EUROPEAN
DATAWAREHOUSE

RESEARCH UPDATE

Q1 2025

MARCH 2025

WELCOMING REMARKS

ON TODAY'S CALL

LUDOVIC THEBAULT
EUROPEAN DATAWAREHOUSE
ludovic.thebault@eurodw.eu

USMAN JAMIL
EUROPEAN DATAWAREHOUSE
usman.jamil@eurodw.eu

AGENDA

WELCOMING REMARKS
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

LATEST PUBLICATIONS AND PROJECTS (INCL. EUROPEAN BENCHMARKING EXERCISE)
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

UPDATE ON THE ALL-IN-ONE DATABASE
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

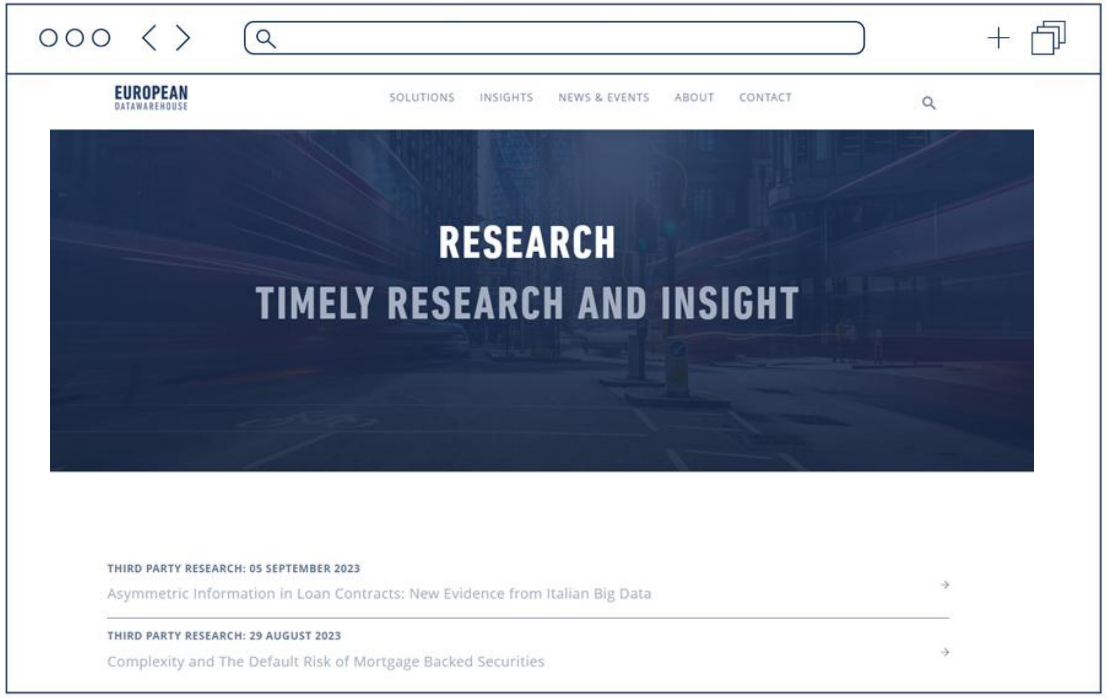
ALIGNING CREDIT PERFORMANCE WITH ENERGY EFFICIENCY: INSIGHTS INTO AUTO MARKETS
USMAN JAMIL, EUROPEAN DATAWAREHOUSE

Q&A
LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

LATEST PUBLICATIONS AND PROJECTS

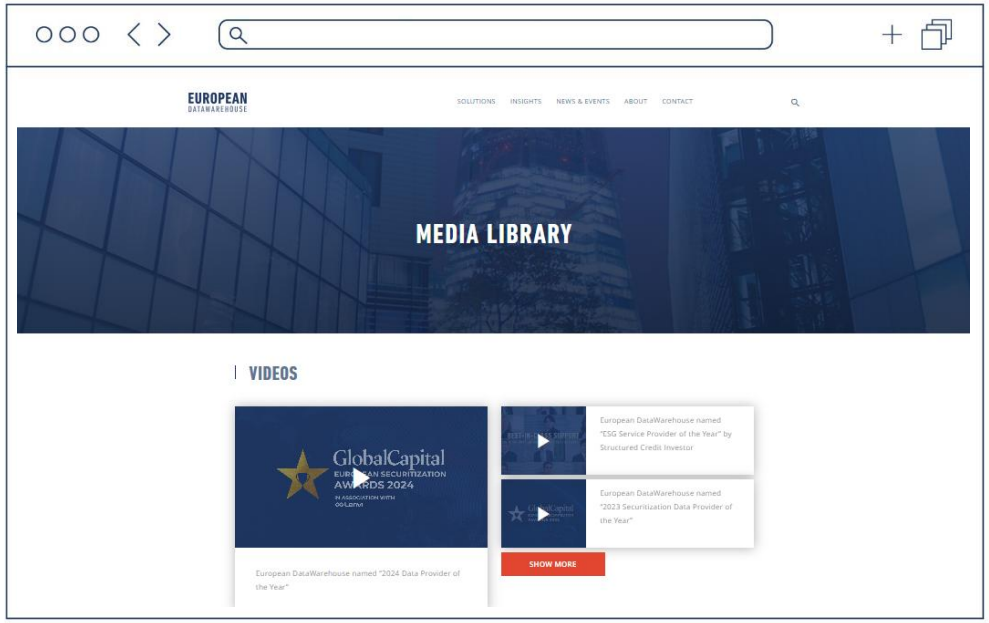
EDW RESEARCH SECTION

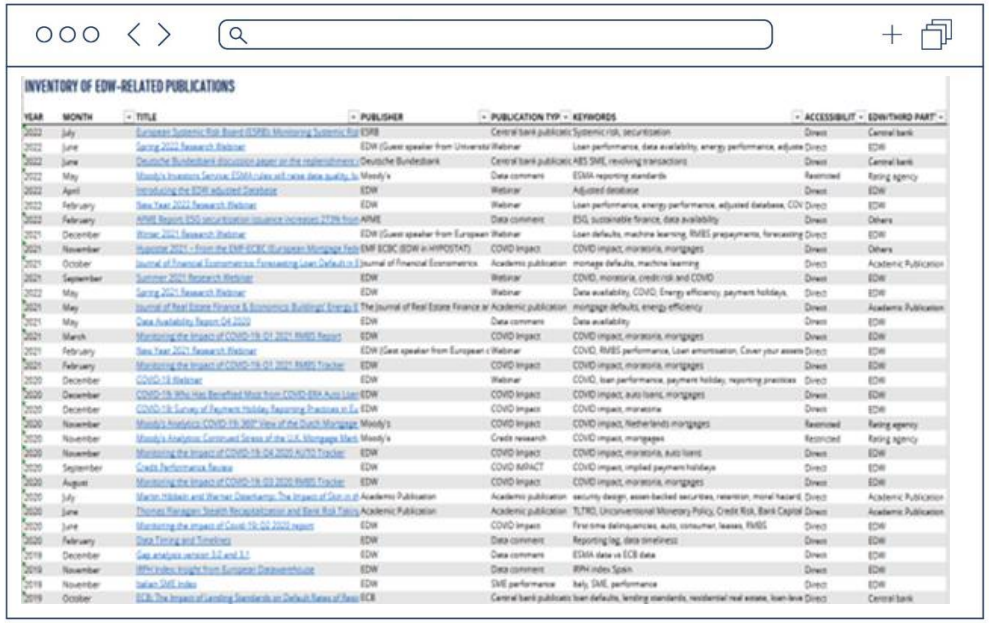
OUR OWN PUBLICATIONS PLUS THIRD-PARTY RESEARCH: HTTPS://EURODW.EU/KNOWLEDGE/RESEARCH



LIST OF RESEARCH PUBLICATIONS

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





INVENTORY OF EDW-RELATED PUBLICATIONS

YEAR	MONTH	TITLE	PUBLISHER	PUBLICATION TYP	KEYWORDS	ACCESSIBILIT	EDW/THIRD PART
2022	July	European Systemic Risk Board (ESRB) Monitoring Systemic Ris	ESRB	Central bank publicati	Systemic risk, securitisation	Direct	Central bank
2022	June	Spring 2022 Research Webinar	EDW (Guest speaker from Universit	Webinar	Loan performance, data availability, energy performance, adjuste	Direct	EDW
2022	June	Deutsche Bundesbank discussion paper on the implementing	Deutsche Bundesbank	Central bank publicati	ABS SME, revolving transactions	Direct	Central bank
2022	May	Moody's Investors Service: ESMA rules will raise data quality, b	Moody's	Data comment	ESMA reporting standards	Restricted	Rating agency
2022	April	Introducing the EDW adjusted Database	EDW	Webinar	Adjusted database	Direct	EDW
2022	February	New Year 2022 Research Webinar	EDW	Webinar	Loan performance, energy performance, adjusted database, CDV	Direct	EDW
2022	February	APME Report: ESG securitisation issuance increases 277% from	APME	Data comment	ESG, sustainable finance, data availability	Direct	Others
2021	December	Winter 2021 Research Webinar	EDW (Guest speaker from European	Webinar	Loan defaults, machine learning, RMBS prepayments, forecasting	Direct	EDW
2021	November	Hypostat 2021 - from the EMF-ECBC (European Mortgage Fede	EMF ECBC (EDW in HYPOSTAT)	COVID Impact	COVID impact, moratoria, mortgages	Direct	Others
2021	October	Journal of Financial Econometrics: Forecasting Loan Default in	Journal of Financial Econometrics	Academic publication	mortage defaults, machine learning	Direct	Academic Publication
2021	September	Summer 2021 Research Webinar	EDW	Webinar	COVID, moratoria, credit risk and COVID	Direct	EDW
2022	May	Spring 2021 Research Webinar	EDW	Webinar	Data availability, COVID, Energy efficiency, payment holidays,	Direct	EDW
2021	May	Journal of Real Estate Finance & Economics Buildings' Energy E	The Journal of Real Estate Finance a	Academic publication	mortgage defaults, energy efficiency	Direct	Academic Publication
2021	May	Data Availability Report Q4 2020	EDW	Data comment	Data availability	Direct	EDW
2021	March	Monitoring the Impact of COVID-19 Q1 2021 RMBS Report	EDW	COVID Impact	COVID impact, moratoria, mortgages	Direct	EDW
2021	February	New Year 2021 Research Webinar	EDW (Guest speaker from European c	Webinar	COVID, RMBS performance, Loan amortisation, Cover your assets	Direct	EDW
2021	February	Monitoring the Impact of COVID-19 Q1 2021 RMBS Tracker	EDW	COVID Impact	COVID impact, moratoria, mortgages	Direct	EDW
2020	December	COVID-19 Webinar	EDW	Webinar	COVID, loan performance, payment holiday, reporting practices	Direct	EDW
2020	December	COVID-19: Who Has Benefited Most from COVID-ERA Auto Loan	EDW	COVID Impact	COVID impact, auto loans, mortgages	Direct	EDW
2020	December	COVID-19: Survey of Payment Holiday Reporting Practices in Eu	EDW	COVID Impact	COVID impact, moratoria	Direct	EDW
2020	November	Moody's Analytics: COVID-19: 360° View of the Dutch Mortgage	Moody's	COVID Impact	COVID impact, Netherlands mortgages	Restricted	Rating agency
2020	November	Moody's Analytics: Continued Stress of the U.K. Mortgage Mark	Moody's	Credit research	COVID impact, mortgages	Restricted	Rating agency
2020	November	Monitoring the Impact of COVID-19: Q4 2020 AUTO Tracker	EDW	COVID Impact	COVID impact, moratoria, auto loans	Direct	EDW
2020	September	Credit Performance Review	EDW	COVID IMPACT	COVID impact, implied payment holidays	Direct	EDW
2020	August	Monitoring the Impact of COVID-19: Q3 2020 RMBS Tracker	EDW	COVID Impact	COVID impact, moratoria, mortgages	Direct	EDW
2020	July	Martin Hellwig and Werner Osterhaup: The Impact of Gov in ot	Academic Publication	Academic publication	security design, asset-backed securities, retention, moral hazard,	Direct	Academic Publication
2020	June	Thomas Mariagger: Stealth Recapitalisation and Bank Risk Policy	Academic Publication	Academic publication	TLTRO, Unconventional Monetary Policy, Credit Risk, Bank Capital	Direct	Academic Publication
2020	June	Monitoring the impact of Covid-19: Q2 2020 report	EDW	COVID Impact	First time delinquencies, auto, consumer, leases, RMBS	Direct	EDW
2020	February	Data Timing and Timeliness	EDW	Data comment	Reporting lag, data timeliness	Direct	EDW
2019	December	Gap analysis version 3.2 and 3.1	EDW	Data comment	ESMA data vs ECB data	Direct	EDW
2019	November	IRPH index: Insight from European Datawarehouse	EDW	Data comment	IRPH index Spain	Direct	EDW
2019	November	Italian SME index	EDW	SME performance	Italy, SME, performance	Direct	EDW
2019	October	ECB: The Impact of Lending Standards on Default Rates of Resi	ECB	Central bank publicati	loan defaults, lending standards, residential real estate, loan-leve	Direct	Central bank

