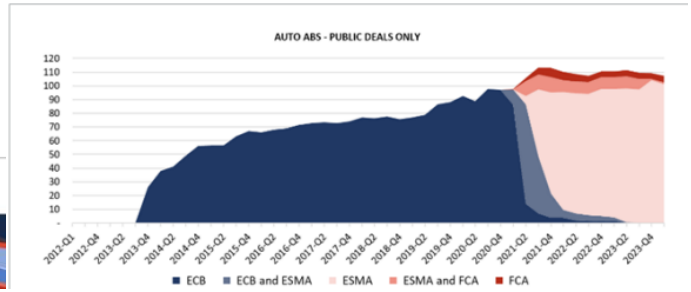
- Historical background of data requirements for auto financings
- Description of data sources, and research activities conducted around the GAS project
- References to the ESG developments at German and EU levels
- Proposals made by ECB and SAFE to improve the ESG metrics of auto ABS loans and leases transactions

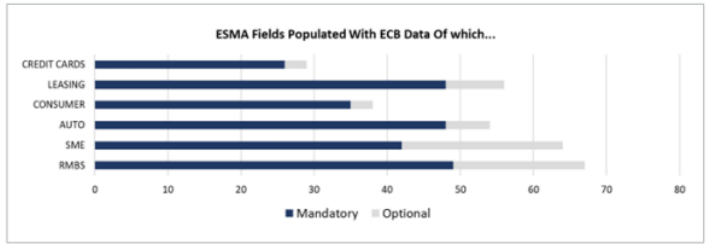
GAS DATASET

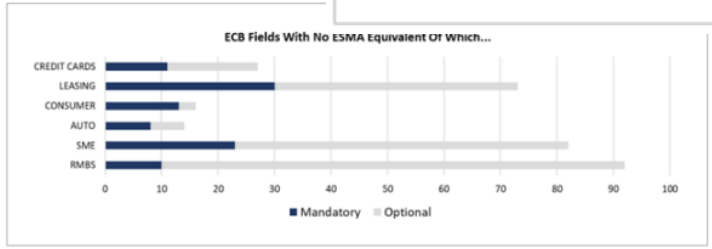
THIS PAPER EXAMINES THE WORK CARRIED OUT UNDER THE GAS PROJECT SINCE OCTOBER 2022 WITH SAFE









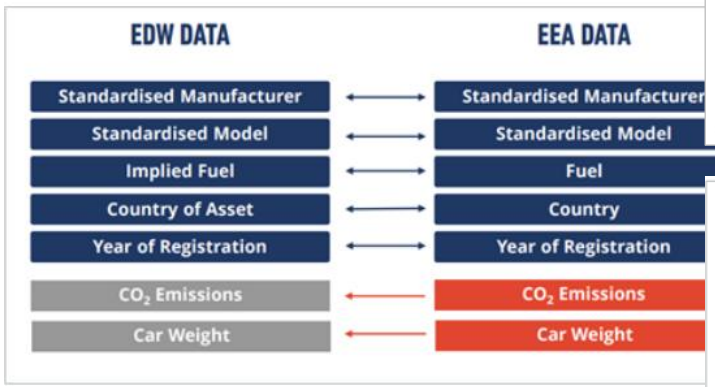


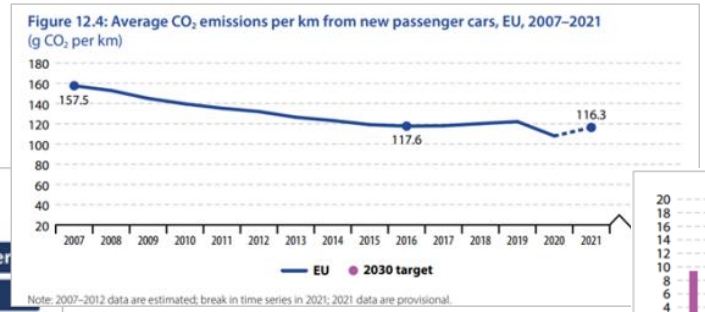
The GAS Dataset

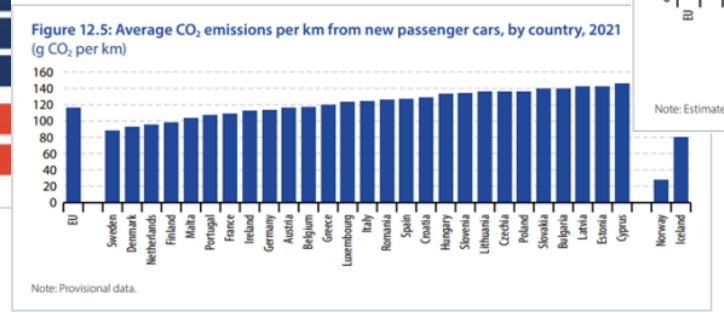
- Is based on EDW's All in One Database, enriched with extra data from external sources (EEA emissions data in particular)
- The charts in this section have typically been discussed in one or the other research webinar…

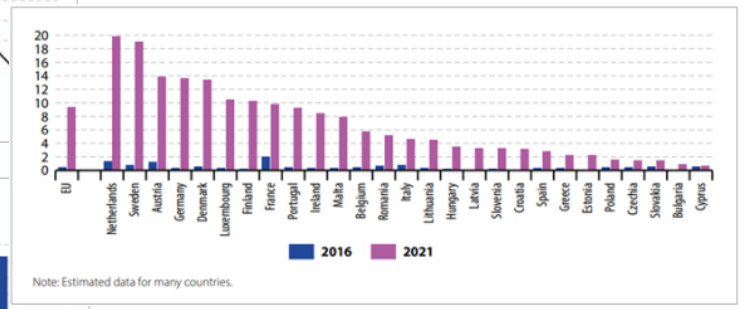
GAS DATASET

EEA DATA ADDED









Enriching our dataset using EEA data

- Recognising vehicle types in both our dataset and the EEA dataset, importing the missing information…
- The charts in this section have typically been discussed in previous research webinars…

REGULATORY ASPECTS

DATA AVAILABILITY AND COMPARABILITY ARE KEY

Regulatory aspects and relevant data

- Energy efficiency labels not comparable across countries and overtime offer limited value
- CO2 emissions are more relevant

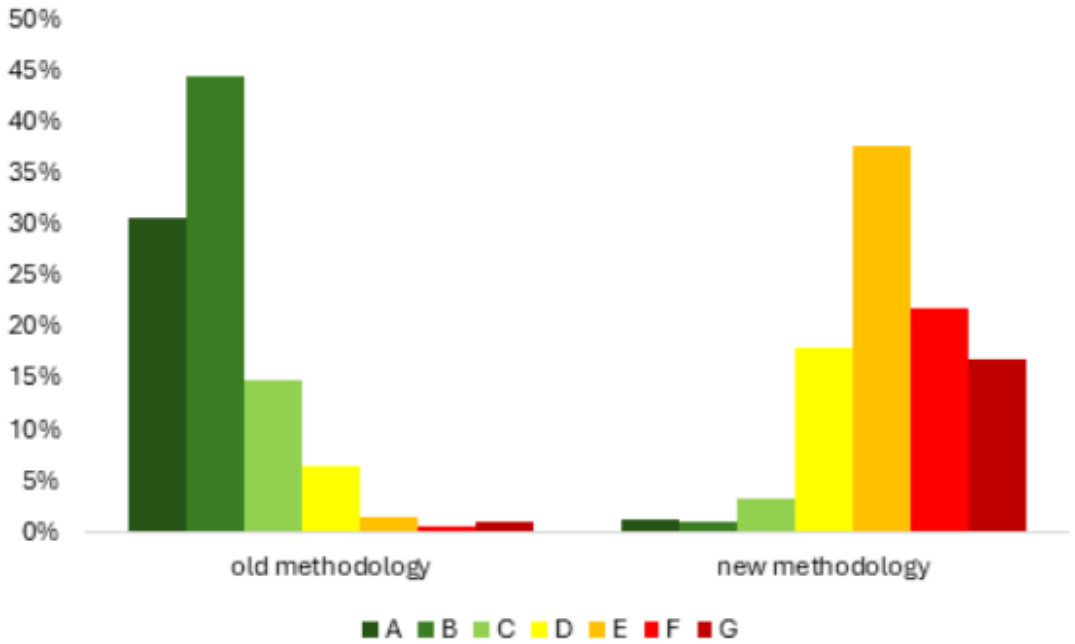


Exhibit 18: Labels assigned to cars in German Auto ABS Portfolios using Old vs New Methodology

EXECUTIVE SUMMARY

KEY FINDINGS, IMPLICATIONS, RECOMMENDATIONS, QUESTIONS....

Key findings

- Data required on CO2 emissions at every stage of the Asset's lifecycle
- Data needed by stakeholders to assess the sustainability of assets is often unavailable, not processed or not linked
- Current regulatory frameworks require the reporting of data that is often not relevant to actual emissions measurement
- Comparability made more difficult by periodic changes in sustainability assessment measures and methodologies

Implications

- Data collection is expensive and inefficient as different actors often collect the same data
- Data usage is equally costly and time consuming
- Inconsistent standards and data collection are slowing the efforts to improve sustainability
- Proposals made by EU and SAFE to improve the ESG metrics of auto ABS loans and leases transactions

EXECUTIVE SUMMARY

KEY FINDINGS, IMPLICATIONS, RECOMMENDATIONS, QUESTIONS....

Policy recommendations

- Establish standard key points for measuring sustainability across asset types
- Public authorities and entities should make the data more accessible
- Data should be public and accessible in a centralised fashion

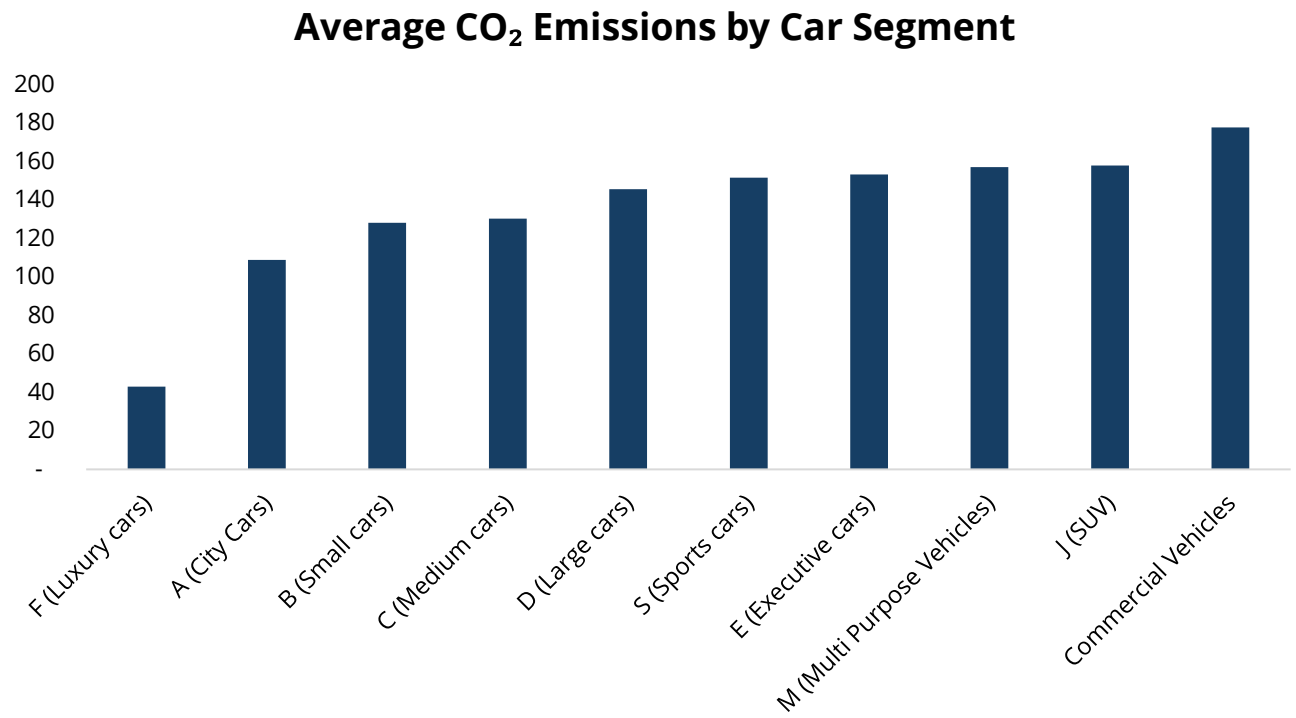
Research questions

- How can emerging technologies and standardised asset identifiers enhance data transparency and accuracy in climate protection and sustainable finance?
- How can equitable access to high-quality data for financial institutions and investors making investment decisions be guaranteed?
- How can global standards for climate and sustainability data be effectively harmonised across regions and sectors?

GAS DATABASE – FOCUS ON BELGIUM

BELGIUM – CO_2 EMISSIONS BY CAR SEGMENT

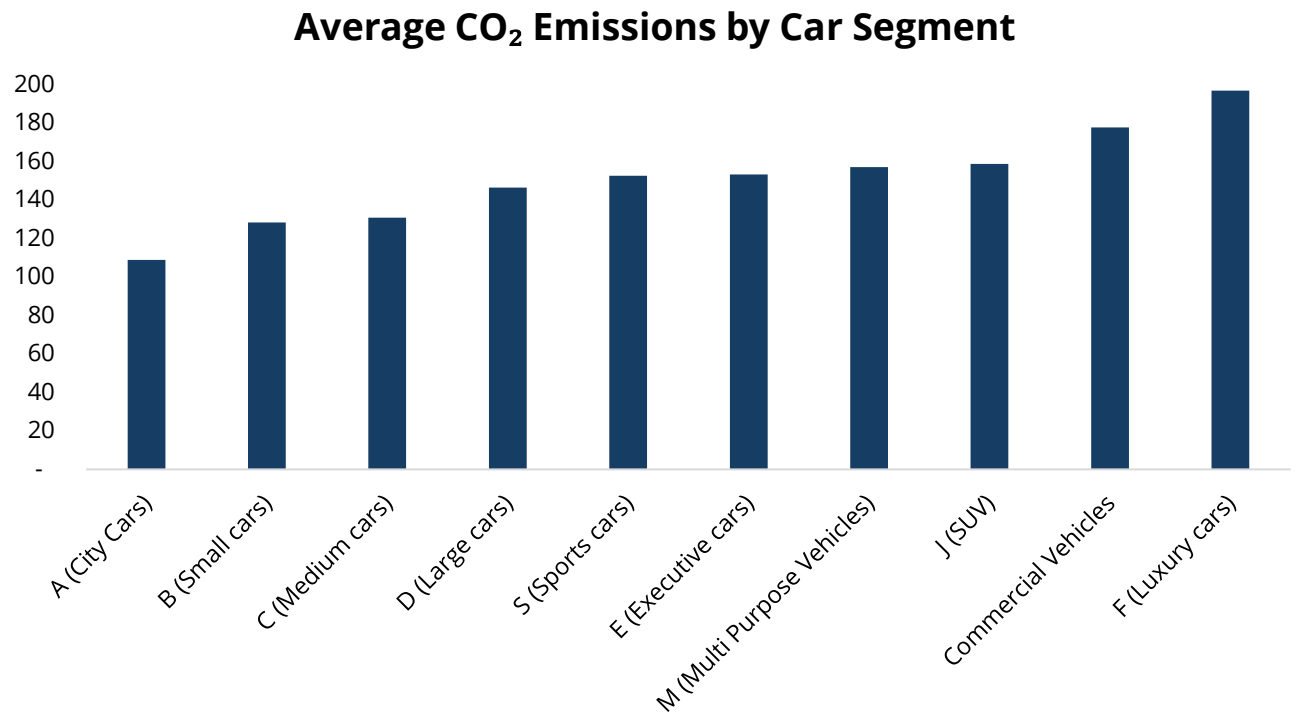
DO LUXURY CARS REALLY HAVE THE LOWEST EMISSIONS!!!!!!!!!!