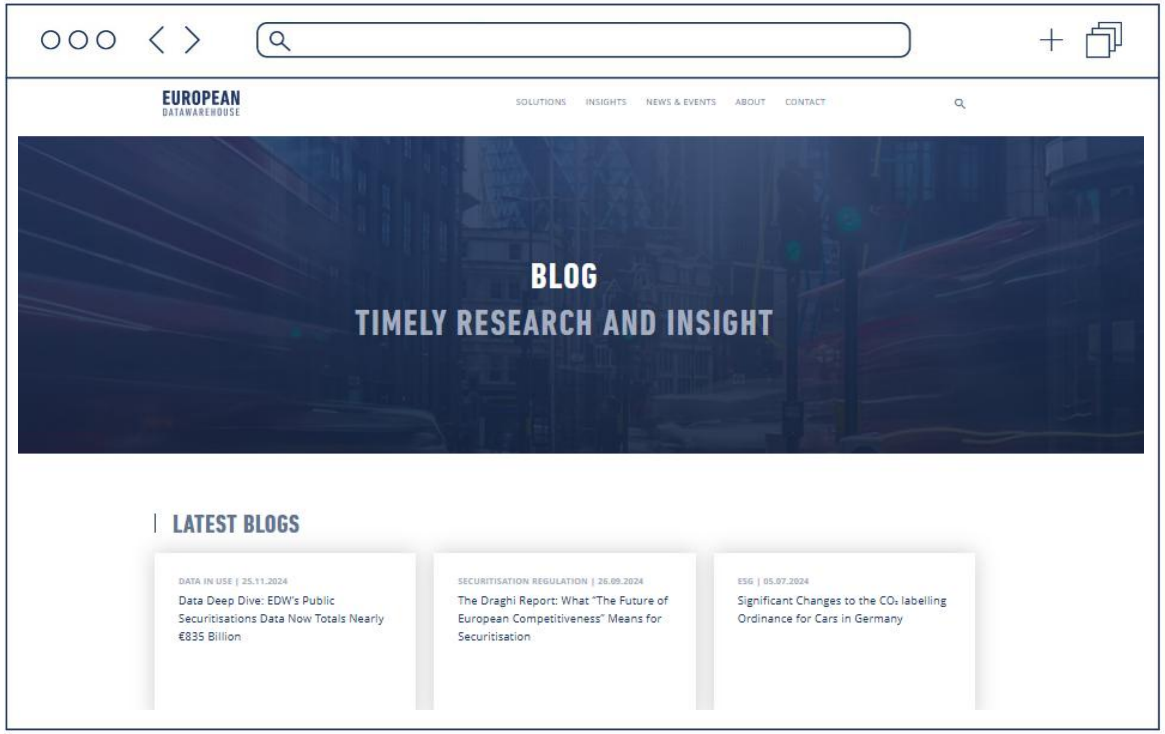
LIST OF RESEARCH PUBLICATIONS

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	Hipotrat 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 Repon	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	SSRN	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 Timelines	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, inter	Direct
2019	September	Data Availability Report I 2019 - Q1 (Excel)	EDW	Data comment	Data availability, ABS, SME, RMBS, Auto, Leases, Consumer	Direct

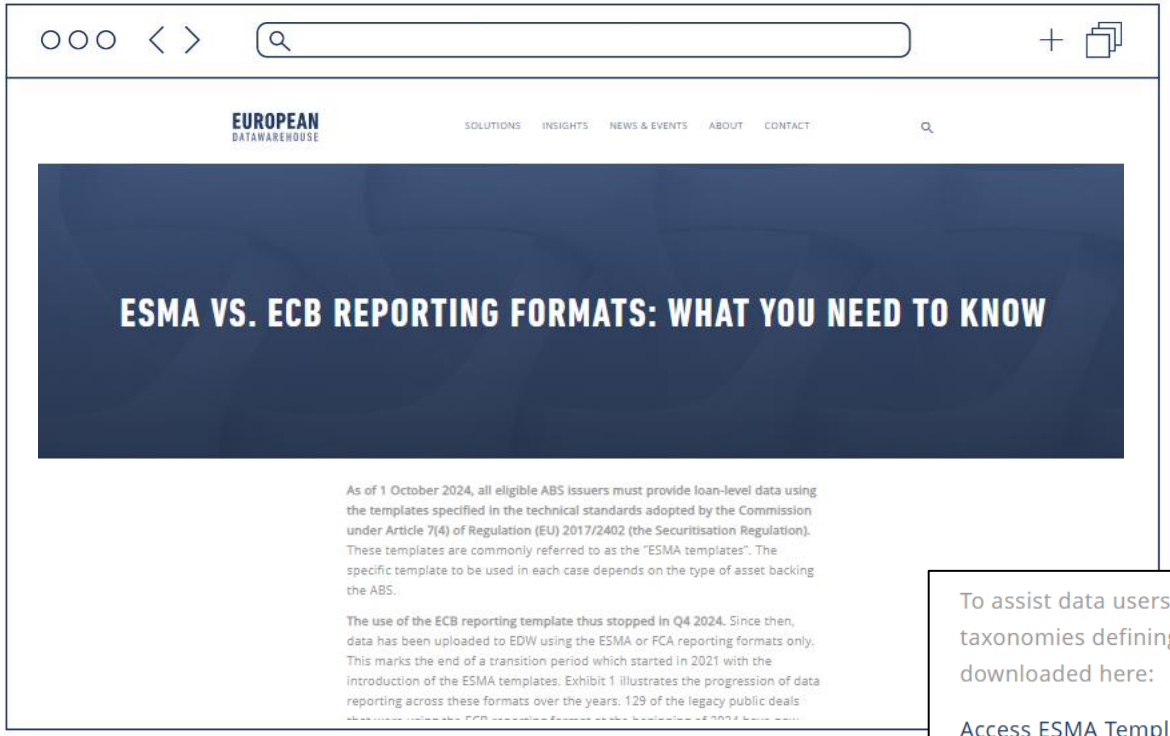
BLOG

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



LATEST BLOG

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



To assist data users in accessing and interpreting historical ECB data, the taxonomies defining the ECB and ESMA dataset fields respectively can be downloaded here:

Access ESMA Templates
Download ECB Templates

Main points:

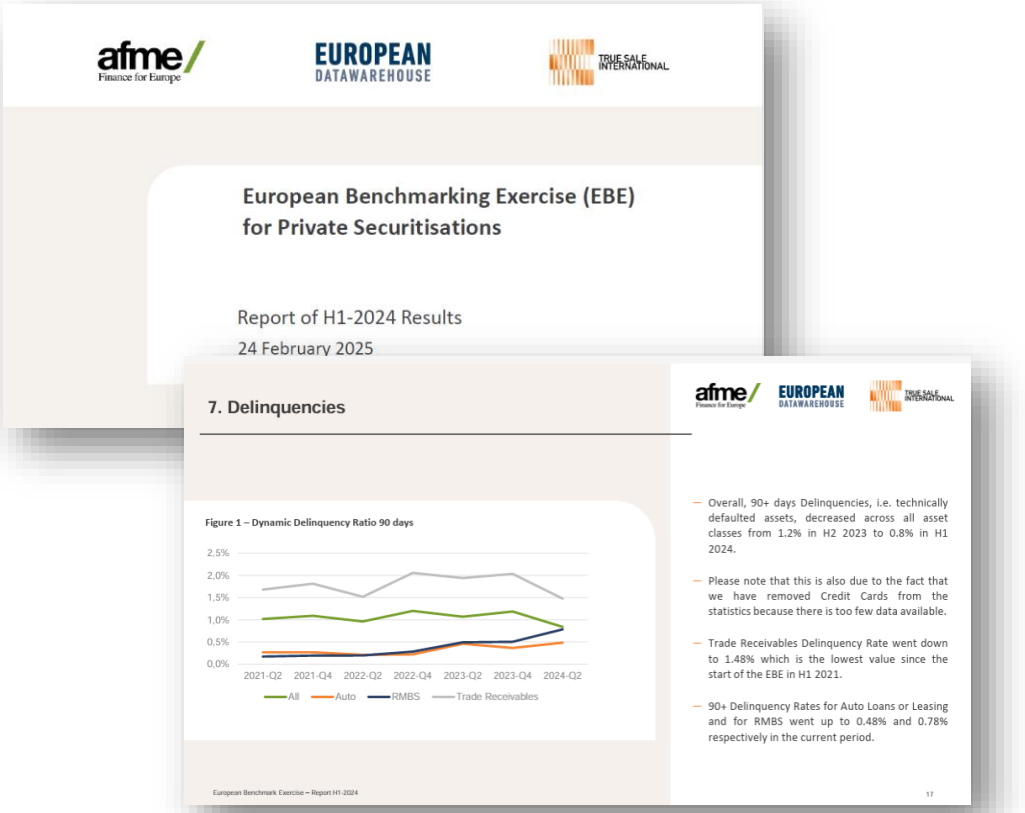
- Links to the ECB and ESMA templates are provided in the blog
- Data is now uploaded in ESMA format only; ESMA format differs somewhat from the ECB format
- Data continuity is ensured mostly for the fields that were mandatory in the ECB template

EUROPEAN BENCHMARKING EXERCISE

RECENT PUBLICATIONS: H1-2024 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.
- 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)



https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS CO-AUTHORED BY AFME AND TSI

Table 1 – Overview

		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	0,0%
Number of Commitments	#	595	610	610	556	525	527	504	-2,5%
Number of Transactions	#	435	457	443	433	412	387	404	-4,8%
Committed Amount	Million EUR	79,288	79,424	78,590	73,182	67,241	65,064	62,814	-0,2%
Funded Amount	Million EUR	60,197	59,111	57,748	60,502	56,400	53,009	50,205	1,8%
Utilisation	%	75.9%	74.4%	73.5%	82.7%	83.9%	81.5%	80.0%	2,0%
Total Asset Amount	Million EUR	207,646	203,859	195,524	184,159	183,326	173,016	177,329	1,9%
Based on delivered data:									
Estimated Market Size	Million EUR	232,236	231,040	209,400	195,669	194,784	183,830	188,412	0,5%

Δ_p=growth in last period

Table 4 – Asset Type (Committed Amounts)

	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
Trade Receivables	45,684	46,784	47,505	42,523	40,682	38,966	35,689	-2%
Auto Loan or Leasing	13,075	11,986	11,023	11,132	10,162	11,187	13,985	9%
Equipment Leasing	6,130	5,598	4,830	5,096	4,327	4,183	3,417	10%
Consumer Loans	4,879	5,580	5,115	4,891	4,704	3,760	3,197	-13%
Diverse	9,520	9,476	10,117	9,540	7,366	6,968	6,527	0%
Total	**79,288**	**79,424**	**78,590**	**73,182**	**67,241**	**65,064**	**62,815**	**0%**

Δ_p=growth in last period

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS COAUTHORED BY AFME AND TSI : MEASURING MARKET SIZE

Commitments

- A promise to provide up to a certain amount of funding (for instance 90 million). A private syndicated securitisation can have several commitments from several banks.

Funded amounts

- The portion of the committed amount which is effectively being used. If the commitment is 90 million, the funded amount can be between 0 and 90 million. If it is 72 million (also typical), this means that the utilisation rate is 80%. The private securitisation pools are typically revolving, and the asset pools can vary in size. Depending on the originator's needs.

Total asset amount

- This is the amount of the effectively securitised assets. Asset amount should always exceed the funded amount because overcollateralization is typically used for credit enhancement. If the funded amount is €72 million, asset amount could be 80 million.

Estimated market size

- This is the maximum amount of the assets that could be securitised given the credit enhancement and the asset utilisation rate;

COMMITMENT
€90 million

Of which (funded amount / commitment = utilisation rate)

FUNDED AMOUNT
€72 million

Difference between funded amount and asset amount is the credit enhancement (overcollateralisation)

CURRENT ASSET AMOUNT
€80 million

MAX. asset AMOUNT
€100 million

Value derived from the asset amount, the utilisation rate, and the overcollateralisation. The maximum amount of assets that could be funded given the existing commitments

RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Key highlights

- Private securitisations backed by trade receivables and auto loans/leases make up around **74%** of the market, and if consumer loans and equipment leasing are included, the 4 asset classes together represent **88%** of the market.

- Private securitisation markets are a key source of financing for the real economy.

- The difference between the €79 billion of commitments and the €232 billion market size is because:
    - Many large private securitisations are syndicated, with several commitments from several banks

    - If one of the 12 reporting banks in the EBE reports a commitment of €100million for a deal with €2 billion in assets which none of the other 12 report, this will account for €100 million out of the 79 billion of commitments outstanding and for €2 billion in the €207 billion of total assets.

- The overall private securitisation market is currently estimated at €232bn of total assets (inferred from the asset size of 207 billion, the credit enhancement and the asset utilisation rate of 75,9% i.e. 207,6 / 75,9% * 85% = 232,5)

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Mostly ABCP, mostly STS…

- 87% of the volume is ABCP funded, 63% of the transactions have the STS label…

Table 2 – Funding Type (Committed Amount)

	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_P
ABCP	68,889	69,833	69,635	65,235	59,412	57,491	55,524	-1%
BS	10,399	9,591	8,954	7,947	7,829	7,573	7,291	8%
Total	**79,288**	**79,424**	**78,590**	**73,182**	**67,241**	**65,064**	**62,815**	0%

Δ_P=growth in last period

Table 3 – Evolution of STS share (Committed Amount)

	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_P
STS share (in % by Committed Amount)	63.2%	61.2%	58.6%	56.6%	56.7%	55.0%	ND	3%
No. of STS commitments	371	366	356	305	275	256	ND	1%

Δ_P=growth in last period

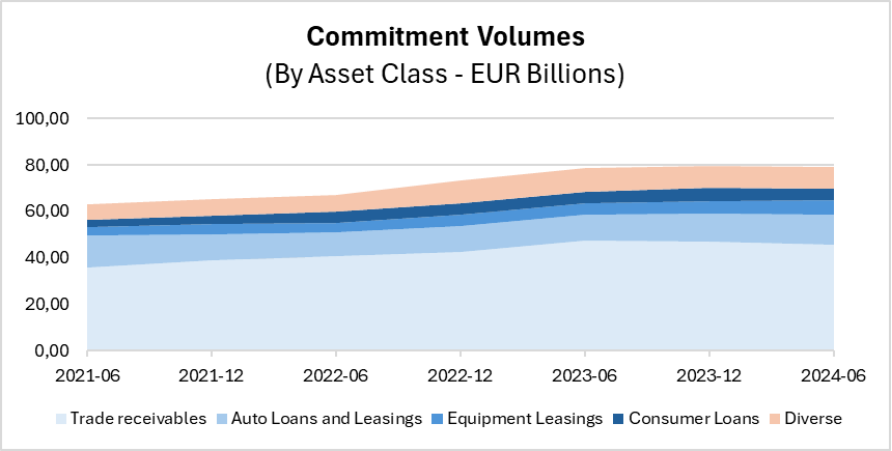
https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

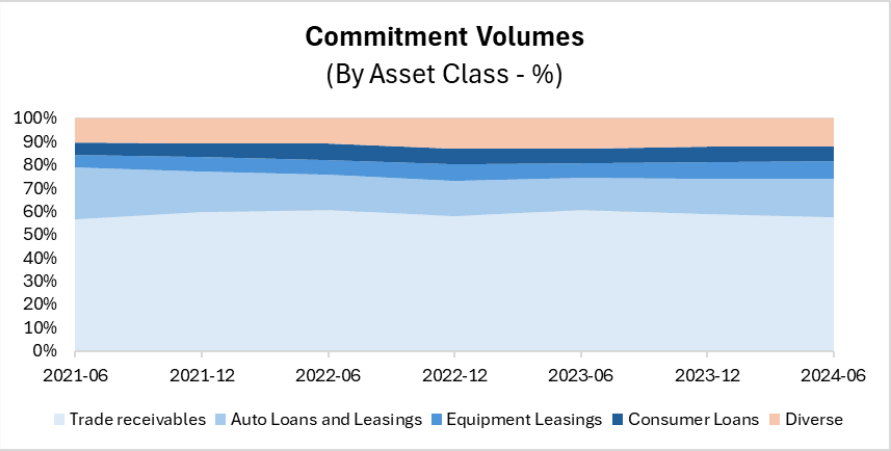
RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Commitment Volumes

- Commitment volumes have steadily increased since June 2021 from €62.8 billion to €79.3 billion
- Trade receivables represent 57% of the total and auto loans and leases 22%





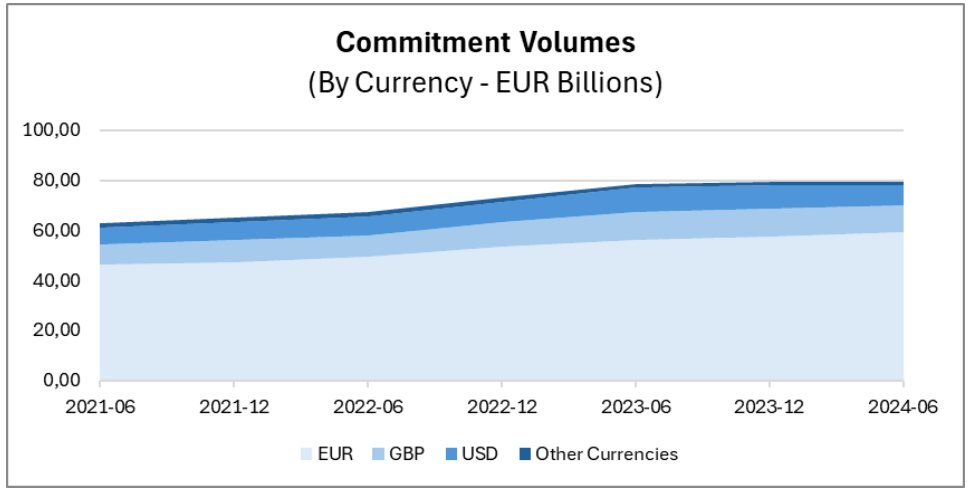
https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

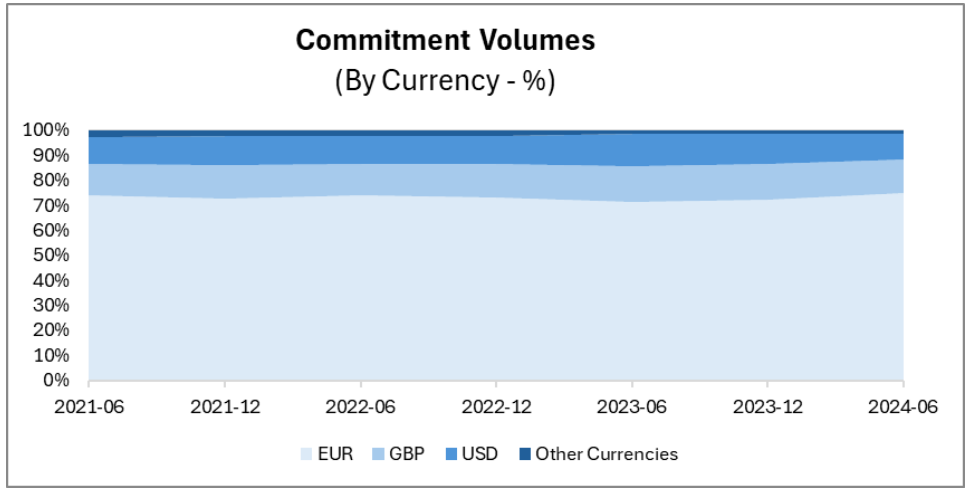
RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Commitment Volumes by Currencies

- Most of the commitment volume is in EUR





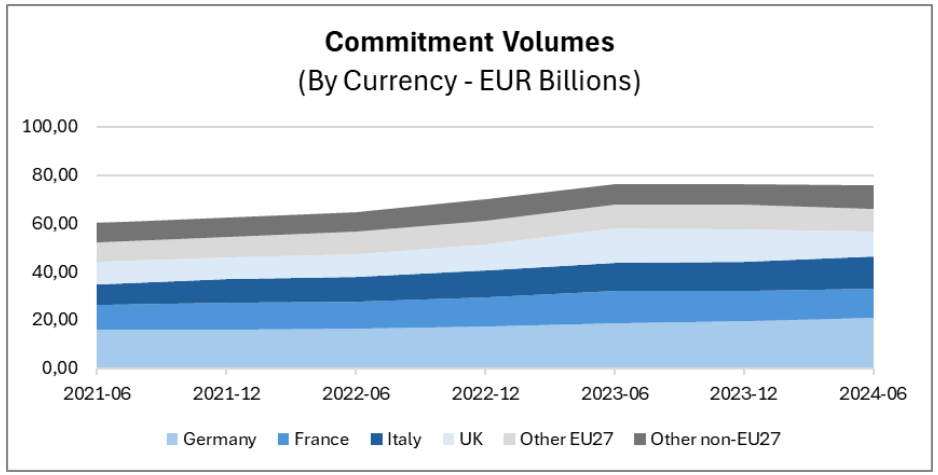
https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

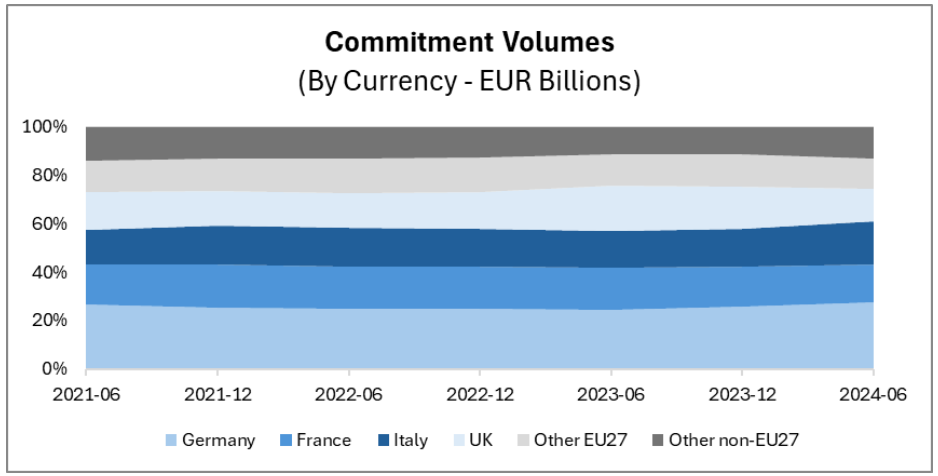
RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Commitment Volumes by Country

- Most of the commitment volume is in EUR





https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Transaction ratings

- 80%+ of transaction ratings are above A

Table 13 – Transaction Rating Distribution

	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
AAA	30.3%	26.3%	29.0%	22.3%	22.6%	22.4%	20.2%	15%
AA	35.6%	36.2%	34.0%	35.2%	39.8%	38.8%	34.3%	-2%
A	16.5%	20.4%	19.6%	25.9%	21.9%	23.9%	21.0%	-19%
BBB	11.0%	11.2%	12.3%	11.4%	11.1%	10.0%	9.6%	-2%
BB and lower	0.2%	0.2%	0.3%	0.4%	0.5%	0.4%	0.5%	2%
Undisclosed	6.3%	5.6%	4.7%	4.9%	4.1%	4.6%	14.4%	20%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

RECENT PUBLICATIONS: H1-2024 EBE REPORT

REPORT ON PRIVATE SECURITISATIONS HIGHLIGHTS

Seller Ratings

- Whereas seller ratings are mostly much lower. Private securitisation allow the sellers to access funding more cheaply.