- Turns out more than 70% of Luxury cars in Belgian Auto ABS are ELECTRIC!

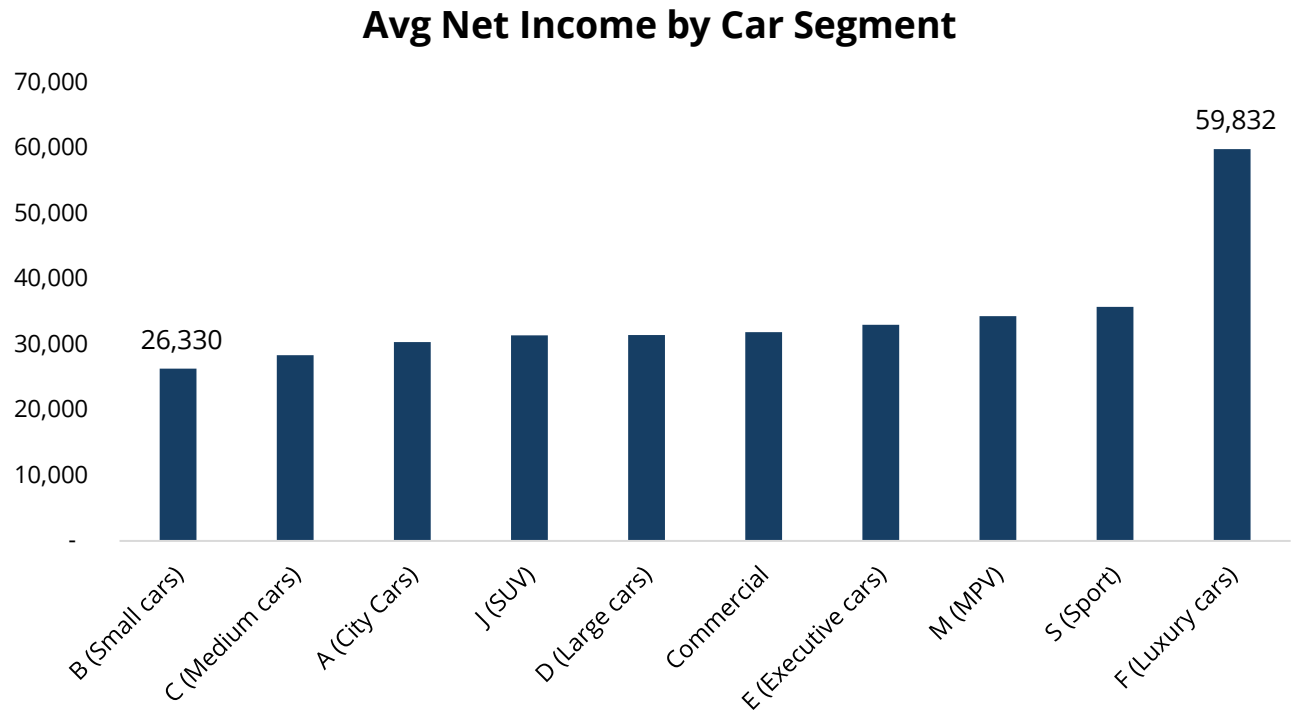
BELGIUM – CO_2 EMISSIONS BY CAR SEGMENT (EXCL. ELECTRIC CARS)

LUXURY CARS IN FACT HAVE THE HIGHEST EMISSIONS!!!!!!!!!!



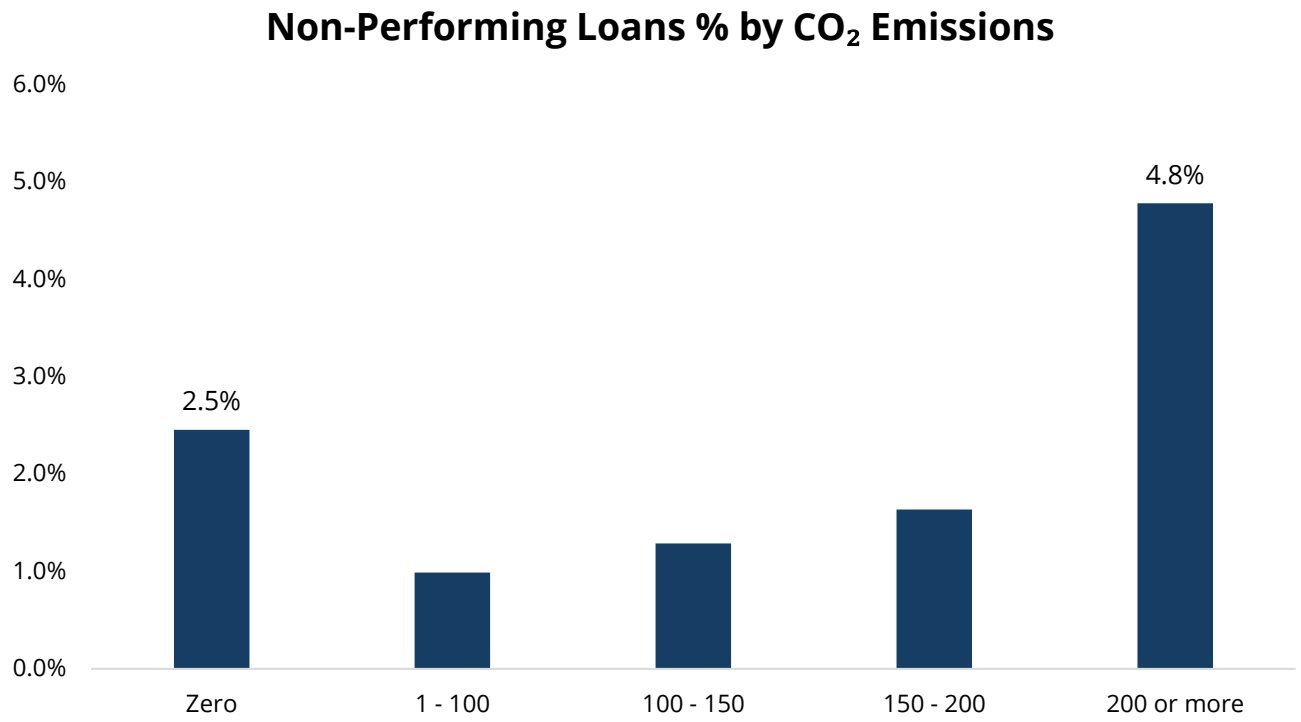
BELGIUM – INCOME BY CAR SEGMENT

LUXURY CAR BORROWERS ALSO HAVE THE HIGHEST INCOMES!



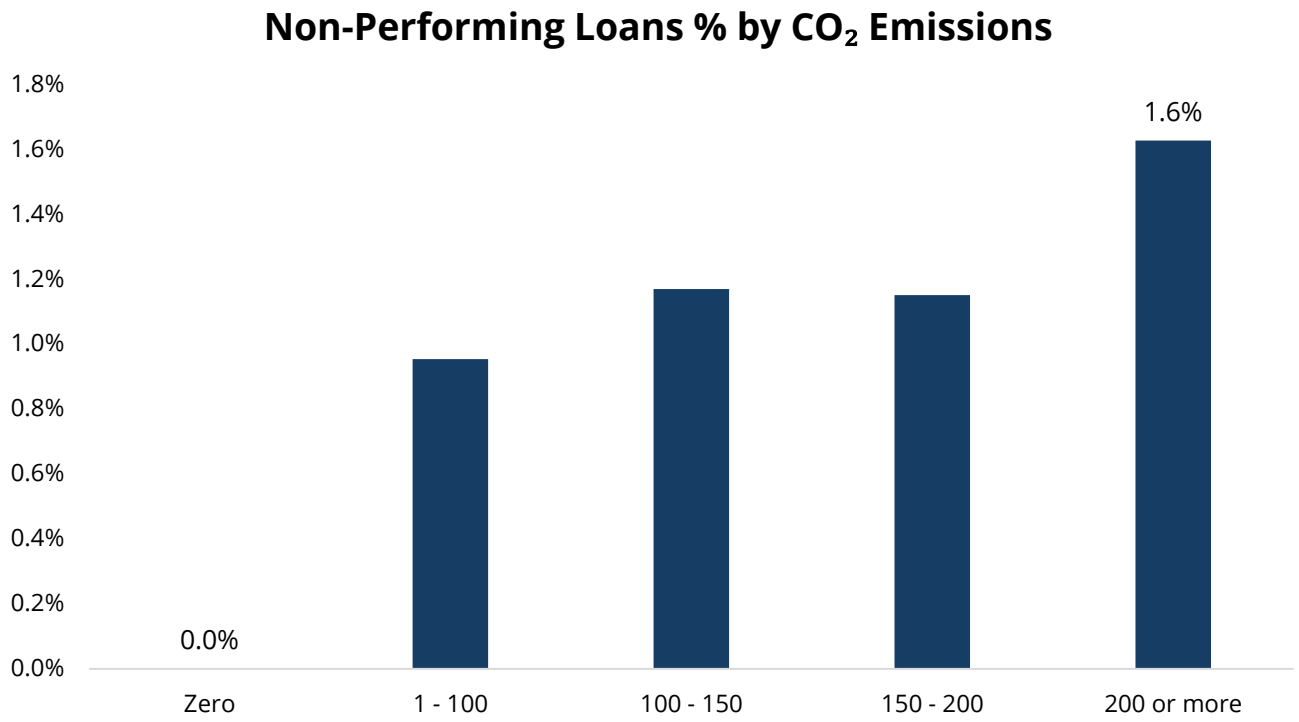
BELGIUM – CREDIT PERFORMANCE BY CO_2 EMISSIONS

ZERO AND HIGHEST EMISSIONS PERFORM THE WORST!!!!!!!!!!



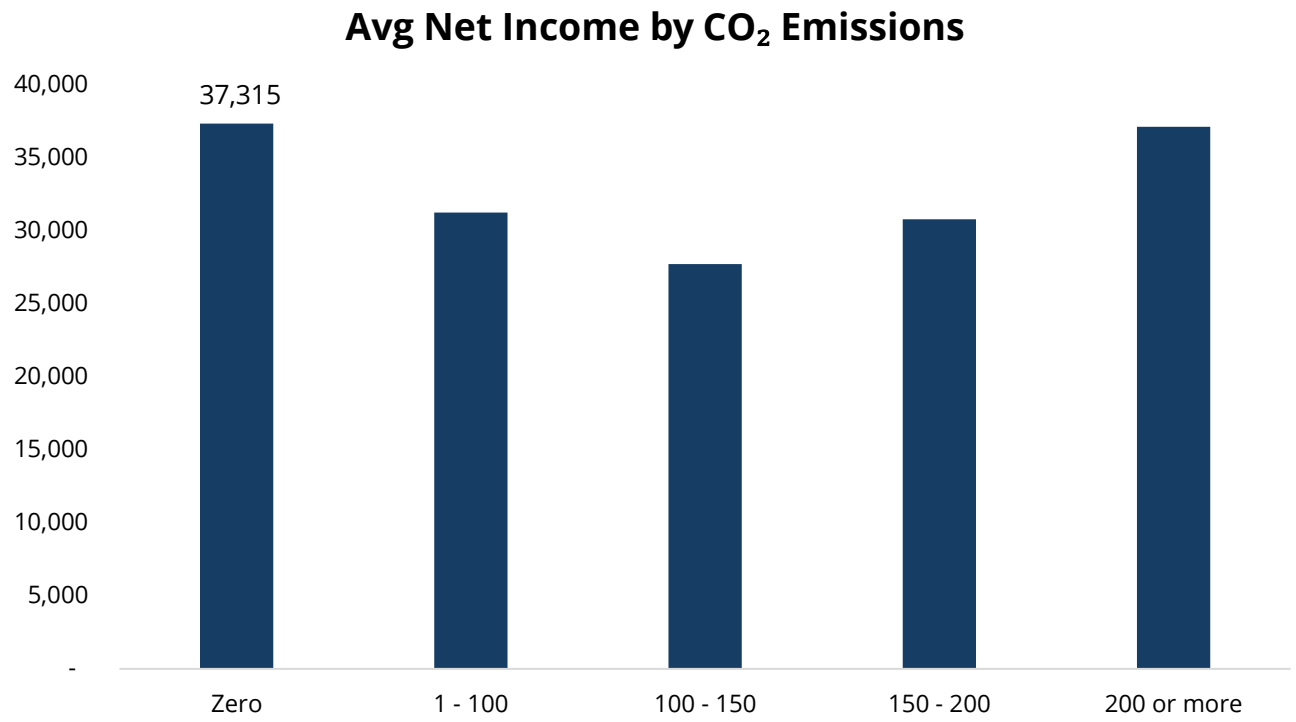
BELGIUM – CREDIT PERFORMANCE BY CO_2 EMISSIONS (EXCL. LEGAL ENTITIES)

CARS WITH ZERO EMISSIONS PERFORM THE BEST!