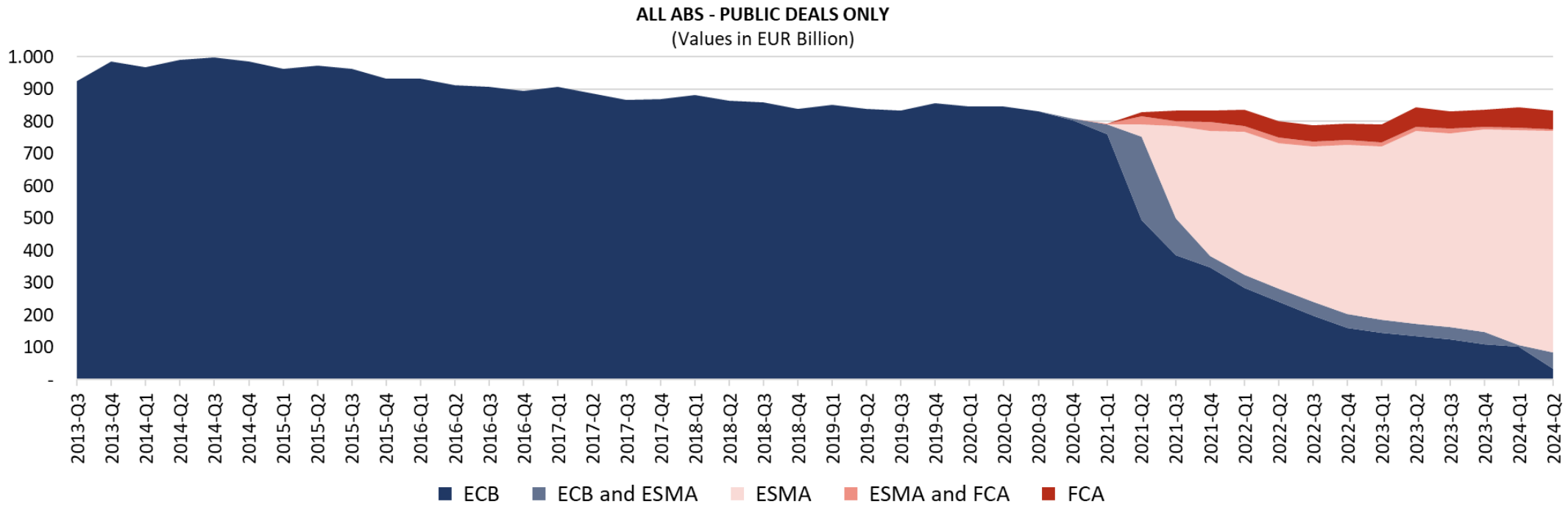
Table 17 – Seller Rating Distribution (relative)

	2024-06	2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
AAA	3,7%	1.3%	1.4%	1.1%	1.3%	1.3%	2.7%	192%
AA	4,8%	1.9%	0.5%	0.6%	0.0%	0.0%	1.3%	153%
A	23,6%	11.4%	9.6%	7.5%	7.4%	6.5%	16.3%	107%
BBB	34,0%	35.6%	37.2%	41.8%	41.2%	40.6%	43.0%	-5%
BB and lower	18,5%	17.9%	18.2%	17.2%	20.7%	20.4%	22.8%	4%
NR or undisclosed	15,5%	32.0%	33.1%	31.8%	29.3%	31.1%	13.9%	-52%
Total	**100,0%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

ALL-IN-ONE DATABASE

ECB VS ESMA VS FCA DATA AVAILABILITY



ALL IN ONE DATABASE

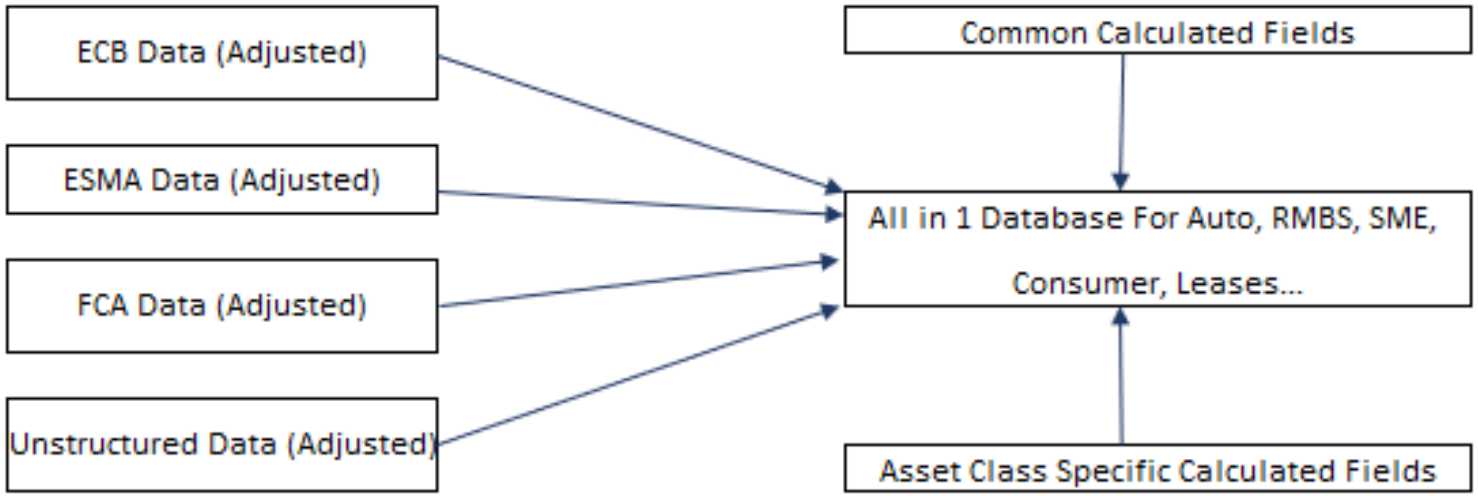
ECB AND ESMA DATA INTEGRATED IN ONE DATABASE

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.

ADJUSTED DB STRUCTURE



As of Q4 2024:

- The All in One DB contains all the ECB data with data quality adjustments
- ESMA and FCA data is also included (data quality adjustments are still needed)
- Calculated fields have been added
- Unstructured data not yet added...

PRELIMINARY ALL IN ONE DATABASE METHODOLOGY

CONTACT US FOR A COPY

EUROPEAN DATAWAREHOUSE

All-in-One Database Methodology (Beta Version)

European DataWarehouse (EDW) will offer a beta version of its All-in-One database (AIO), which merges ECB and ESMA data and thus preserves the time series from Q1 2013 to Q2 2024, for the six main asset classes. The AIO is a more user-friendly product than other databases, because:

- Many existing errors affecting the ECB and ESMA databases are corrected in the AIO[1]
- The AIO also features calculated fields to improve user experience
- Field formats are optimised to make queries faster

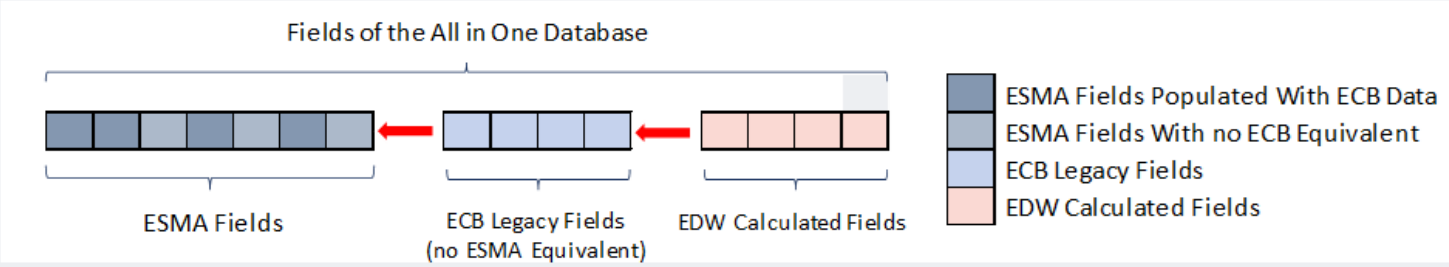
This is the AIO methodology as of 30/09/2024; we intend to review it regularly to reflect future upgrades. Some of the amendments discussed in this document are "work in progress", and will be implemented overtime if client demand justifies it.

DISCLAIMER: This is a draft document. As it is a work in progress it may be incomplete, contain preliminary conclusions and may change. You must not rely on, disclose or refer to it in any document. European DataWarehouse GmbH and ENGAGE Consortium accept no duty of care or liability to you or any third party for any loss suffered in connection with the use of this document.

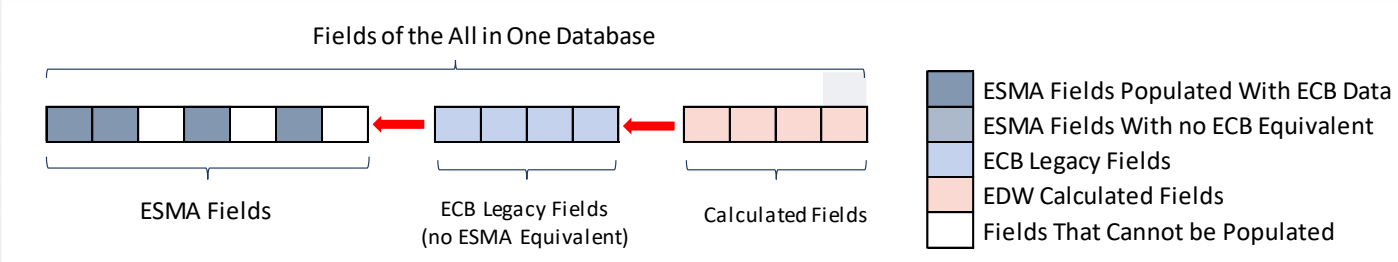
CONFIDENTIAL

STRUCTURE

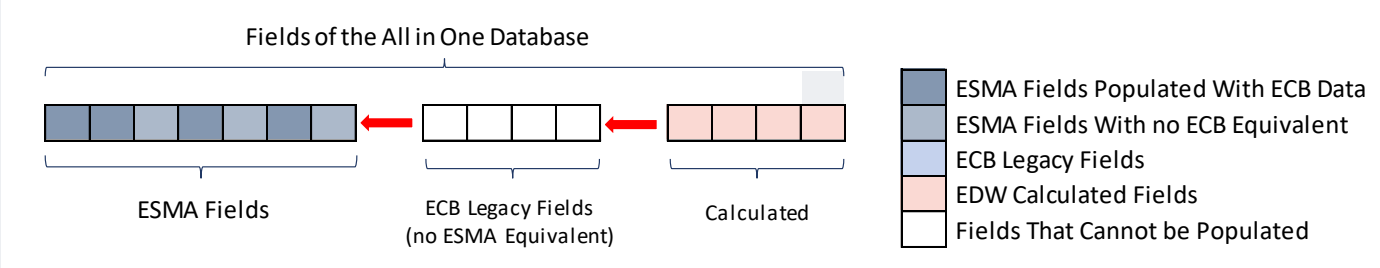
COMPOSITION OF THE ALL IN ONE DATABASE



WHEN ECB DATA IS IMPORTED IN THE ALL IN ONE DATABASE



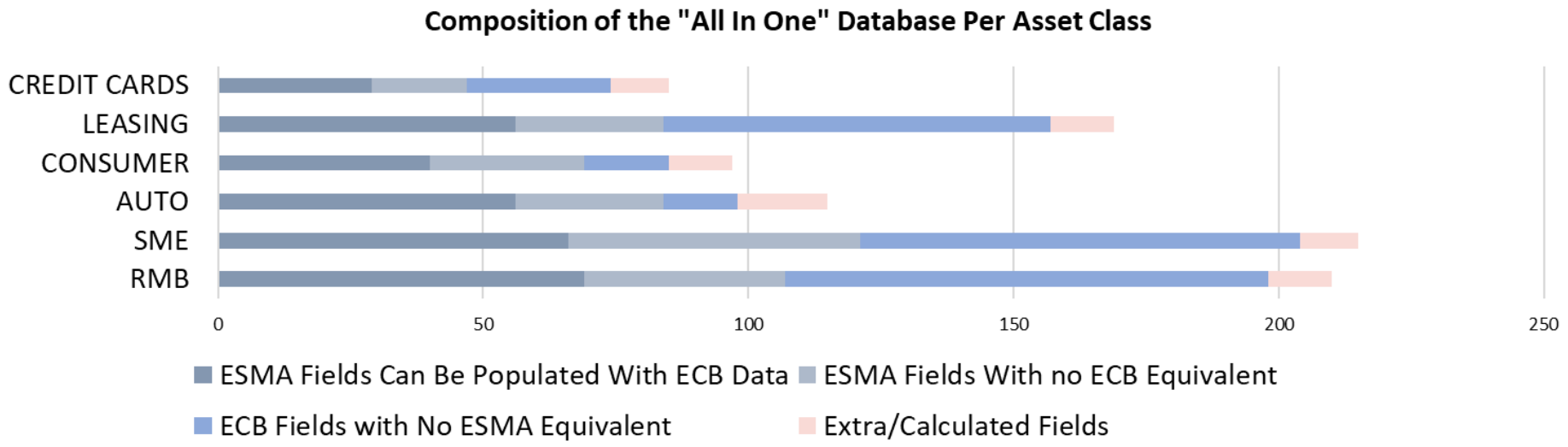
WHEN ESMA DATA IS IMPORTED IN THE ALL IN ONE DATABASE



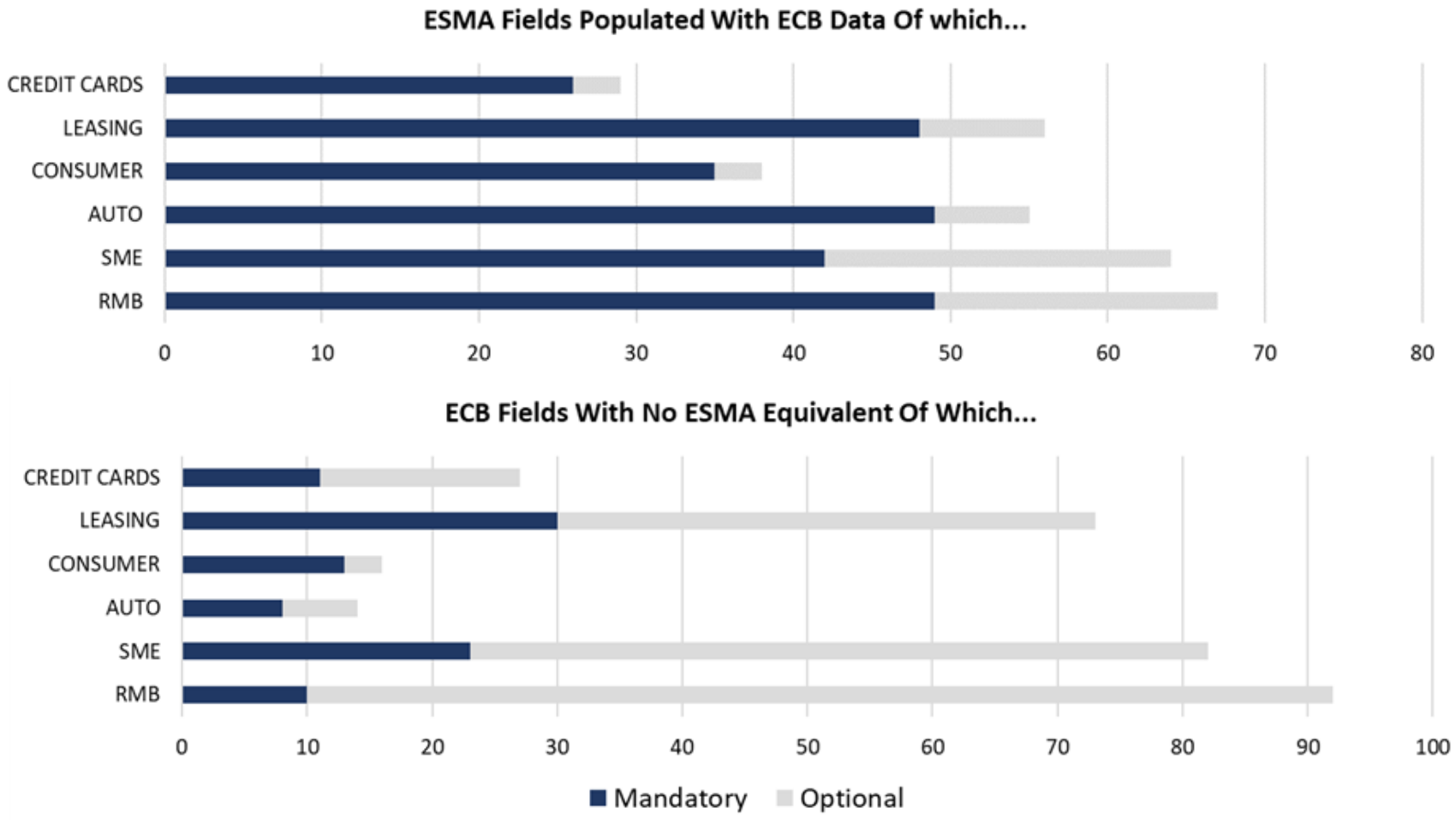
LIST OF CALCULATED FIELDS AS OF MARCH 2025 IN ECB ADJUSTED DATABASE

	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	

COMPOSITION OF THE TABLES BY ASSET CLASS (1)



DATA CONTINUITY MANDATORY VS OPTIONAL FIELDS



ECB TO ESMA TRANSLATION

ECB			ESMA	
Origination Channel (AR58)			**Origination Channel (RREL26)**	
Office / branch network	1	→	BRAN	Office or Branch Network
Central / Direct	2	→	DRCT	Central or Direct
Broker	3	→	BROK	Broker
Internet	4	→	WEBI	Internet
Packager	5	→	TPAC	Package
Third channel but underwriting processes performed 100% by the Originator	6	→	TPTC	Third Party Channel but Underwriting Perfromed Entirely by the Originator

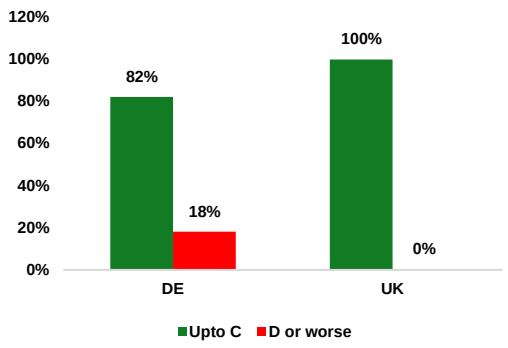
- Some ECB fields have the same name and the same options as their ESMA equivalent and can therefore be translated 1 to 1.

- Data from the field AR58 goes 1 to 1 in the corresponding options of field RREL26 of the “All in One Database”

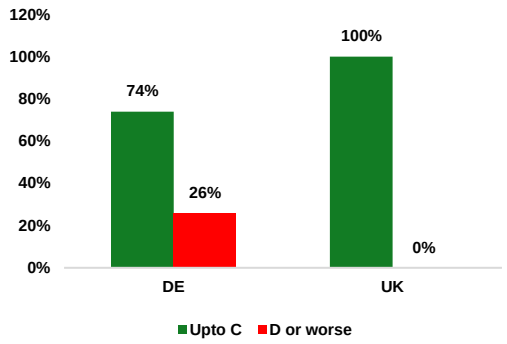
ALIGNING CREDIT PERFORMANCE WITH ENERGY EFFICIENCY: INSIGHTS INTO AUTO MARKETS

POPULAR CARS IN THE UK ARE ASSIGNED DIFFERENT EPCS TO THOSE IN GERMANY

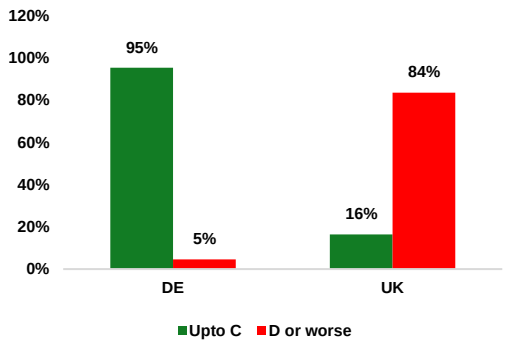
Ford Fiesta



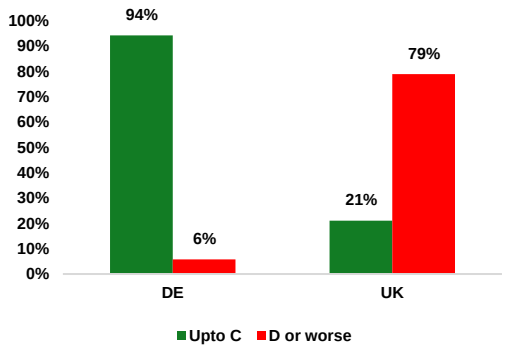
Vauxhall Corsa



Nissan Qashqai



Range Rover Evoque



DIVERSE THRESHOLDS (IN CO_2 G/KM) ARE USED TO ASSIGN EPCS

UK Old

A	0 - 100
B	101 - 120
C	121 - 150
D	151 - 165
E	166 - 185
F	186 or more

UK New

A	0
B	1 - 50
C	51 - 75
D	76 - 90
E	91 - 100
F	101 - 110
G	111 - 130
H	131 - 150
I	151 - 170
J	171 - 190
K	191 - 225
L	226 - 255
M	256 or more

Germany Old

NEDC Standard

Car Weight

Germany New

WLTP Standard

Absolute CO_2 Emissions

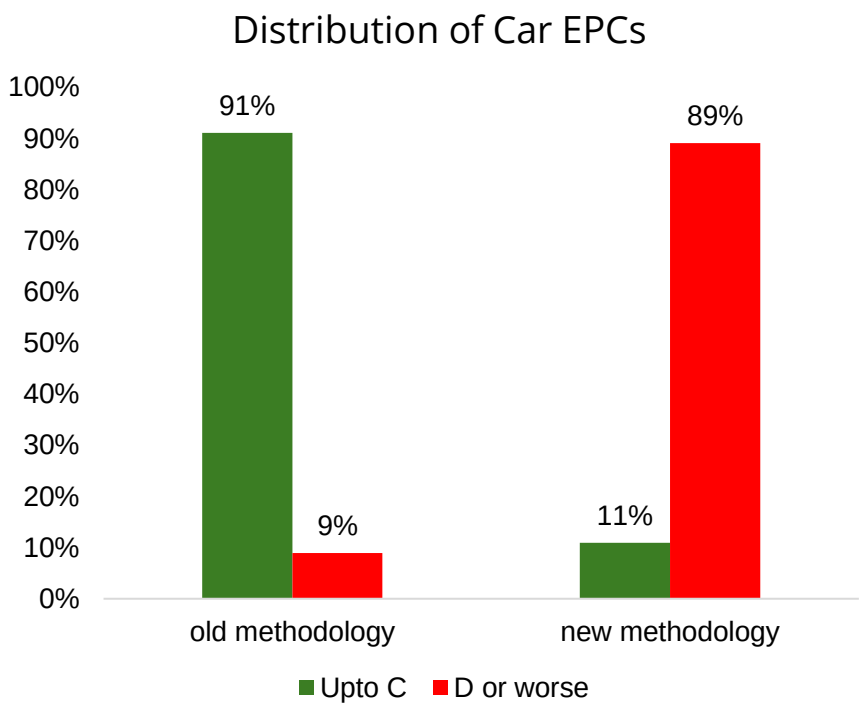
A	0
B	1 - 95
C	96 - 115
D	116 - 135
E	136 - 155
F	156 - 175
G	176 or more

WE NEED DATA ON CO_2 EMISSIONS!!

EPCs Assigned in Germany were Extremely Lenient

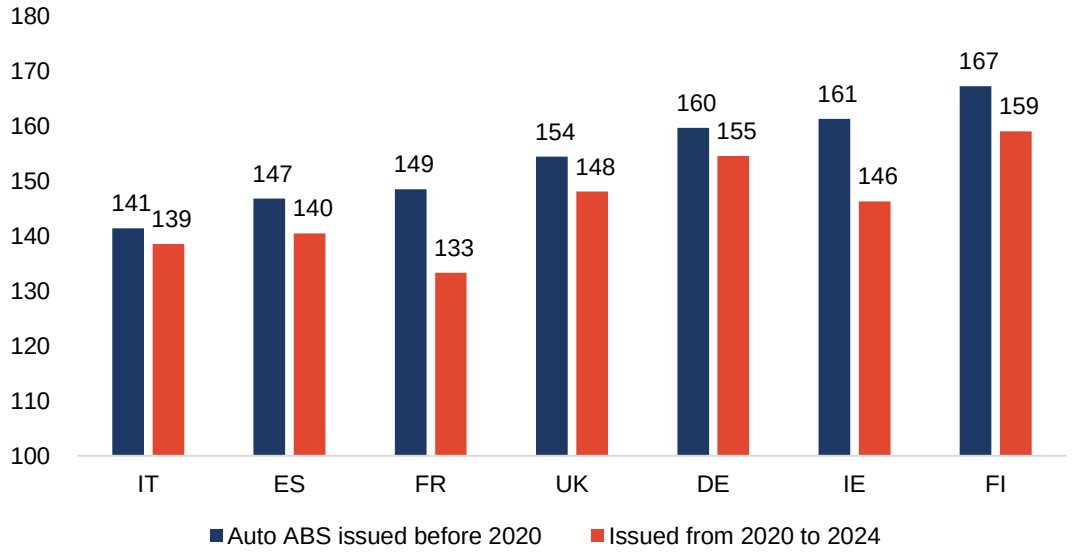
	Estimated CO_2 Emissions by Old EPC	Excluding Electric Cars
A	135.4	150.1
B	154.4	
C	162.6	
D	169.0	
E	171.7	
F	198.7	
G	264.6	