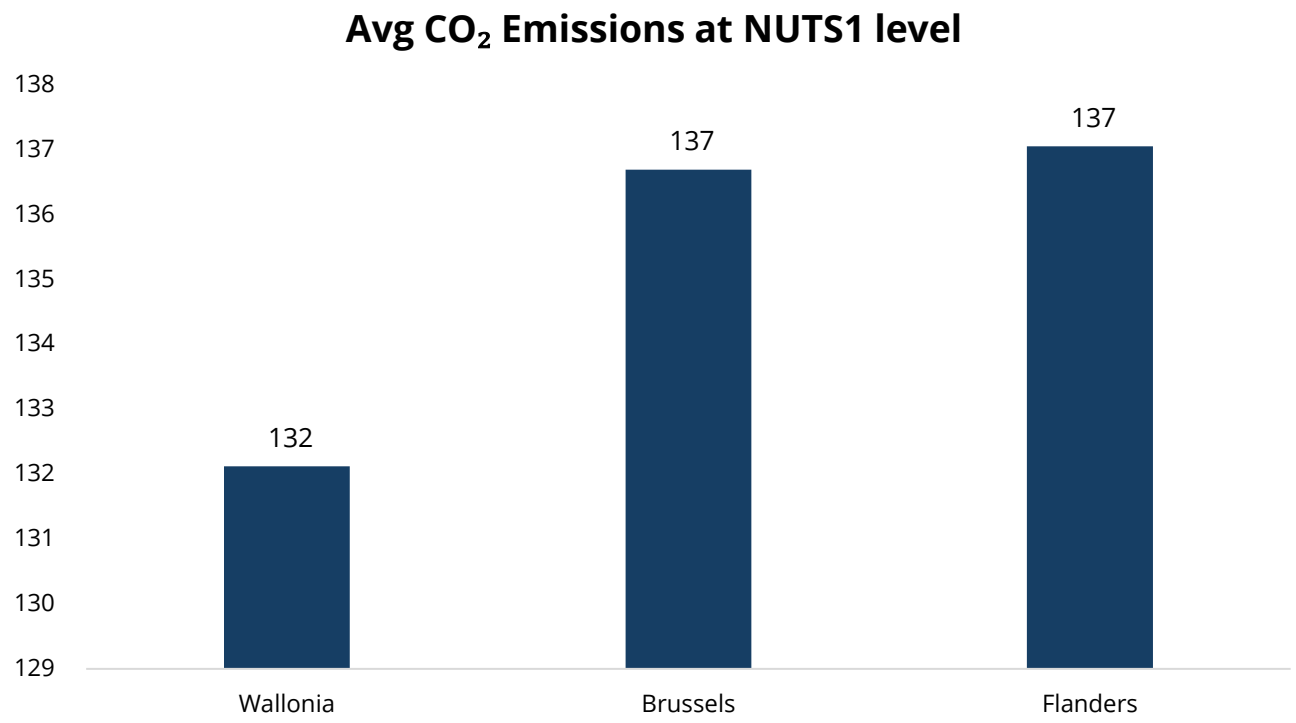
BELGIUM – INCOME BY CO_2 EMISSIONS

BORROWERS FOR CARS WITH ZERO EMISSIONS HAVE THE HIGHEST INCOMES!



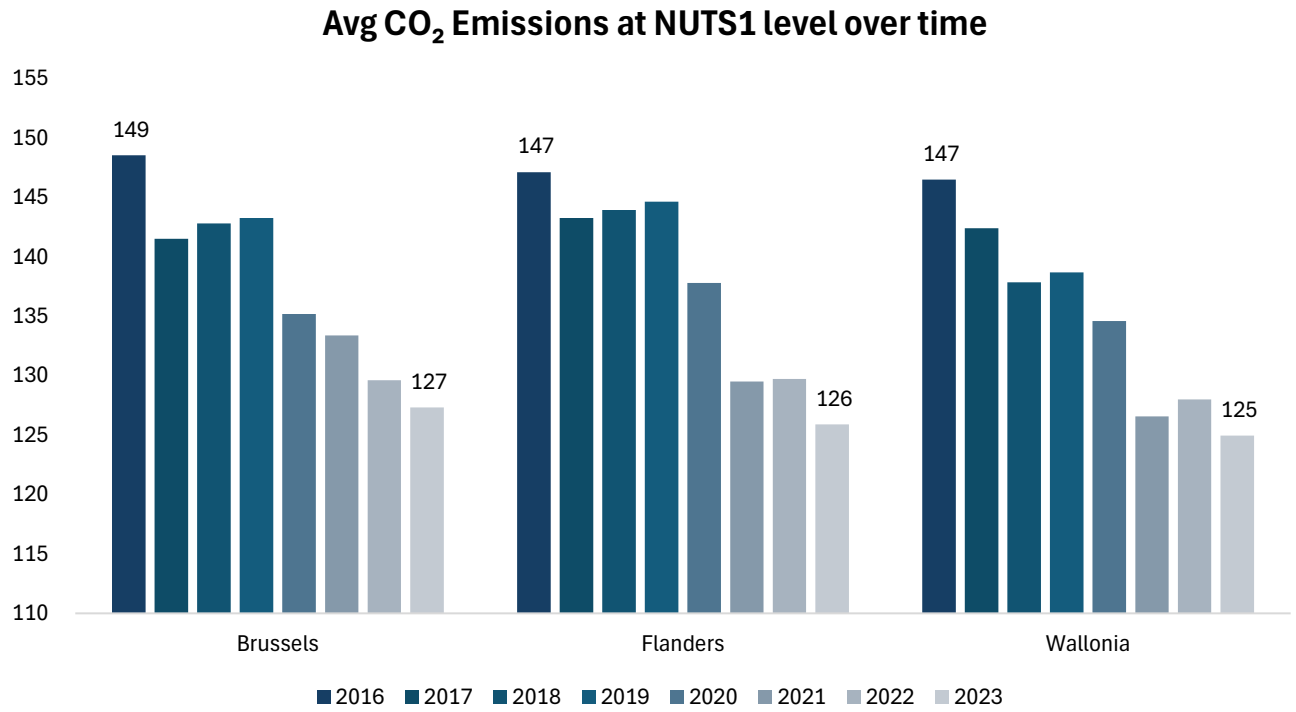
BELGIUM – CO_2 EMISSIONS BY REGION (NUTS1 LEVEL)

WALLONIA HAS THE LOWEST EMISSIONS!



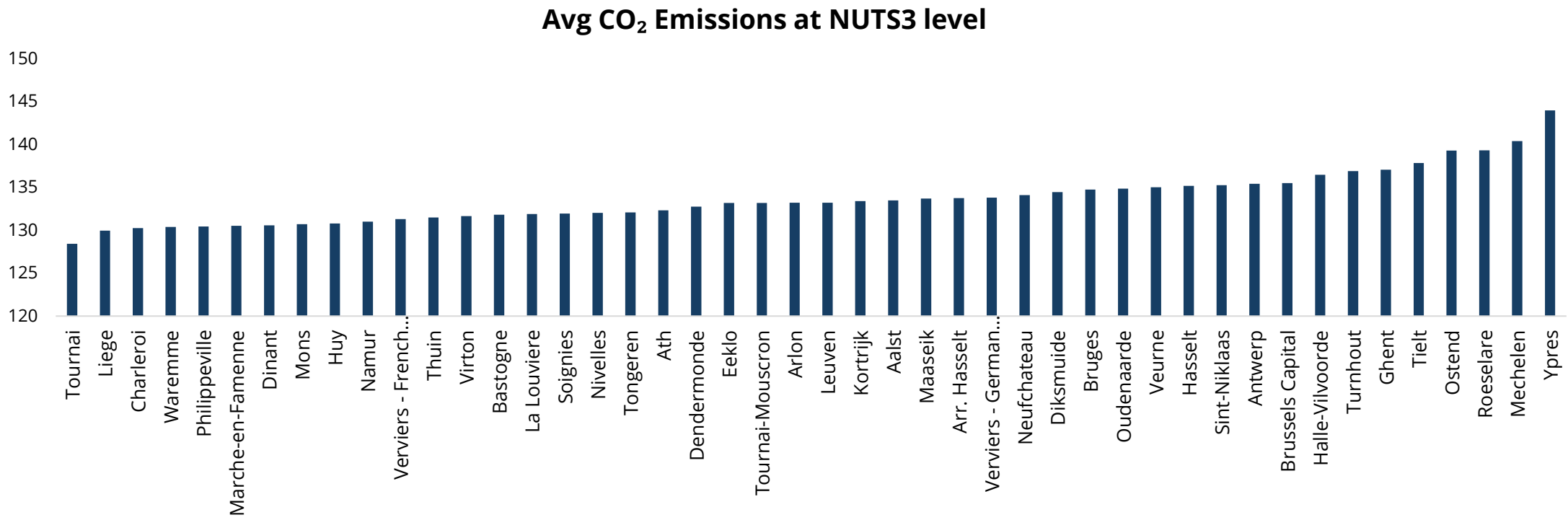
BELGIUM – CO_2 EMISSIONS BY REGION (NUTS1 LEVEL)

EMISSIONS HAVE BEEN FALLING ACROSS BELGIUM!



BELGIUM – CO_2 EMISSIONS BY REGION (NUTS3 LEVEL)

BELGIUM'S VEHICLE EMISSION LANDSCAPE IS A MAP OF ITS ECONOMIC ACTIVITY AND INEQUALITY



- The lowest emissions are found in post-industrial urban centers in Wallonia where economic activity is lower
- The highest emissions are found in affluent corporate suburbs and logistics corridors
- If electric cars are excluded, the north and the south are further isolated

FAQ: CAPTIVES VS NON CAPTIVES, LOANS VS LEASES

CAPTIVES VS NON-CAPTIVES, LOANS VS LEASES

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS

Captives vs Non-Captives

- A captive is a financing subsidiary of a carmaker. It plays a role in the sale process of the carmaker by making the cars more affordable. Captives play in a significant role in the profitability of carmakers and can make 30% of the profitability
- Non-captives are banks and bank lending subsidiaries or fintechs or generally lenders with no links to carmakers

Loans vs Leases

- Securitisations are typically either 100% loans or 100% leases
- Sometimes within one securitisation, one finds different types of loans or different types of leases
- Differences across countries

ESMA field AUTL23 Product Type offers following options

- Loan options: Hire Purchase and Personal Contract Purchase
- Leases options: Finance Lease, Lease Purchase, Operating Lease, Personal contract Hire
- Plain vanilla loans are often reported as OTHR (Other)

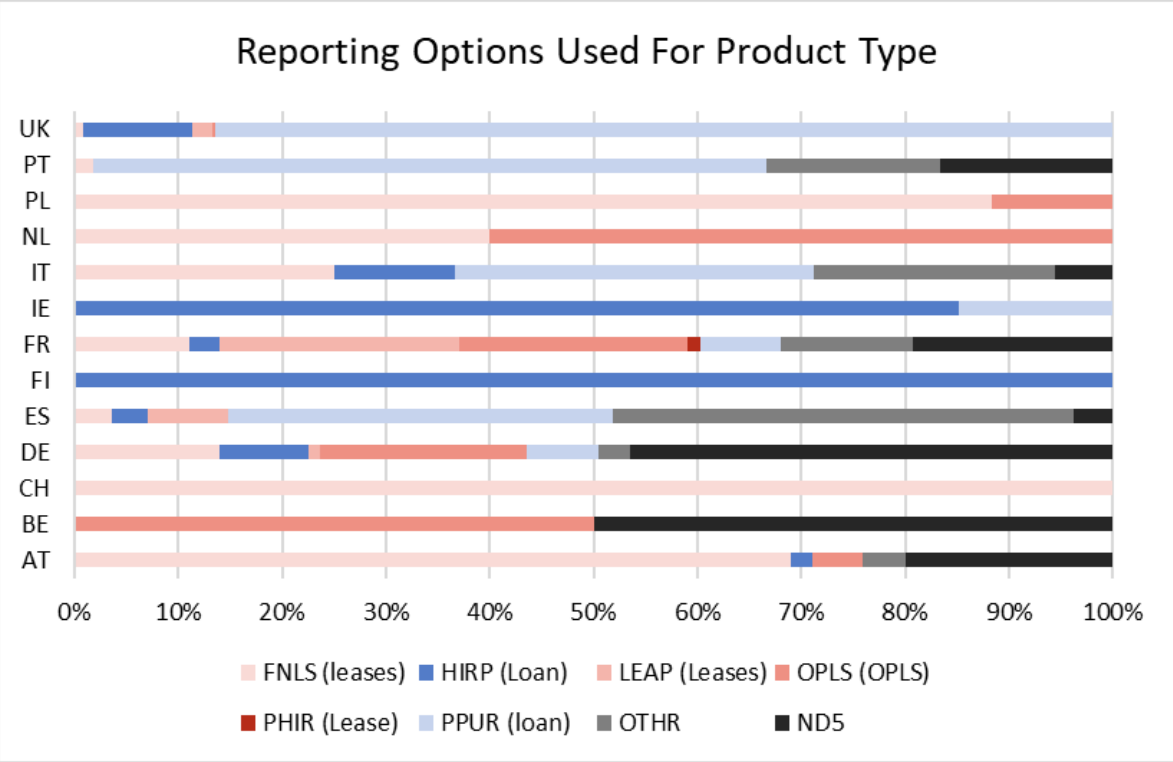
PRODUCTS AND DEFINITIONS

REPORTING OPTIONS FOR FIELD AUTL23 "PRODUCT TYPE"

- **Finance Lease (FNLS):** *A financial lease can simply be defined as a contract between the customers and the equipment suppliers for using a particular asset against periodic payments, referred to as lease payments.*
- **Lease Purchase (LEAP):** *A* Lease-Purchase Contract*, also known as a lease purchase agreement or rent-to-own agreement, allows consumers to obtain durable goods or rent-to-own real estate without entering into a standard credit contract*"
- **Operating Lease (OPLS):** *An operating lease is a lease in which the lessee obtains the right to use an asset for a period of time, but the lease does not transfer substantially all the risks and rewards of ownership and the underlying assets to the lessee*
- **Personal Contract Hire (Lease - PHIR):** *It is a type of long-term vehicle leasing agreement for private individuals*
- **Hire Purchase (Loan - HIRP):** *Hire purchase is a type of asset finance that allows firms or individuals to possess and control an asset during an agreed term. Instalments/rents cover the depreciation of the asset, as well as interest required to cover the capital cost of the asset. The owner of the asset will transfer the ownership rights once all instalments have been paid for.*
- **Personal contract purchase (Loan - PPUR):** *often referred to as a personal contract plan, is a form of hire purchase vehicle finance for individual purchasers, similar to both personal contract hire and a traditional hire purchase (buying on instalments).*