	Old EPC	New EPC
A	38.4%	5.0%
B	39.4%	3.6%
C	13.3%	2.3%
D	5.9%	16.6%
E	1.4%	33.0%
F	0.6%	19.2%
G	1.1%	20.3%

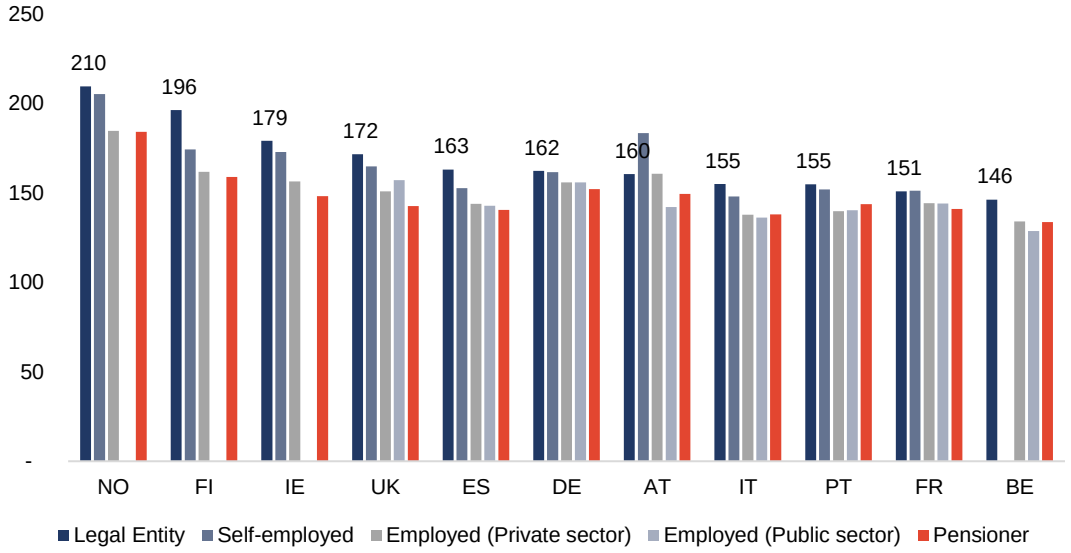


CO_2 EMISSIONS ACROSS COUNTRIES / GROUPS OF BORROWERS

More Recent Auto ABS Deals have Lower Average CO_2 Emissions

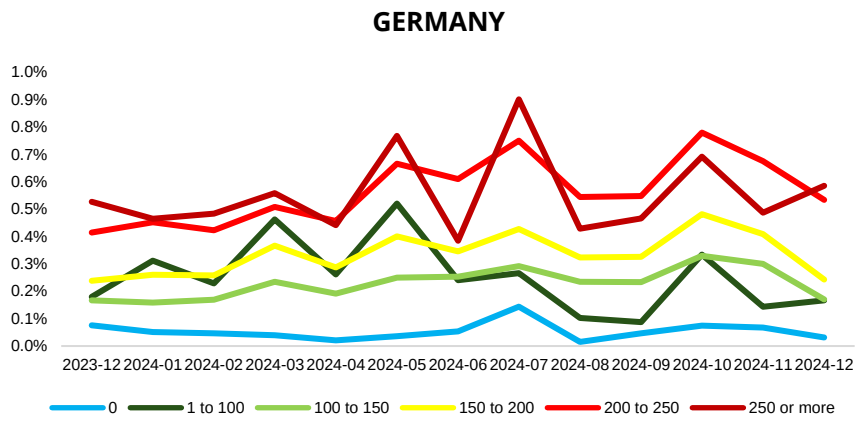


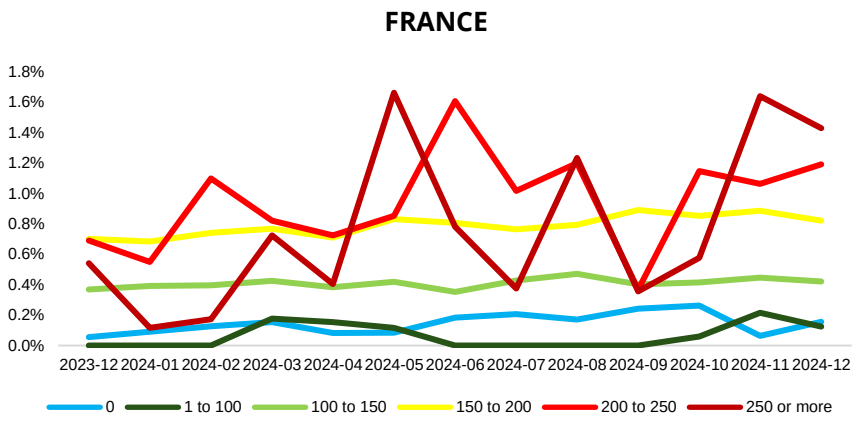
Legal Entities seem to Finance Cars with the Highest CO_2 Emissions

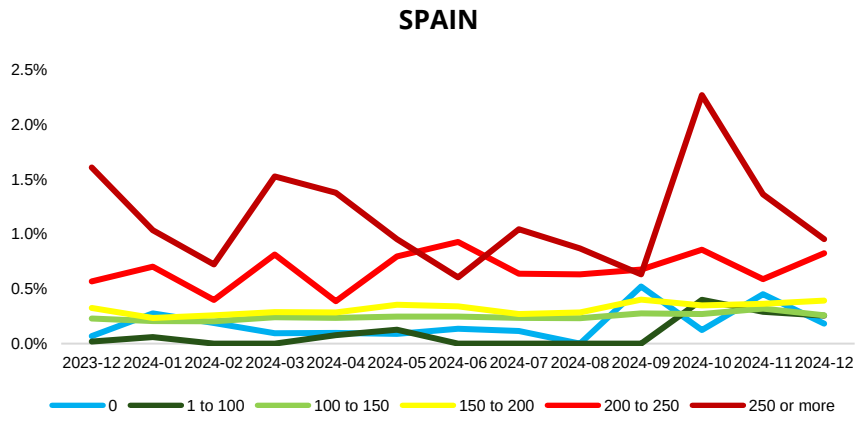


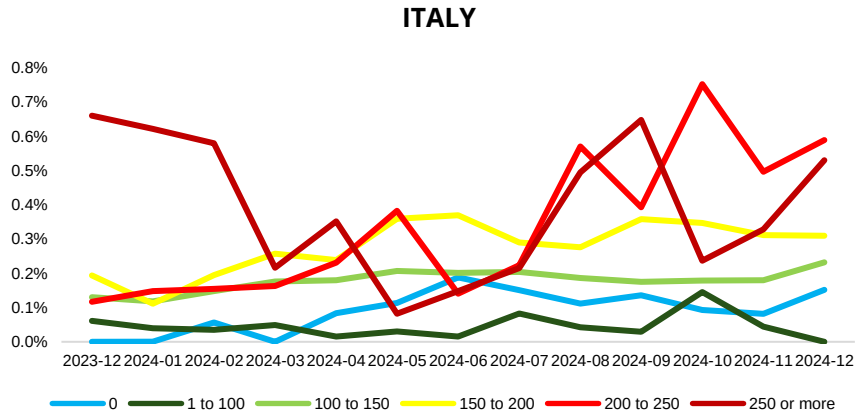
*Average CO_2 emissions of cars in g/km (WLTP standard)

30 TO 60 DAY DELINQUENCIES BY CO_2 EMISSIONS



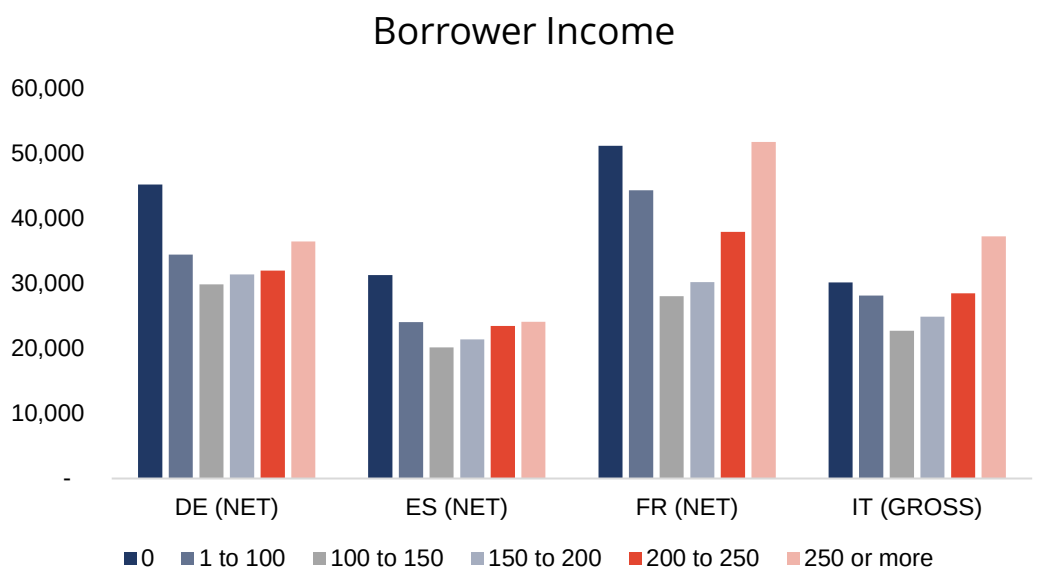


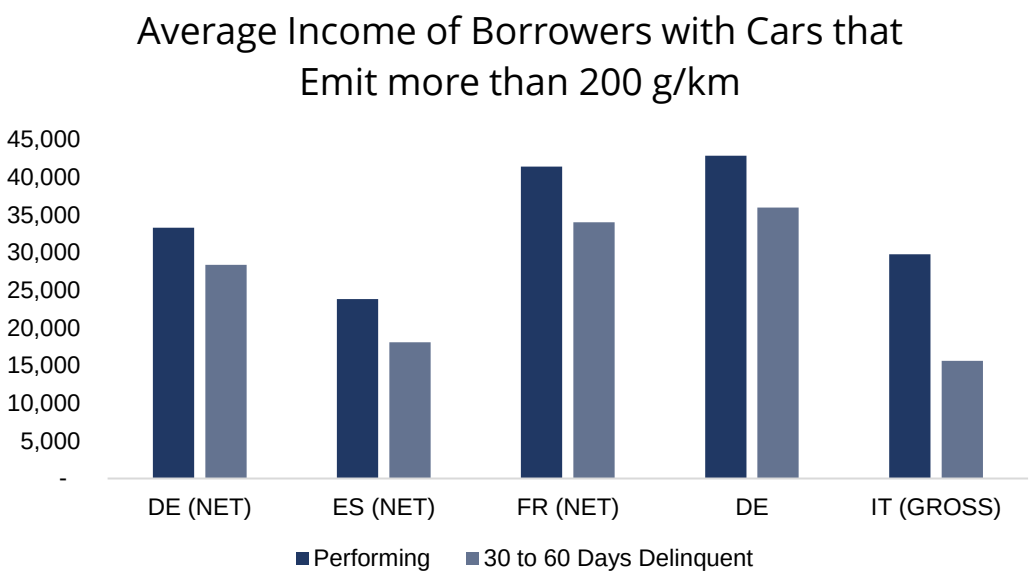




Note: Only using data for employed borrowers

INCOMES ACROSS COUNTRIES BY CO_2 EMISSIONS





Note: Only using data for employed borrowers

HIGHEST AND LOWER CO_2 EMISSIONS PER COUNTRY / REGION

Country	Highest Average	Lowest Average
AT	Innviertel	Sankt Polten
BE	Arr. Mechelen	Arr. Huy
DE	Ludwigslust-Parchim	Calw
ES	Fuerteventura	Ourense
FI	Kainuu	Varsinais-Suomi
FR	Seine-Saint-Denis	Alpes-de-Haute-Provence
IE	Border	Dublin
IT	Bolzano-Bozen	Roma
NL	Zuidoost-Drenthe	Groot-Amsterdam
PL	Sieradzki	Katowicki
PT	Alto Alentejo	Regiao Autonoma da Madeira
UK	Westminster	East Lothian and Midlothian

Top and Bottom 5 Regions with the Highest Avg Emissions in the UK

Top 5
Westminster
Kensington & Chelsea and Hammersmith & Fulham
Wandsworth
Camden and City of London
Leicester

Bottom 5
East Lothian and Midlothian
Angus and Dundee City
Clackmannanshire and Fife
Edinburgh City of
Belfast

Note: Using estimated CO_2 emissions for loans in Auto ABS deals issued since 2020

ACEA CAR SEGMENTS

ACEA CAR SEGMENTS

AUTO ABS Loan level data consists of:

- 45+ Million Car loans/leases
- 1.4+ Million distinct values for Car Model

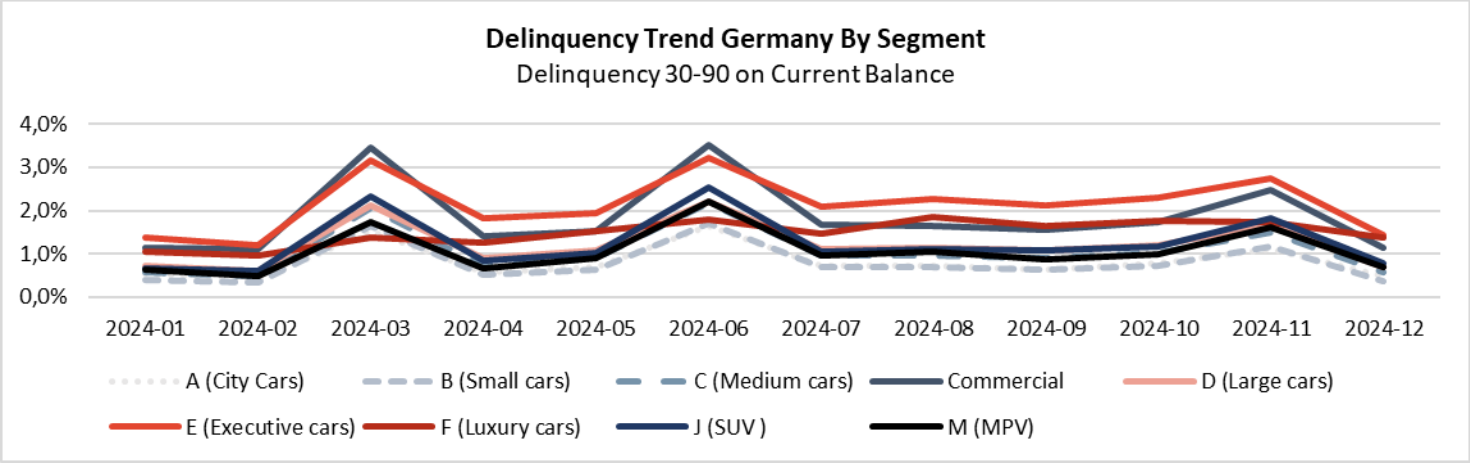
We have:

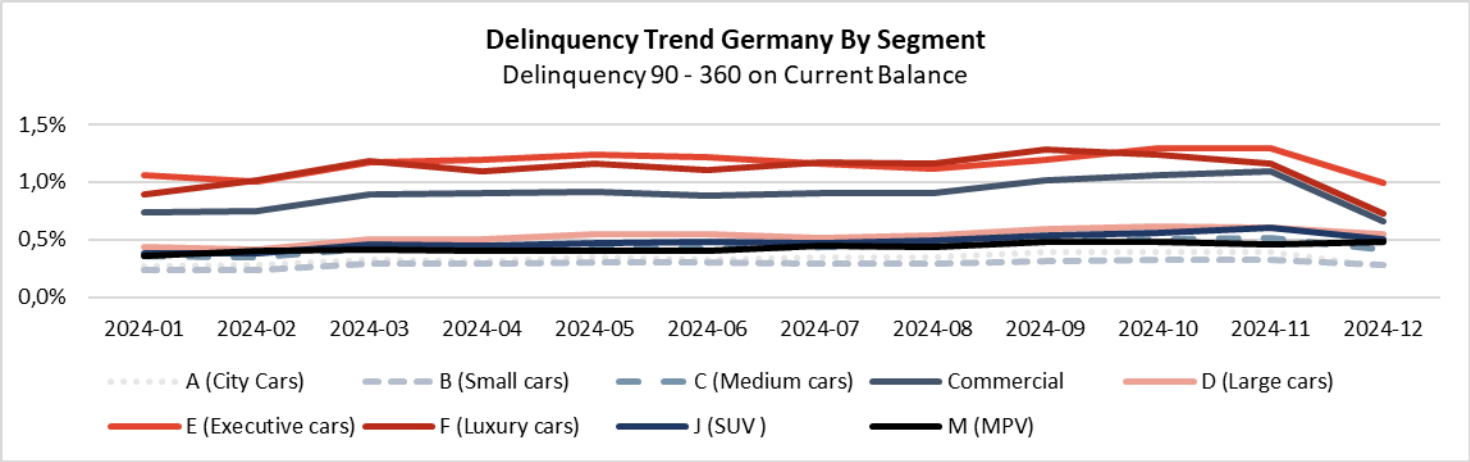
- Standardised them to 1,629 unique Car Models
- Mapped them onto Car Segments (ACEA) using AI

Here's the next batch of ACEA car segment classifications:

Model	Segment (ACEA)	Reasoning (Short)	Example Source / Note
RENAULT CLIO	B (Small)	Popular small hatchback	Alternative to VW Polo
PEUGEOT 208	B (Small)	Stylish city hatchback	Competitor to Renault Clio
FORD PUMA	B-SUV	Compact sporty SUV	Alternative to Nissan Juke
TOYOTA RAV4	D-SUV	Popular midsize SUV	Alternative to VW Tiguan
TESLA MODEL 3	D (Midsize)	Electric midsize sedan	Competitor to BMW 3 Series
VOLVO XC60	D-SUV	Premium midsize SUV	Competitor to Audi Q5
OPEL CORSA	B (Small)	Affordable small hatchback	Alternative to Ford Fiesta
MERCEDES C-CLASS	D (Midsize)	Premium midsize sedan	Competitor to BMW 3 Series
BMW 5 SERIES	E (Executive)	Large premium sedan	Competitor to Mercedes E-Class
SKODA KAMIQ	B-SUV	Practical small SUV	Alternative to VW T-Cross
SEAT IBIZA	B (Small)	Affordable city hatchback	Competitor to Renault Clio

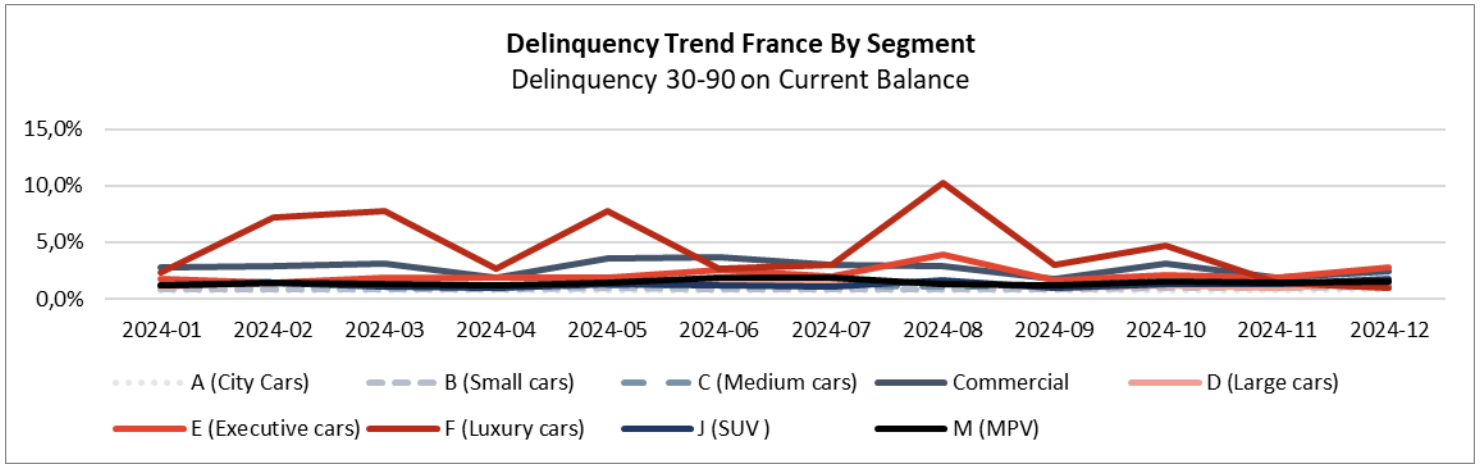
DELINQUENCY RATE BY CAR SEGMENT (GERMANY)

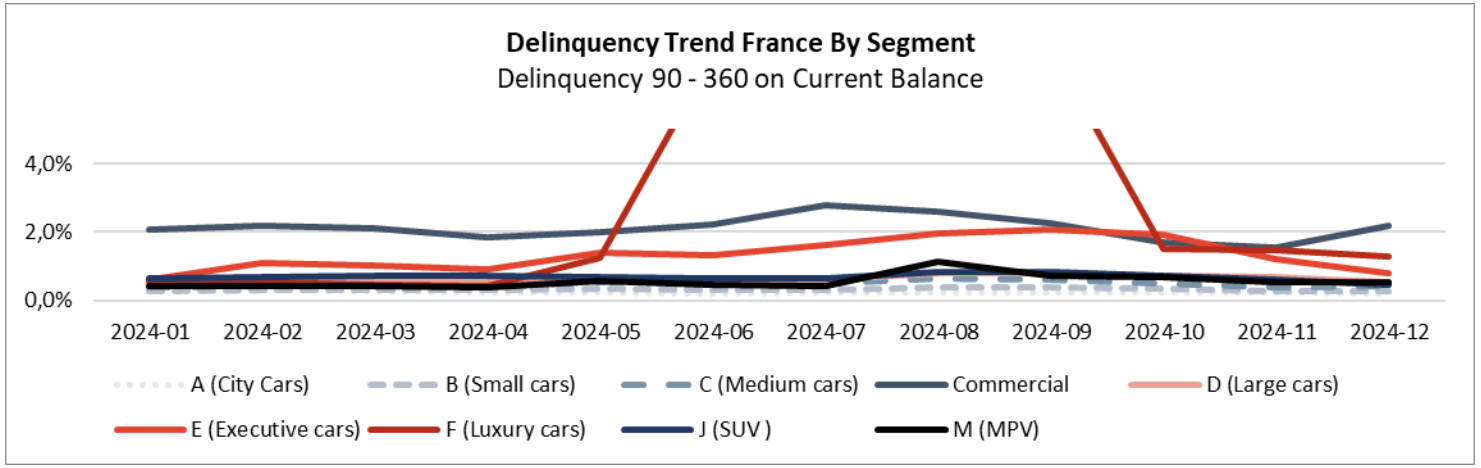




City and small cars perform better, executive, luxury and commercial vehicle perform worse

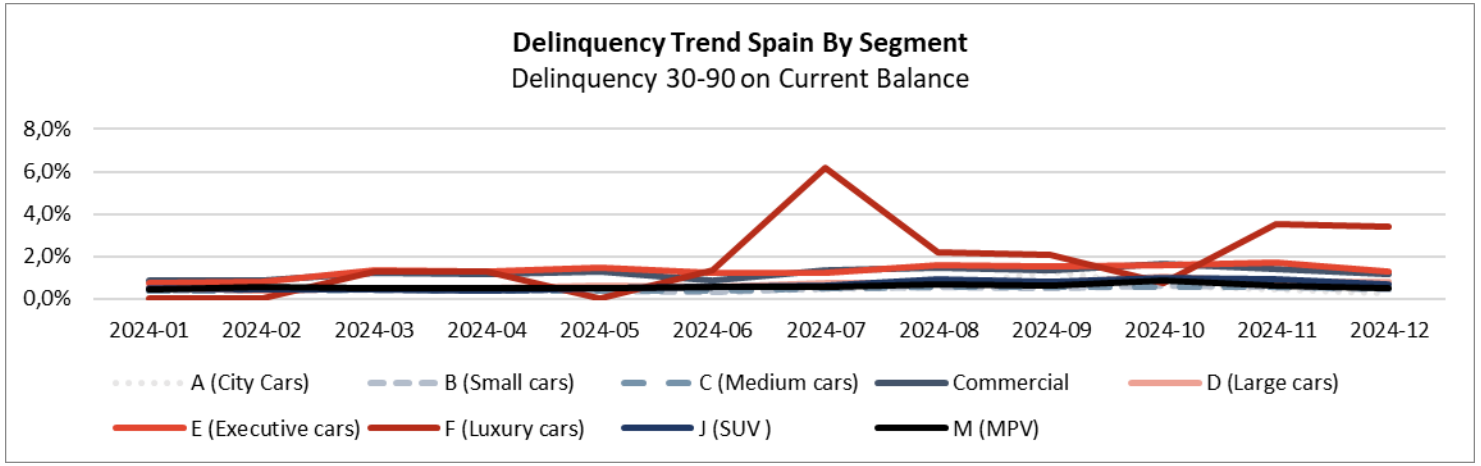
DELINQUENCY RATE BY CAR SEGMENT (FRANCE)