USE OF REPORTING OPTIONS IN THE ESMA TEMPLATE…

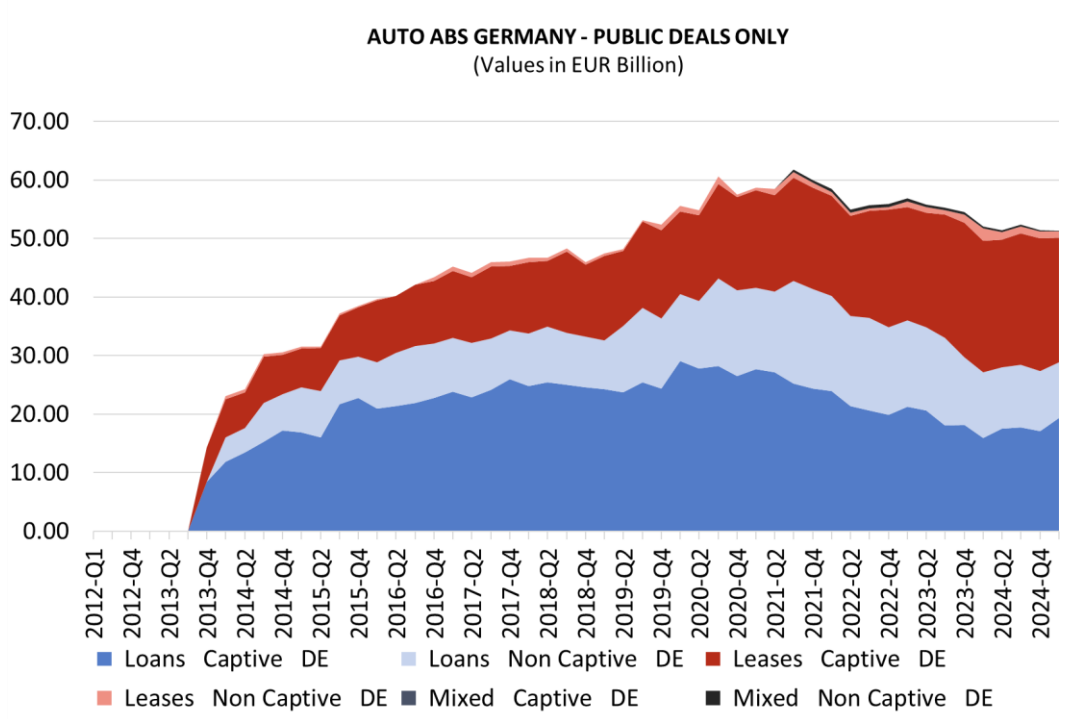
PLAIN VANILLA LOANS ARE TYPICALLY REPORTED AS OTHER OR ND5…



- No category for „plain vanilla loan“
- When OTHER is used at 100%, it is for loan portfolios
- When ND5 is used, it is in 98% of cases also for auto loan portfolios…

CAPTIVE VS NON CAPTIVE, LOANS VS LEASES – GERMANY

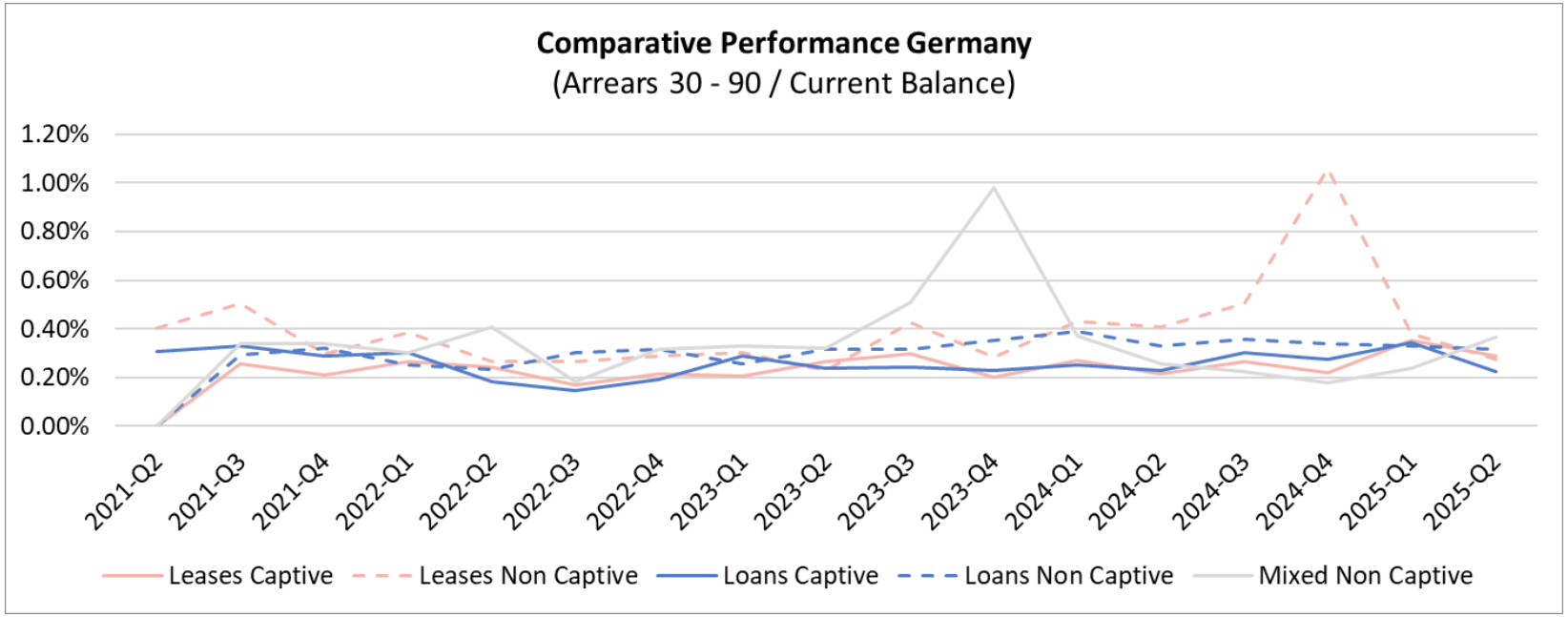
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Leases represent 43% of the total
- CAPTIVES REPRESENT 80% of total
- Leases non-captives are not significant

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – GERMANY

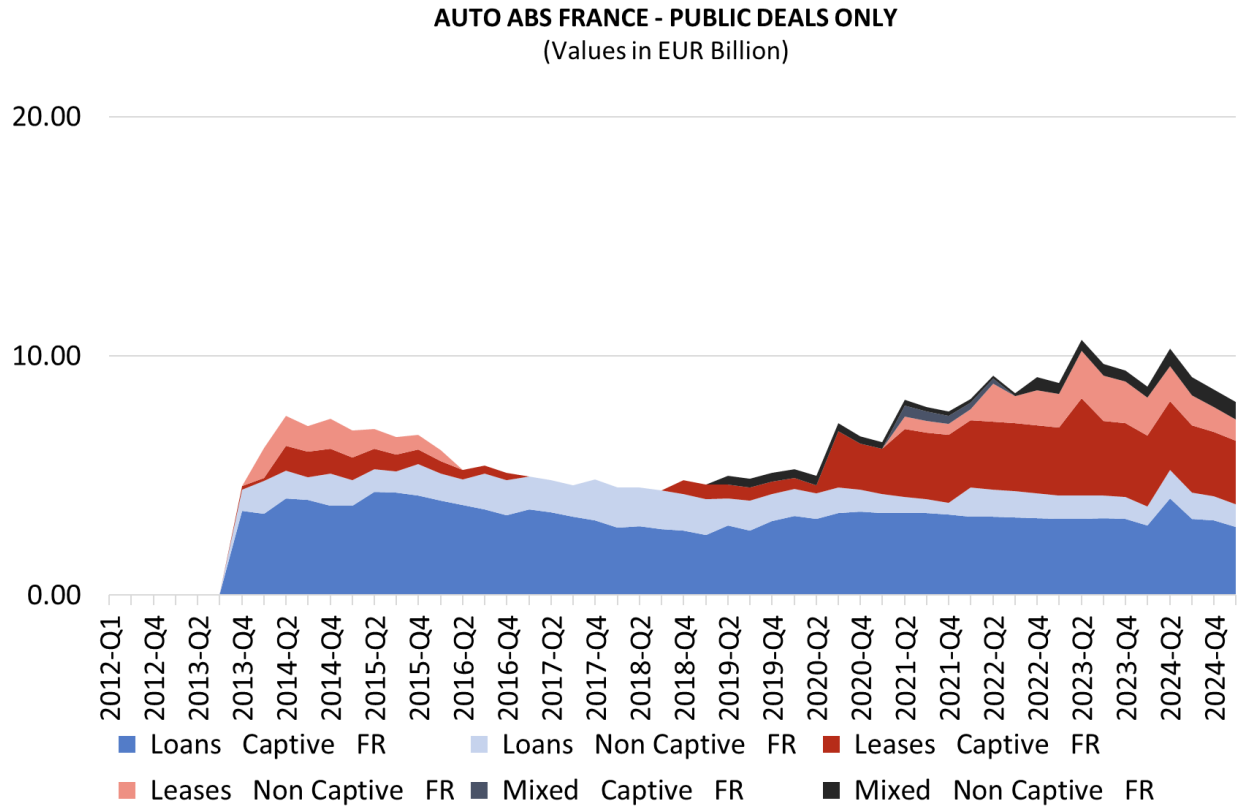
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Captives have lower delinquencies than non captives
- Perf of loans vs leases not really different
- "Mixed" and "leases non captive" are a small % of the total; performance is worse

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – FRANCE

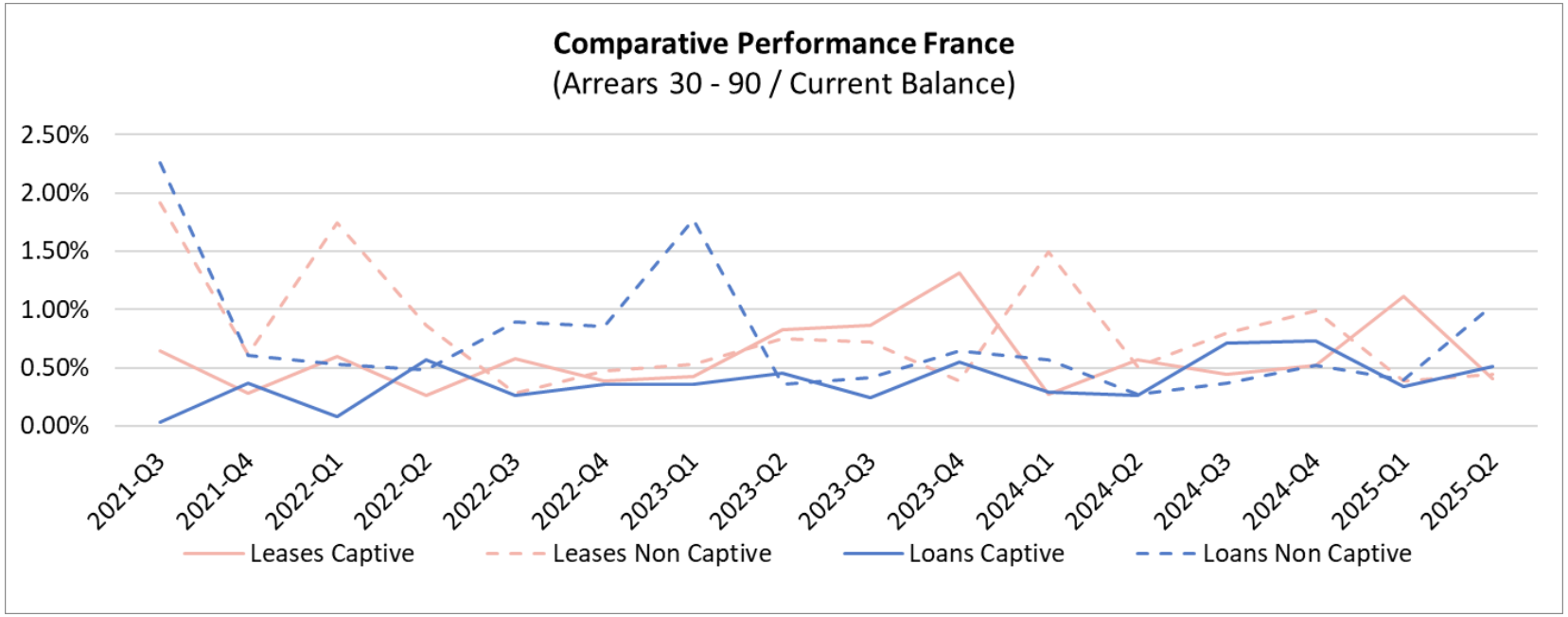
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Leases represent 44%
- CAPTIVES REPRESENT 69% of total
- More diversity, there are some non captive leases (11%)
- Some mixed pools

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – FRANCE

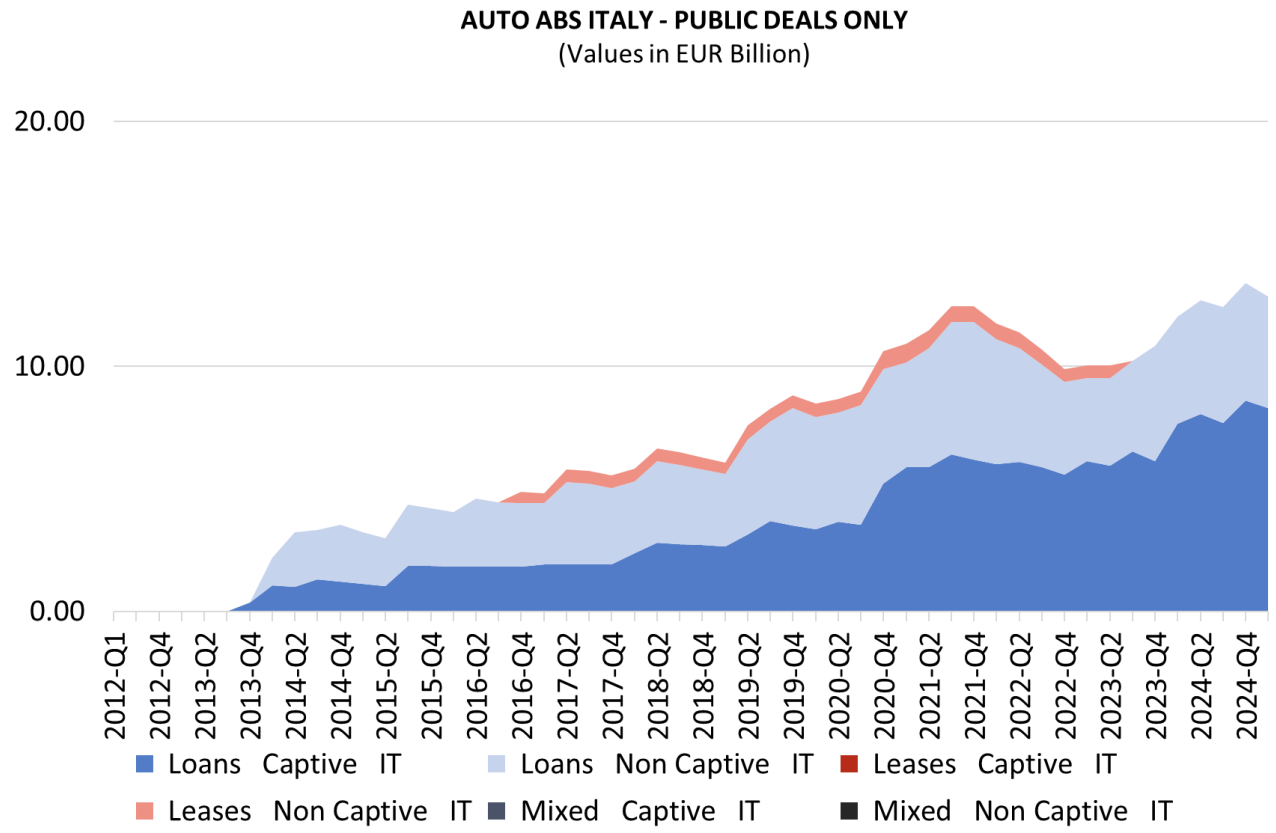
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Somewhat better performance for captives
- Market dominated by captives

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – ITALY

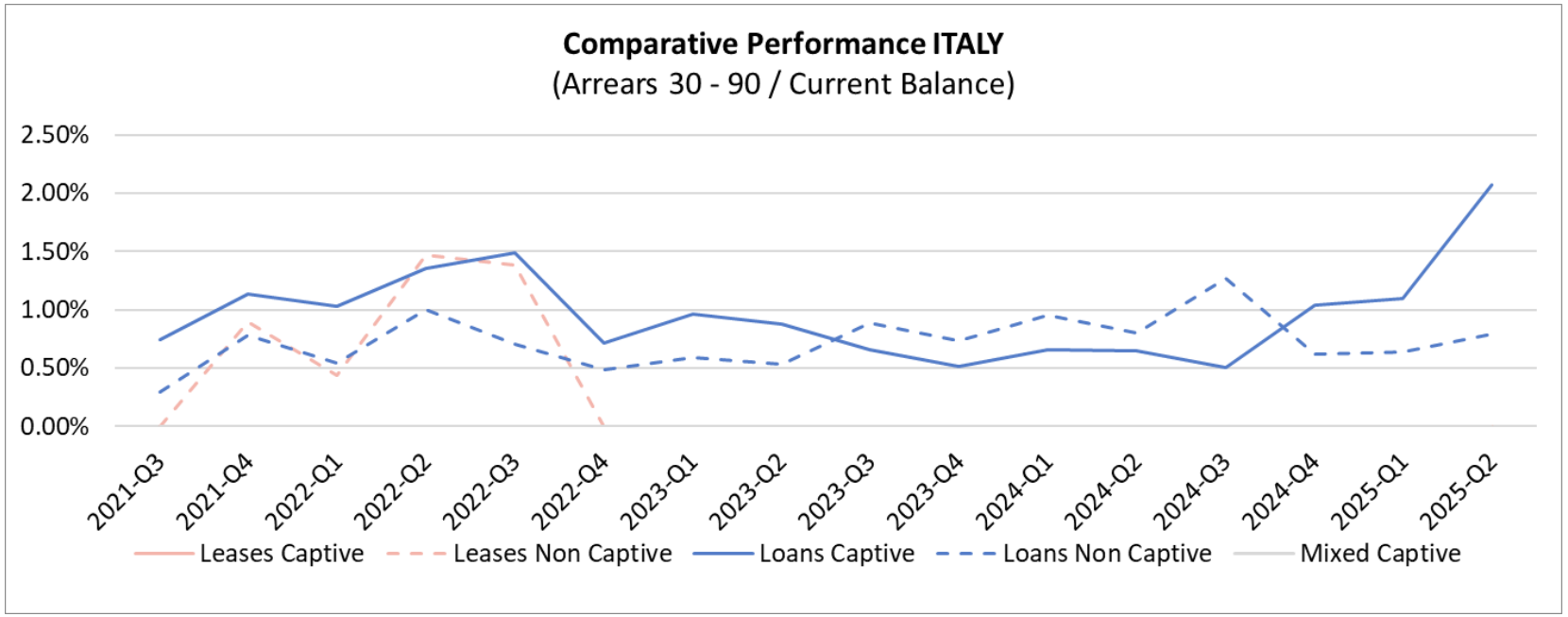
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Mostly loans
- CAPTIVES REPRESENT 65% of total

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – ITALY

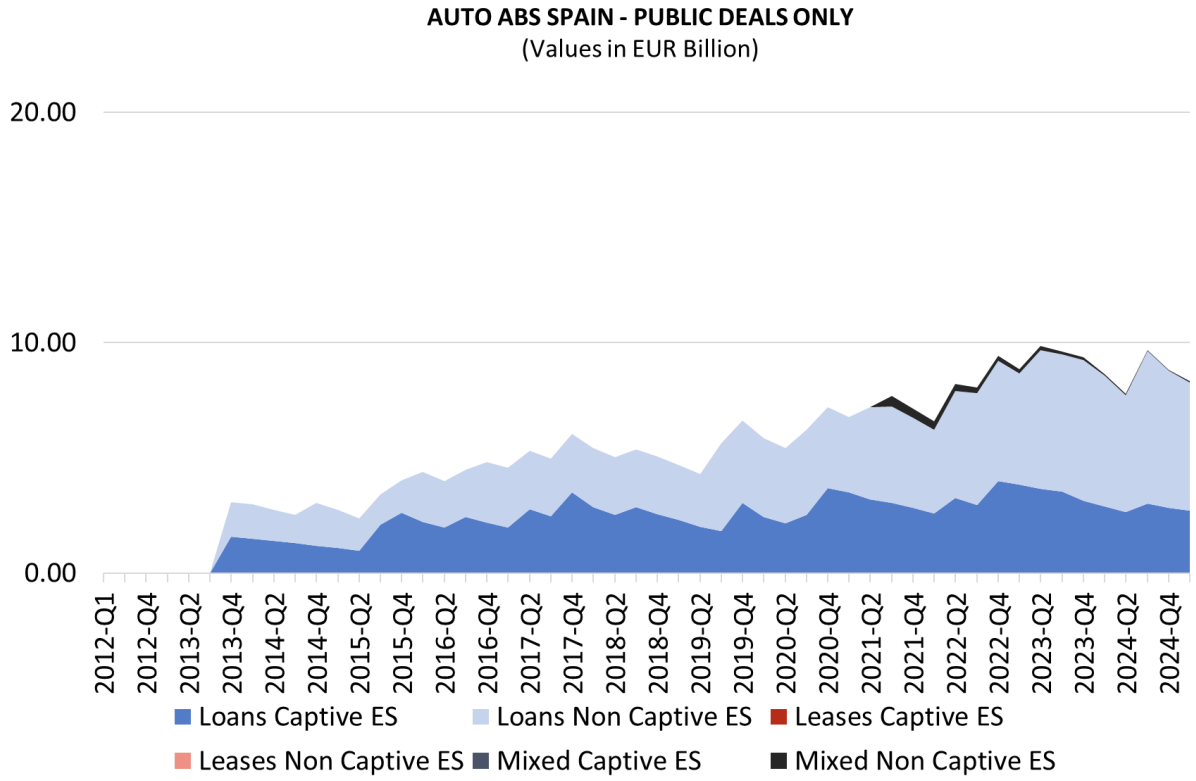
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Market dominated by loans, performance looks worse for non captives

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – SPAIN

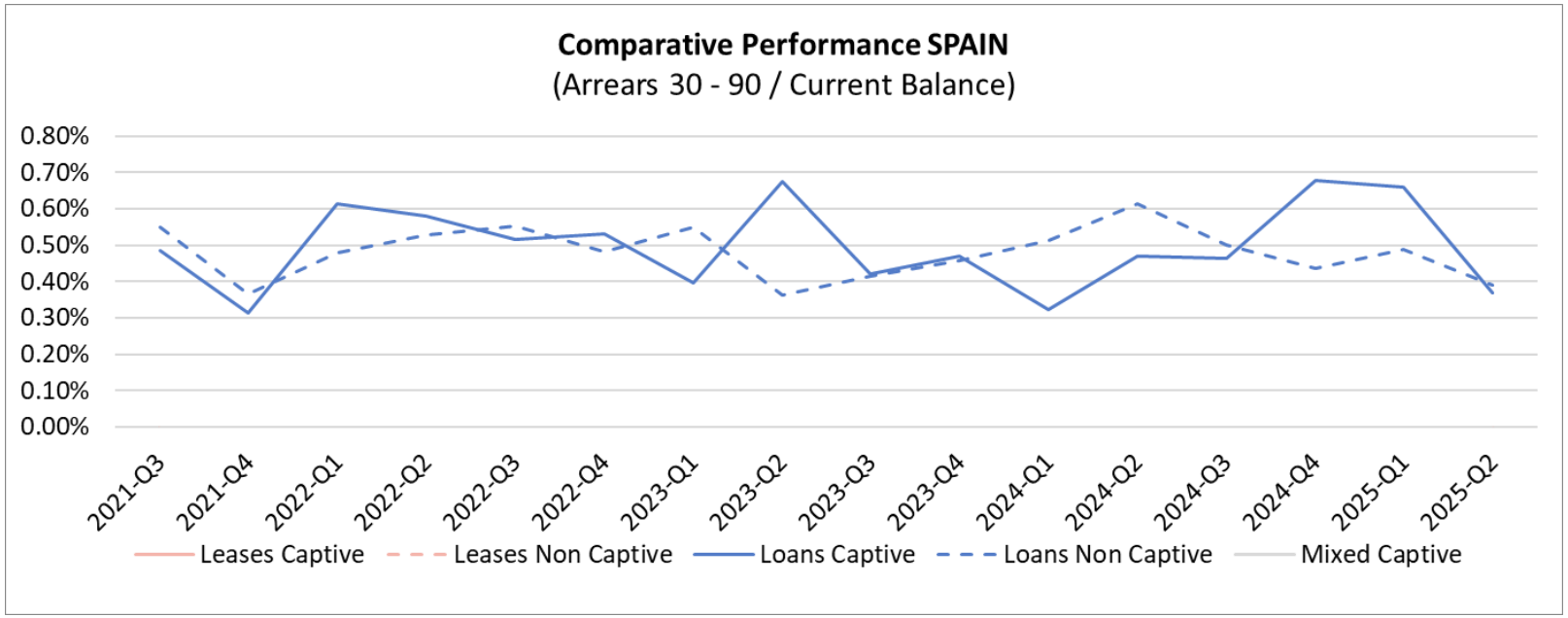
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Almost only loans
- Non captives dominate

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – SPAIN

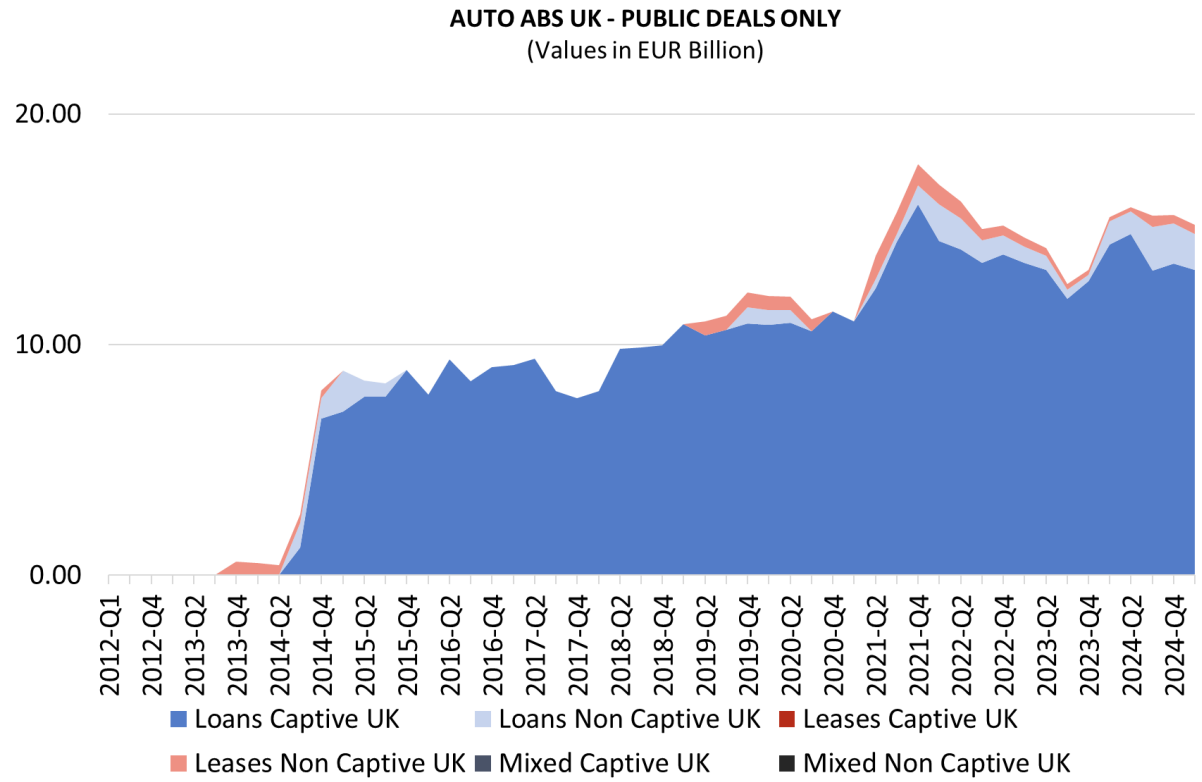
EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Market dominated by loans, performance looks worse for non captives

CAPTIVE VS NON-CAPTIVE, LOANS VS LEASES – UK

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS



- Loans captive dominate our sample (87%)
- Personal Contract Purchase represent most of it

FAQ ON CDRS

ANNUALISED CONSTANT DEFAULT RATE (CDR) – VERIFICATION

WHY WE VERIFY CDRS REPORTED TO EDW (ANNEX 12)

We recalculate CDRs as part of our Data Quality effort because:

- CDRs are a Key Input for Cash Flow Models
- Recalculation verifies the Accuracy of Performance-Related Fields
- Past Reviews have revealed Data Quality Issues in Reported CDRs

ANNUALISED CONSTANT DEFAULT RATE (CDR) – DEFINITION

CALCULATION METHOD AS DEFINED BY THE ESMA TAXONOMY

IVSS27	Annualised Constant Default Rate	The annualised Constant Default Rate (CDR) for the underlying exposures based on the periodic CDR. Periodic CDR is equal to the [(total current balance of underlying exposures classified as defaulted during the period) / (total current balance of non-defaulted underlying exposures at the beginning of the period)]. This value is then annualised as follows: 100*(1-((1-Periodic CDR)^number of collection periods in a year)) "Periodic CDR" refers to the CDR during the last collection period, i.e. for a securitisation with quarterly paying bonds this will usually be the prior three month period.

$$CDR = 100 * \left(1 - \left(1 - \frac{Current\ Balance\ of\ Defaulted\ Loans\ during\ the\ Period}{Current\ Balance\ of\ Non - Defaulted\ Loans\ at\ the\ beginning\ of\ the\ Period}\right)^{Number\ of\ Collection\ Periods\ in\ a\ Year}\right)$$

ANNUALISED CONSTANT DEFAULT RATE (CDR) – DEFINITION

HOW WE RECALCULATE CDRS

We count a loan as Defaulted if any of the following conditions apply:

- **Account Status** changes to Default this Period
- A New **Default Amount** appears this Period
- A **Default Date** falls within Reporting Period

ANNUALISED CDR – RECALCULATION

WE EXPECT AT LEAST ONE OF THESE RECALCULATION METHODS TO MATCH THE CDR REPORTED IN ANNEX 12

Based on the Current Balance, as required by ESMA

Based on the Default Amount

Based on Gross Charge-Offs (Annex 12)

ANNUALISED CDR – COMPARISON

REPORTED VS. RECALCULATED CDR: A NUMERICAL COMPARISON

16%

of Reported CDR aligns well with our Recalculated CDR (Current Balance) ±10%

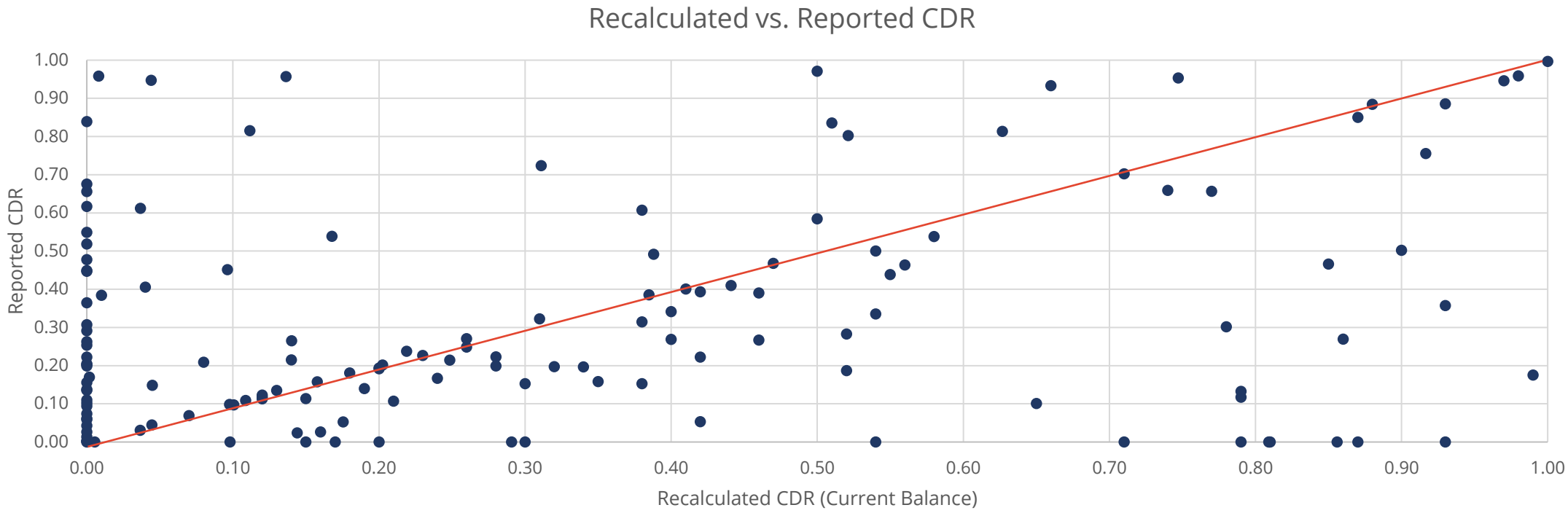
55%

of Reported CDR aligns with one of our Recalculated CDR (Current Balance, Default Amount or Gross Charge-Offs) ±10%

Sample Data: Latest Pool Cutoff – 326 Public Active Deals with Defaults

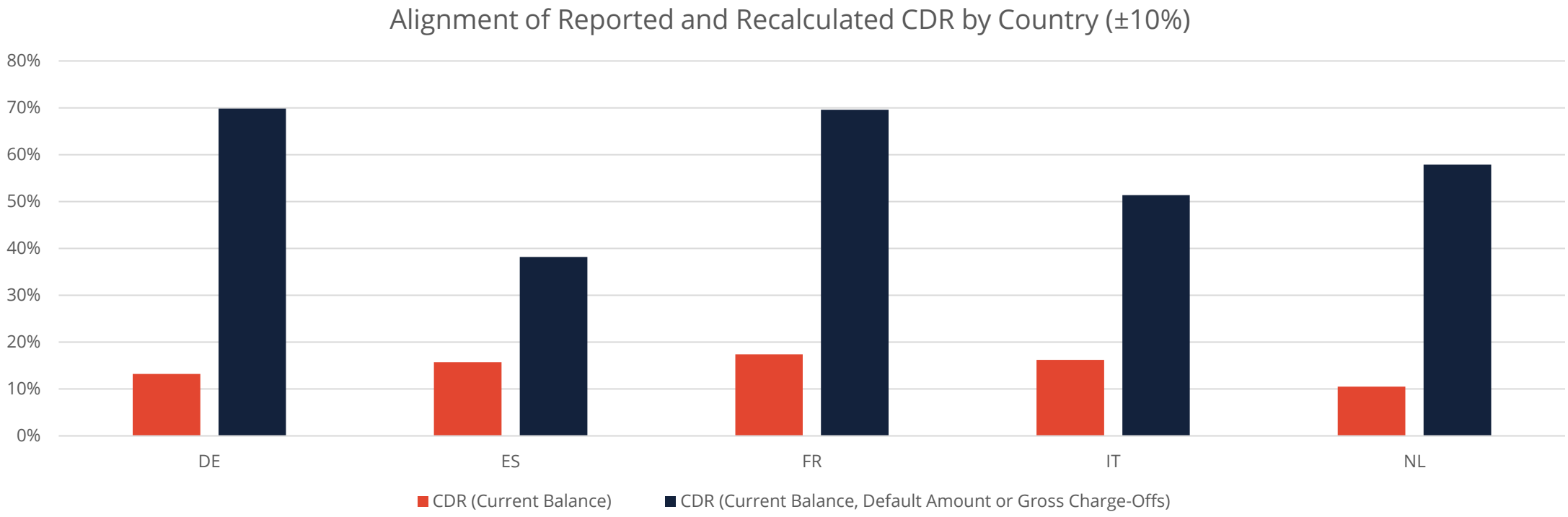
ANNUALISED CDR – COMPARISON

REPORTED VS. RECALCULATED CDR: ILLUSTRATED COMPARISON



ANNUALISED CDR – COMPARISON

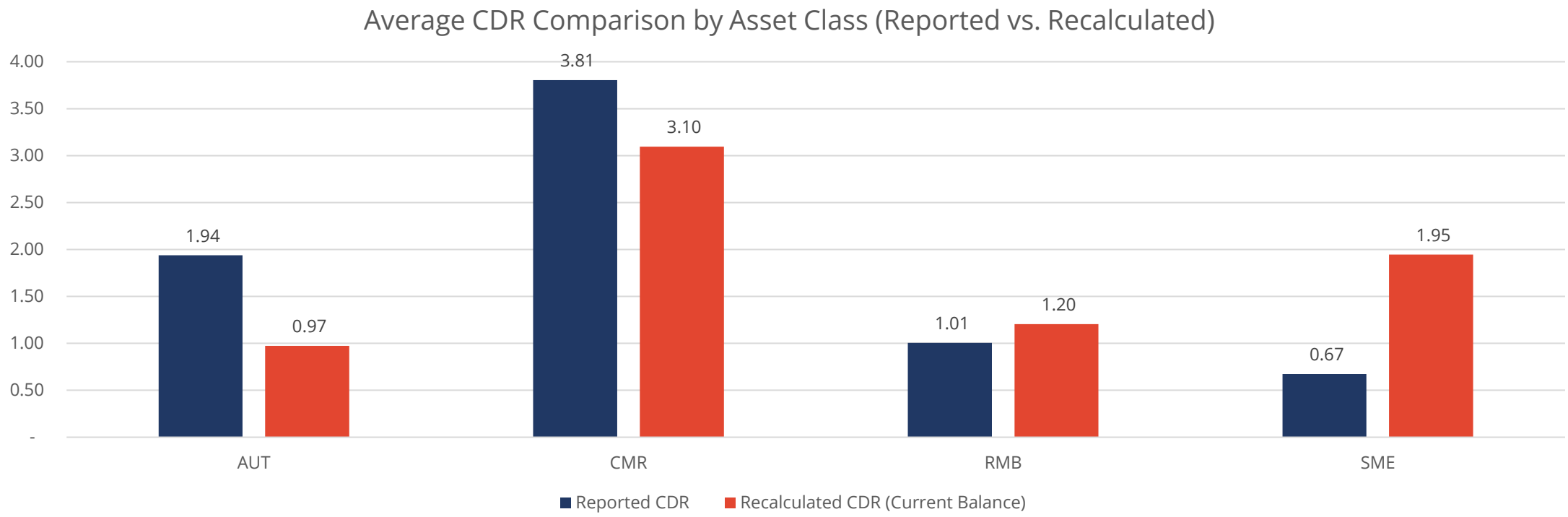
REPORTED VS. RECALCULATED CDR: COMPARISON BY COUNTRY



Sample Data: Latest Pool Cutoff – 281 Public Active Deals with Defaults

ANNUALISED CDR – COMPARISON

REPORTED VS. RECALCULATED CDR: AVERAGE COMPARISON BY ASSET CLASS



Sample Data: Latest Pool Cutoff – 316 Public Active Deals with Defaults

ANNUALISED CDR – DISCREPANCIES

COMMON CAUSES FOR DISCREPANCIES

- Not Annualised
- Not expressed as Percentage
- Current Balance of Defaulted Loans reported as Zero
- Calculated using the Deal's Definition of Defaulted Loans rather than the ESMA Definition
- Certain Defaulted Loans are reflected in the followings Period's CDR rather than the current one
- Incorrectly Reported Amounts (e.g., Cumulative or Outstanding Defaults)

ALL IN ONE DATABASE PROGRESS

ALL IN ONE DATABASE STATUS

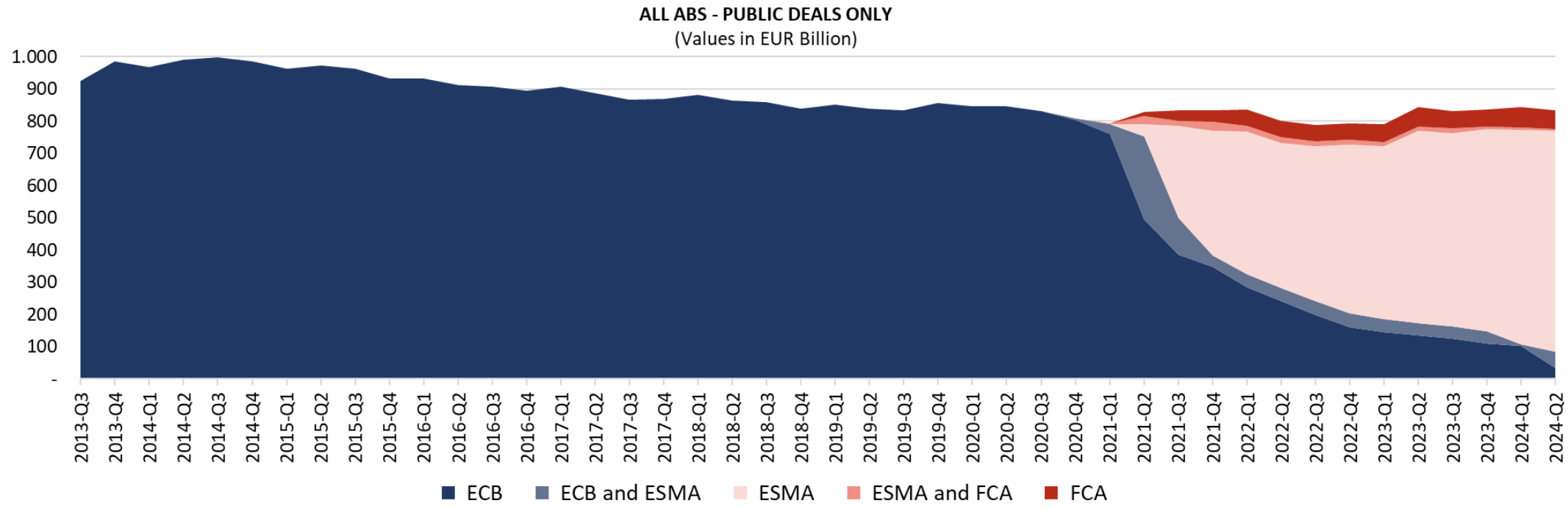
ECB AND ESMA DATA INTEGRATED IN ONE DATABASE

EDW is completing a beta version of its All-in-One database (AIO), merging ECB and ESMA data and preserving the time series from Q2 2013 to Q4 2024, for the six main asset classes. It facilitates time series analyses, as historical data is mostly in ECB format and new data is reported in ESMA format.

It will also improve user experience in other ways:

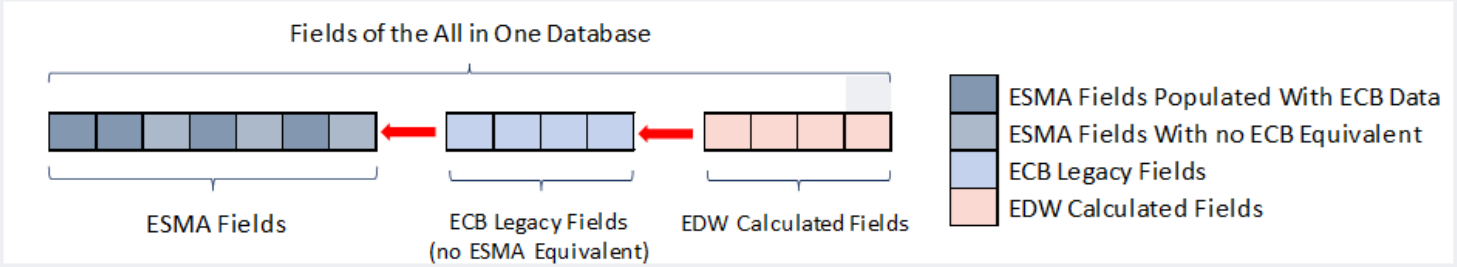
- We endeavour to correct errors found in the original data
- We optimised field size and format to simplify queries and (hopefully) make them faster. Among other improvements, the number fields are already "CAST AS NUMBER" in the AIO.
- Lastly, it also contains "calculated fields", that make it more user-friendly.
- AIO contains all the ESMA fields, to which we add the ECB fields without ESMA equivalents, plus calculated fields.

ECB VS ESMA VS FCA DATA AVAILABILITY

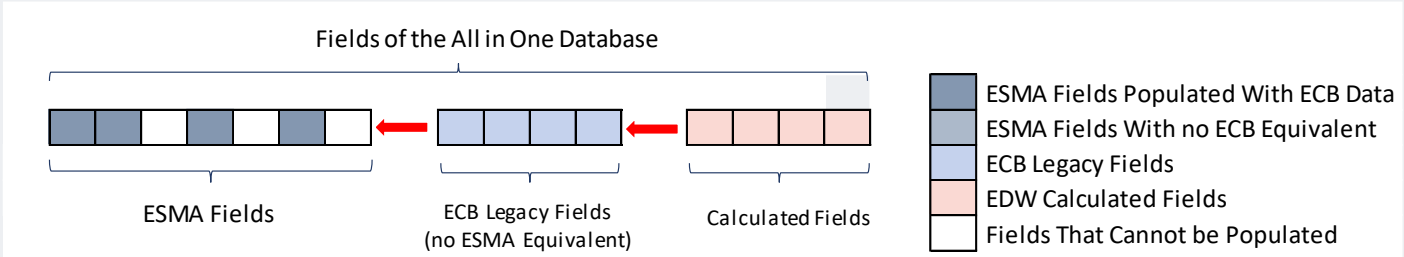


STRUCTURE

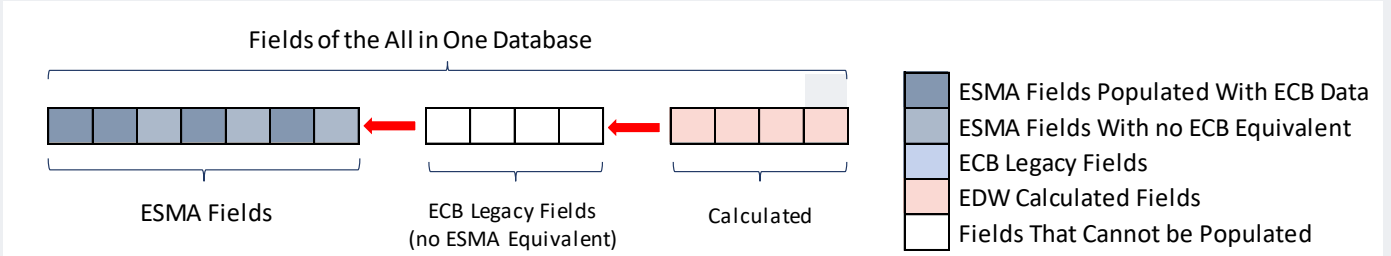
COMPOSITION OF THE ALL IN ONE DATABASE



WHEN ECB DATA IS IMPORTED IN THE ALL IN ONE DATABASE



WHEN ESMA DATA IS IMPORTED IN THE ALL IN ONE DATABASE



LIST OF CALCULATED FIELDS AS OF SEP. 2025 IN ECB ADJUSTED DATABASE

	AUTO	CONSUMER	CREDIT CARDS	LEASINGS	RMBS	SME
DATA_ORIGIN	yes	yes	yes	yes	yes	yes
EDCODE	yes	yes	yes	yes	yes	yes
Select_Unique	yes	yes	yes	yes	yes	yes
Sec_Id	yes	yes	yes	yes	yes	yes
PCD	yes	yes	yes	yes	yes	yes
GEO_1	yes	yes	yes	yes	yes	yes
GEO_2	yes	yes	yes	yes	yes	yes
GEO_3	yes	yes	yes	yes	yes	yes
QTR_ED	yes	yes	yes	yes	yes	yes
COUNTRY_ED	yes	yes	yes	yes	yes	yes
Manufacturer	yes	-	-	-	-	-
Model	yes	-	-	-	-	-
Fuel_Type	yes	-	-	-	-	-
Year_Model	yes	-	-	-	-	-
Engine_size	yes	-	-	-	-	-
Vehicle_type	yes	-	-	-	-	-
Euro_Conversion_Factor	yes	yes	yes	yes	yes	yes
ED_Loan_ID	To do	To do	To do	To do	To do	To do
ED_Borrower_ID	To do	To do	To do	To do	To do	To do
Days in arrears proxy	To do	To do		To do	To do	

LIST OF CALCULATED FIELDS AS OF SEP. 2025 IN ECB ADJUSTED DATABASE

	AUTO	CONSUMER	CREDIT CARDS	LEASINGS	RMBS	SME
DATA_ORIGIN	yes	yes	yes	yes	yes	yes
EDCODE	yes	yes	yes	yes	yes	yes
Select_Unique	yes	yes	yes	yes	yes	yes
Sec_Id	yes	yes	yes	yes	yes	yes
PCD	yes	yes	yes	yes	yes	yes
GEO_1	yes	yes	yes	yes	yes	yes
GEO_2	yes	yes	yes	yes	yes	yes
GEO_3	yes	yes	yes	yes	yes	yes
QTR_ED	yes	yes	yes	yes	yes	yes
COUNTRY_ED	yes	yes	yes	yes	yes	yes
Manufacturer	yes	-	-	-	-	-
Model	yes	-	-	-	-	-
Fuel_Type	yes	-	-	-	-	-
Year_Model	yes	-	-	-	-	-
Engine_size	yes	-	-	-	-	-
Vehicle_type	yes	-	-	-	-	-
Euro_Conversion_Factor	yes	yes	yes	yes	yes	yes
ED_Loan_ID	To do	To do	To do	To do	To do	To do
ED_Borrower_ID	To do	To do	To do	To do	To do	To do
Days in arrears proxy	To do	To do		To do	To do	

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	AUTO	CONSUMER	CREDIT CARDS	LEASINGS	RMBS	SME
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EDCODE	yes	yes	yes	yes	yes	yes
Select_Unique	yes	yes	yes	yes	yes	yes
Sec_Id	yes	yes	yes	yes	yes	yes
PCD	yes	yes	yes	yes	yes	yes
GEO_1	yes	yes	yes	yes	yes	yes
GEO_2	yes	yes	yes	yes	yes	yes
GEO_3	yes	yes	yes	yes	yes	yes
QTR_ED	yes	yes	yes	yes	yes	yes
COUNTRY_ED	yes	yes	yes	yes	yes	yes
Manufacturer	yes	-	-	-	-	-
Model	yes	-	-	-	-	-
Fuel_Type	yes	-	-	-	-	-
Year_Model	yes	-	-	-	-	-
Engine_size	yes	-	-	-	-	-
Vehicle_type	yes	-	-	-	-	-
Euro_Conversion_Factor	yes	yes	yes	yes	yes	yes
ED_Loan_ID	To do	To do	To do	To do	To do	To do
ED_Borrower_ID	To do	To do	To do	To do	To do	To do
Days in arrears proxy	To do	To do		To do	To do	

LIST OF CALCULATED FIELDS AS OF SEP. 2025 IN ECB ADJUSTED DATABASE

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EDCODE	yes	yes	yes	yes	yes	yes
Select_Unique	yes	yes	yes	yes	yes	yes
Sec_Id	yes	yes	yes	yes	yes	yes
PCD	yes	yes	yes	yes	yes	yes
GEO_1	yes	yes	yes	yes	yes	yes
GEO_2	yes	yes	yes	yes	yes	yes
GEO_3	yes	yes	yes	yes	yes	yes
QTR_ED	yes	yes	yes	yes	yes	yes
COUNTRY_ED	yes	yes	yes	yes	yes	yes
Manufacturer	yes	-	-	-	-	-
Model	yes	-	-	-	-	-
Fuel_Type	yes	-	-	-	-	-
Year_Model	yes	-	-	-	-	-
Engine_size	yes	-	-	-	-	-
Vehicle_type	yes	-	-	-	-	-
Euro_Conversion_Factor	yes	yes	yes	yes	yes	yes
ED_Loan_ID	To do	To do	To do	To do	To do	To do
ED_Borrower_ID	To do	To do	To do	To do	To do	To do
Days in arrears proxy	To do	To do		To do	To do	

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Select_Unique	yes	yes	yes	yes	yes	yes
Sec_Id	yes	yes	yes	yes	yes	yes
PCD	yes	yes	yes	yes	yes	yes
GEO_1	yes	yes	yes	yes	yes	yes
GEO_2	yes	yes	yes	yes	yes	yes
GEO_3	yes	yes	yes	yes	yes	yes
QTR_ED	yes	yes	yes	yes	yes	yes
COUNTRY_ED	yes	yes	yes	yes	yes	yes
Manufacturer	yes	-	-	-	-	-
Model	yes	-	-	-	-	-
Fuel_Type	yes	-	-	-	-	-
Year_Model	yes	-	-	-	-	-
Engine_size	yes	-	-	-	-	-
Vehicle_type	yes	-	-	-	-	-
Euro_Conversion_Factor	yes	yes	yes	yes	yes	yes
ED_Loan_ID	To do	To do	To do	To do	To do	To do
ED_Borrower_ID	To do	To do	To do	To do	To do	To do
Days in arrears proxy	To do	To do		To do	To do	

LIST OF CALCULATED FIELDS AS OF SEP. 2025 IN ECB ADJUSTED DATABASE

	AUTO	CONSUMER	CREDIT CARDS	LEASINGS	RMBS	SME
DATA_ORIGIN	yes	yes	yes	yes	yes	yes
EDCODE	yes	yes	yes	yes	yes	yes
Select_Unique	yes	yes	yes	yes	yes	yes
Sec_Id	yes	yes	yes	yes	yes	yes
PCD	yes	yes	yes	yes	yes	yes
GEO_1	yes	yes	yes	yes	yes	yes
GEO_2	yes	yes	yes	yes	yes	yes
GEO_3	yes	yes	yes	yes	yes	yes
QTR_ED	yes	yes	yes	yes	yes	yes
COUNTRY_ED	yes	yes	yes	yes	yes	yes
Manufacturer	yes	-	-	-	-	-
Model	yes	-	-	-	-	-
Fuel_Type	yes	-	-	-	-	-
Year_Model	yes	-	-	-	-	-
Engine_size	yes	-	-	-	-	-
Vehicle_type	yes	-	-	-	-	-
Euro_Conversion_Factor	yes	yes	yes	yes	yes	yes
ED_Loan_ID	To do	To do	To do	To do	To do	To do
ED_Borrower_ID	To do	To do	To do	To do	To do	To do
Days in arrears proxy	To do	To do		To do	To do	

Q&A

THANK YOU

CONTACT US

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PROXY DATA STUDIES

PROXY DATA TO COMPLY WITH ARTICLE 22(1) FOR THE STS TRANSACTIONS

EUROPEAN DATAWAREHOUSE CAN HELP YOUR ORGANISATION COMPLY WITH RELEVANT PERFORMANCE REQUIREMENTS

- With over 1300 transactions, EDW offers solutions for the issuers/originators/SSPEs to comply with the STS Requirements relating to transparency
- EDW can perform on-demand SQL queries to extract historical performance data from its database across asset classes for a period of at least five years. The performance data includes historical arrears, defaults for exposures similar to those being securitised.

L 347/62 EN Official Journal of the European Union 28.12.2017

Article 22

Requirements relating to transparency

1. The originator and the sponsor shall make available data on static and dynamic historical default and loss performance, such as delinquency and default data, for substantially similar exposures to those being securitised, and the sources of those data and the basis for claiming similarity, to potential investors before pricing. Those data shall cover a period of at least five years.

PERFORMANCE TABLES

5 Years of Historical Arrears of a Sample of Substantially Similar Mortgage Receivables (Source: European DataWarehouse)

Date	Outstanding Balance	0-30 days	30-60 days	60-90 days	90-120 days	120-150 days	150-180 days	180+ days
31 March 2014	886,240,154	0.59%	0.12%	0.05%	0.02%	0.03%	0.02%	0.23%
30 June 2014	872,109,172	0.74%	0.27%	0.12%	0.14%	0.02%	0.02%	0.18%
30 September 2014	860,784,118	0.25%	0.10%	0.03%	0.00%	0.02%	0.00%	0.00%
31 December 2014	843,694,237	2.92%	0.23%	0.12%	0.06%	0.04%	0.02%	0.13%
31 March 2015	810,849,986	2.09%	0.21%	0.14%	0.01%	0.07%	0.03%	0.13%
30 June 2015	818,402,751	2.90%	0.28%	0.06%	0.03%	0.15%	0.04%	0.11%

PROXY DATA PROCESS

5 STAGE PROCESS DESIGNED FOR DATA SET OPTIMISATION

INITIAL COMMUNICATION

EDW and the client identify and discuss any extraordinary characteristics of the desired pool to be securitised. For instance:

- Origination years
- Occupancy type
- Interest rate type
- Guarantee type etc.

DEALS SELECTION

EDW selects a list of deals based on:

- **completeness of data**
- **results of data quality checks**
- **the pool characteristics discussed**

The list of deals is then shared, and modified based on client feedback

PROXY LOANS SELECTION

A subset of the underlying loans (based on the characteristics portfolio to be securitised) from the selected deals are taken as proxy loans.

Their historical performance data is compiled.

edcode	deal name	vintage
RMBSXX12345678912XXXX1	ABC 2014	2014
RMBSXX12345678912XXXX1	XYZ 2014	2014
RMBSXX12345678912XXXX1	ABC 2015	2015
RMBSXX12345678912XXXX1	XYZ 2015	2015
RMBSXX12345678912XXXX1	ABC 2016	2016
RMBSXX12345678912XXXX1	XYZ 2016	2016
RMBSXX12345678912XXXX1	ABC 2017	2017
RMBSXX12345678912XXXX1	XYZ 2017	2017
RMBSXX12345678912XXXX1	ABC 2018	2018
RMBSXX12345678912XXXX1	XYZ 2018	2018
RMBSXX12345678912XXXX1	ABC 2019	2019
RMBSXX12345678912XXXX1	XYZ 2019	2019

ADJUSTMENTS TO THE DATA

Dataset from each selected deal is scrutinised further for quality

Any idiosyncratic reporting practices in a deal are adjusted to one standard.

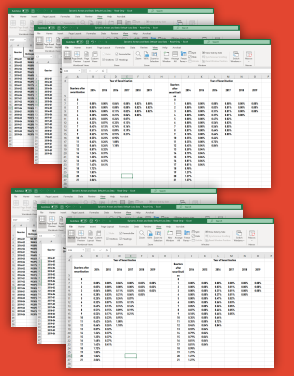
Any outlying results are investigated and discussed with the relevant EDW analyst

FINAL PERF. DATASET

First generation EDQC launched

Rules based LLD analysis implemented for all asset classes

RESULT: PROXY DATA



PROXY LOANS SELECTION AND ADJUSTMENTS TO THE DATA

BESPOKE ADJUSTMENTS

Prior to merging datasets from different deals, **each dataset is scrutinised further for data quality.** Examples include: **loan Identifier changes**, **duplicate data**, **dropped loans**, **decimal point issues**

Any idiosyncratic reporting practices of a unique deal are adjusted. Examples include: **default definition, reporting of Months in Arrears, reporting of Inactive loans**

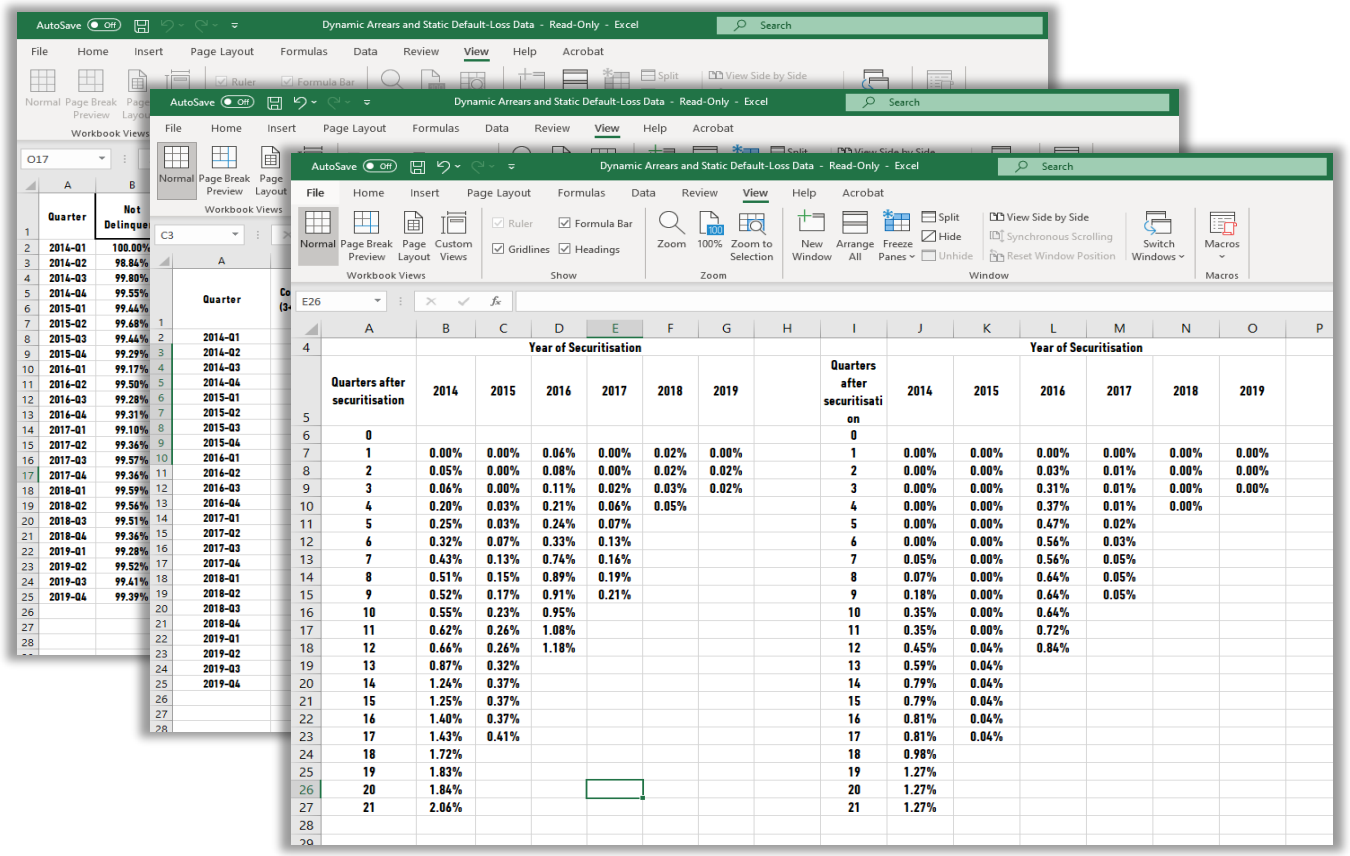
Any out of the ordinary results are investigated and discussed with the relevant Deal Analyst (e.g. high repurchases, zero defaults etc.) Investor Reports and other transaction documentation is referred to for reconciliation.

If needed, **complementing statistics are included as part of the final performance dataset.**

PROXY DATA LOAN SELECTION SUBSET SAMPLE

edcode	deal name	vintage
RMBSXX12345678912XXXX1	ABC 2014	2014
RMBSXX12345678912XXXX1	XYZ 2014	2014
RMBSXX12345678912XXXX1	ABC 2015	2015
RMBSXX12345678912XXXX1	XYZ 2015	2015
RMBSXX12345678912XXXX1	ABC 2016	2016
RMBSXX12345678912XXXX1	XYZ 2016	2016
RMBSXX12345678912XXXX1	ABC 2017	2017
RMBSXX12345678912XXXX1	XYZ 2017	2017
RMBSXX12345678912XXXX1	ABC 2018	2018
RMBSXX12345678912XXXX1	XYZ 2018	2018
RMBSXX12345678912XXXX1	ABC 2019	2019
RMBSXX12345678912XXXX1	XYZ 2019	2019

RESULT: FINAL PROXY DATA SAMPLE



Quarters after securitisation	Year of Securitisation					
	2014	2015	2016	2017	2018	2019
0						
1	0.00%	0.00%	0.06%	0.00%	0.02%	0.00%
2	0.05%	0.00%	0.08%	0.00%	0.02%	0.02%
3	0.06%	0.00%	0.11%	0.02%	0.03%	0.02%
4	0.20%	0.03%	0.21%	0.06%	0.05%	
5	0.25%	0.03%	0.24%	0.07%		
6	0.32%	0.07%	0.33%	0.13%		
7	0.43%	0.13%	0.74%	0.16%		
8	0.51%	0.15%	0.89%	0.19%		
9	0.52%	0.17%	0.91%	0.21%		
10	0.55%	0.23%	0.95%			
11	0.62%	0.26%	1.08%			
12	0.66%	0.26%	1.18%			
13	0.87%	0.32%				
14	1.24%	0.37%				
15	1.25%	0.37%				
16	1.40%	0.37%				
17	1.43%	0.41%				
18	1.72%					
19	1.83%					
20	1.84%					
21	2.06%					

Quarters after securitisation	Year of Securitisation					
	2014	2015	2016	2017	2018	2019
0						
1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%
3	0.00%	0.00%	0.31%	0.01%	0.00%	0.00%
4	0.00%	0.00%	0.37%	0.01%	0.00%	
5	0.00%	0.00%	0.47%	0.02%		
6	0.00%	0.00%	0.56%	0.03%		
7	0.05%	0.00%	0.56%	0.05%		
8	0.07%	0.00%	0.64%	0.05%		
9	0.18%	0.00%	0.64%	0.05%		
10	0.35%	0.00%	0.64%			
11	0.35%	0.00%	0.72%			
12	0.45%	0.04%	0.84%			
13	0.59%	0.04%				
14	0.79%	0.04%				
15	0.79%	0.04%				
16	0.81%	0.04%				
17	0.81%	0.04%				
18	0.98%					
19	1.27%					
20	1.27%					
21	1.27%					

RESULT: FINAL PROXY DATA SAMPLE

DYNAMIC ARREARS AND DEFAULTS

	A	B	C	D	E	F	G	H	I	J	K
1	Quarter	Not Delinquent	0 – 30 days	30 – 60 days	60 – 90 days	90 – 120 days	120 – 150 days	150 – 180 days	180+ days	Balance of New loans added	
2	2014-Q1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
3	2014-Q2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
4	2014-Q3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
5	2014-Q4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
6	2015-Q1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
7	2015-Q2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
8	2015-Q3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
9	2015-Q4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
10	2016-Q1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
11	2016-Q2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
12	2016-Q3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
13	2016-Q4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
14	2017-Q1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
15	2017-Q2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
16	2017-Q3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
17	2017-Q4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
18	2018-Q1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
19	2018-Q2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
20	2018-Q3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
21	2018-Q4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
22	2019-Q1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
23	2019-Q2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
24	2019-Q3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
25	2019-Q4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
26											

	A	B	C
1	Quarter	Constant Default Rate (3+ months definition)	Constant Default Rate (Transaction definition)
2	2014-Q1		
3	2014-Q2	X.XX%	X.XX%
4	2014-Q3	X.XX%	X.XX%
5	2014-Q4	X.XX%	X.XX%
6	2015-Q1	X.XX%	X.XX%
7	2015-Q2	X.XX%	X.XX%
8	2015-Q3	X.XX%	X.XX%
9	2015-Q4	X.XX%	X.XX%
10	2016-Q1	X.XX%	X.XX%
11	2016-Q2	X.XX%	X.XX%
12	2016-Q3	X.XX%	X.XX%
13	2016-Q4	X.XX%	X.XX%
14	2017-Q1	X.XX%	X.XX%
15	2017-Q2	X.XX%	X.XX%
16	2017-Q3	X.XX%	X.XX%
17	2017-Q4	X.XX%	X.XX%
18	2018-Q1	X.XX%	X.XX%
19	2018-Q2	X.XX%	X.XX%
20	2018-Q3	X.XX%	X.XX%
21	2018-Q4	X.XX%	X.XX%
22	2019-Q1	X.XX%	X.XX%
23	2019-Q2	X.XX%	X.XX%
24	2019-Q3	X.XX%	X.XX%
25	2019-Q4	X.XX%	X.XX%
26			

RESULT: FINAL PROXY DATA SAMPLE

STATIC DEFAULT AND LOSS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1																								
2		Cumulative Default Rates (3+ months definition)								Cumulative Default Rates (transaction definition)								Cumulative Loss Rates (transaction definition)						
3																								
4		Year of Securitisation								Year of Securitisation								Year of Securitisation						
5	Quarters after securitisation	2014	2015	2016	2017	2018	2019		Quarters after securitisation	2014	2015	2016	2017	2018	2019		Quarters after securitisation	2014	2015	2016	2017	2018	2019	
6	0								0								0							
7	1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		1	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
8	2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		2	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
9	3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		3	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	
10	4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%			4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%			4	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		
11	5	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%			5	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%			5	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		
12	6	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%			6	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%			6	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%		
13	7	X.XX%	X.XX%	X.XX%	X.XX%				7	X.XX%	X.XX%	X.XX%	X.XX%				7	X.XX%	X.XX%	X.XX%	X.XX%			
14	8	X.XX%	X.XX%	X.XX%	X.XX%				8	X.XX%	X.XX%	X.XX%	X.XX%				8	X.XX%	X.XX%	X.XX%	X.XX%			
15	9	X.XX%	X.XX%	X.XX%	X.XX%				9	X.XX%	X.XX%	X.XX%	X.XX%				9	X.XX%	X.XX%	X.XX%	X.XX%			
16	10	X.XX%	X.XX%	X.XX%					10	X.XX%	X.XX%	X.XX%					10	X.XX%	X.XX%	X.XX%				
17	11	X.XX%	X.XX%	X.XX%					11	X.XX%	X.XX%	X.XX%					11	X.XX%	X.XX%	X.XX%				
18	12	X.XX%	X.XX%	X.XX%					12	X.XX%	X.XX%	X.XX%					12	X.XX%	X.XX%	X.XX%				
19	13	X.XX%	X.XX%						13	X.XX%	X.XX%						13	X.XX%	X.XX%					
20	14	X.XX%	X.XX%						14	X.XX%	X.XX%						14	X.XX%	X.XX%					
21	15	X.XX%	X.XX%						15	X.XX%	X.XX%						15	X.XX%	X.XX%					
22	16	X.XX%	X.XX%						16	X.XX%	X.XX%						16	X.XX%	X.XX%					
23	17	X.XX%	X.XX%						17	X.XX%	X.XX%						17	X.XX%	X.XX%					
24	18	X.XX%							18	X.XX%							18	X.XX%						
25	19	X.XX%							19	X.XX%							19	X.XX%						
26	20	X.XX%							20	X.XX%							20	X.XX%						
27	21	X.XX%							21	X.XX%							21	X.XX%						
28																								