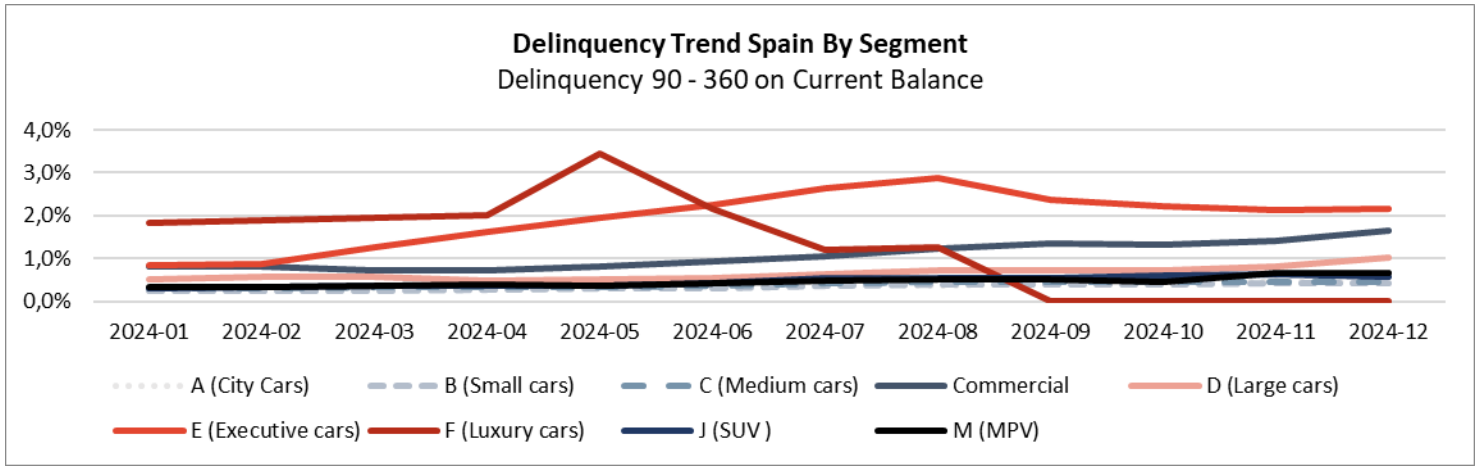




City and small cars perform better, executive, luxury and commercial vehicle perform worse (same as Germany)

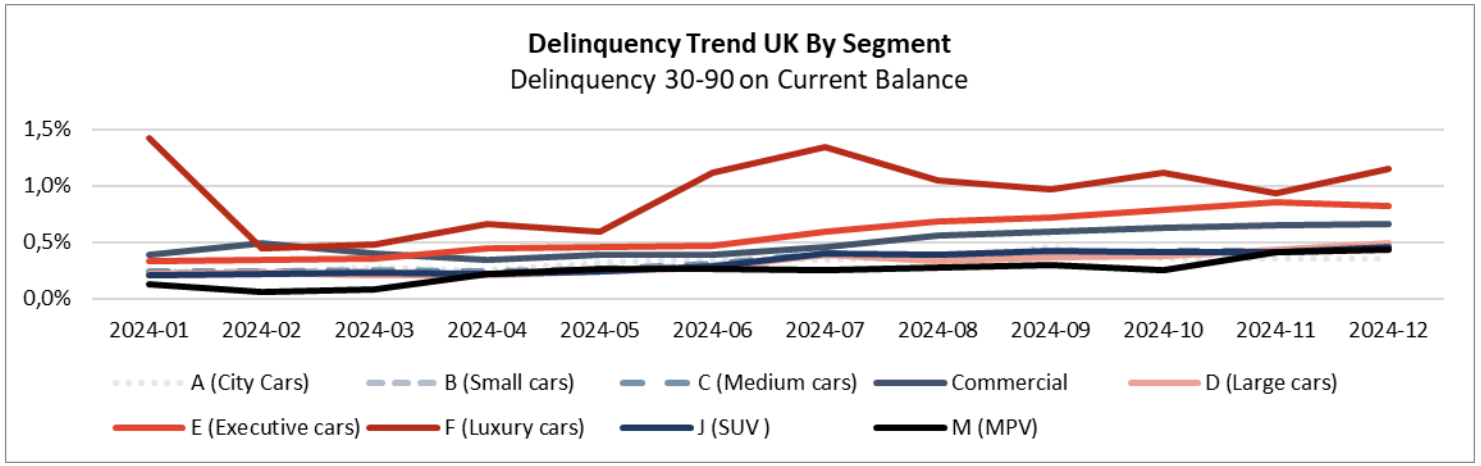
DELINQUENCY RATE BY CAR SEGMENT (SPAIN)

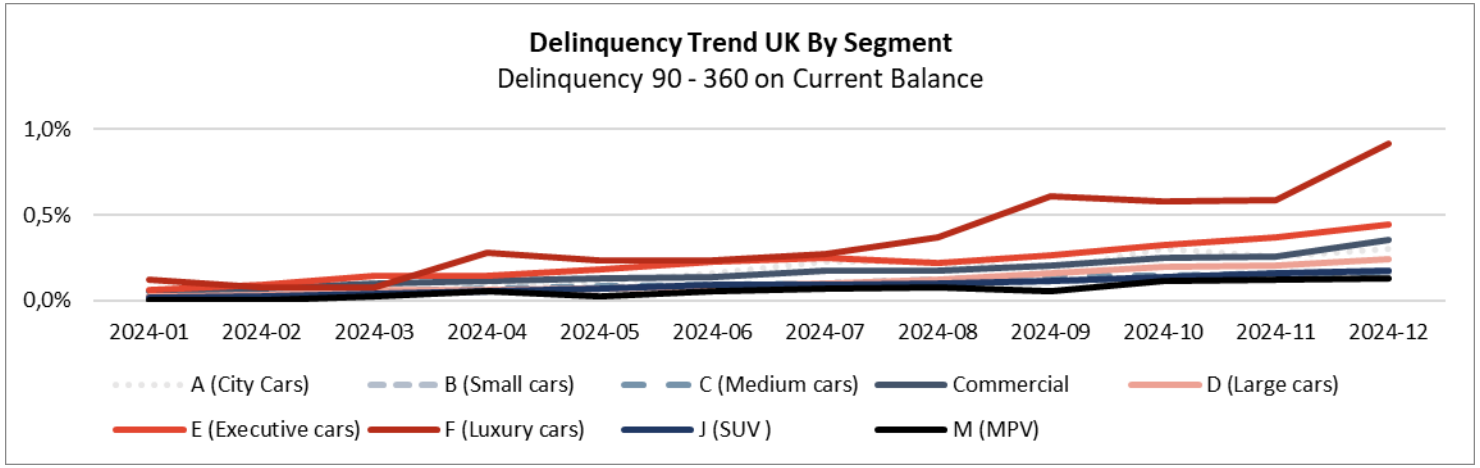




City and small cars perform better, executive, luxury and commercial vehicle perform worse (same as Germany)

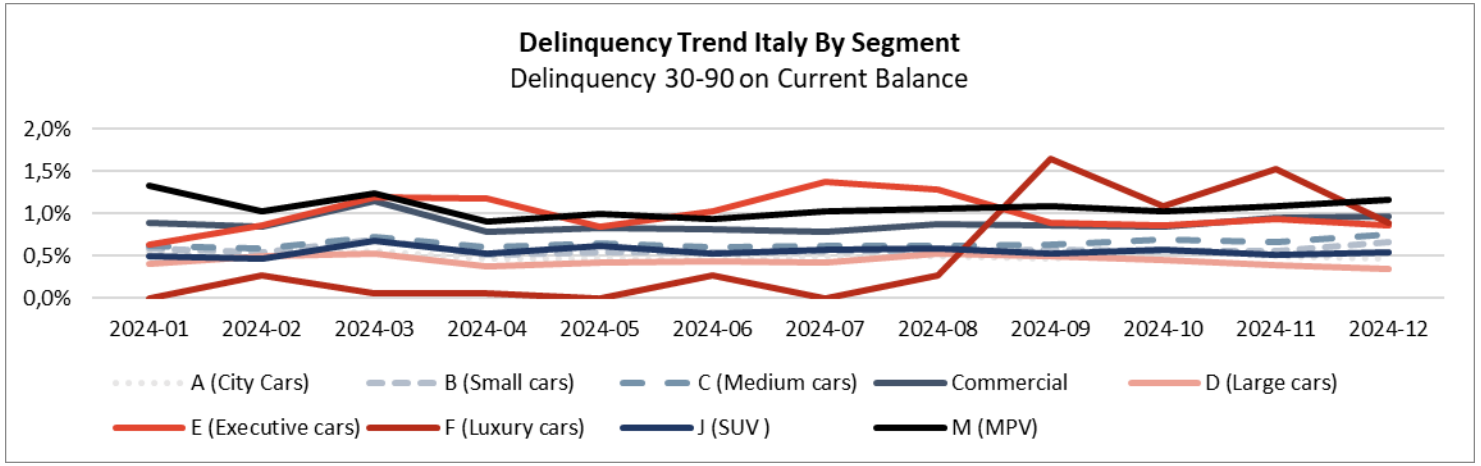
DELINQUENCY RATE BY CAR SEGMENT (UK)

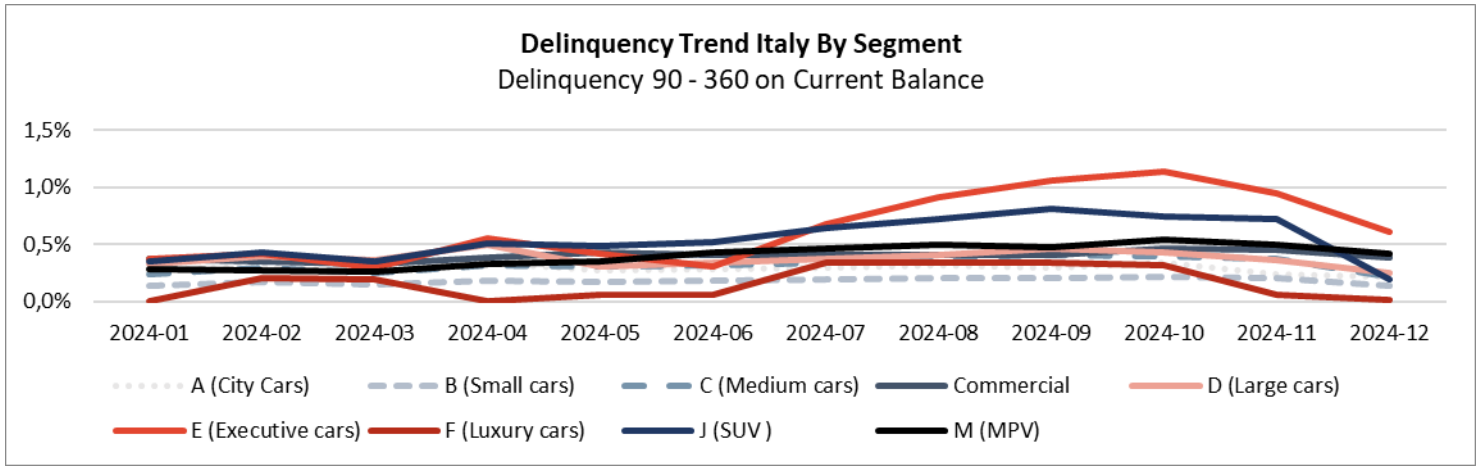




Luxury and executive cars once again perform worse.

DELINQUENCY RATE BY CAR SEGMENT (ITALY)





The rank ordering is somewhat different for Italy. Please note that the mix of originators can be very different from one country to the next.

DATA USER QUESTIONS...

WHY DO EDCODE PREFIXES NOT ALWAYS MATCH THE TABLE THEY ARE IN?

YES BUT VERY VERY FEW…

Key highlights

- Generally speaking, edcodes have prefixes that match the table they are reported in
- And yet…
  - AUTSIT001416100120165 is to be found in the **leasing** table
  - **MIXSIT102617500120214**, MIXSES102418500120218, CMRSUK102516500120217 are in the **RMB** table…
  - **MIXSIT102617500120214, RMBSPT102075100120195,** AUTSDE102826500120238, are in the **CONSUMER** table…
  - **MIXSIT102617500120214**, **RMBSPT102075100120195,** OTHSES102207500120203, are in the **SME** table
  - CMRSIT000807100320219, OTHSAT102335500120216 are in the **AUTO** table…

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

ARE THERE AUTO LEASES IN THE LEASE TABLE?

YES BUT VERY VERY FEW…

Key highlights

- Auto leases are reported in the auto template (ESMA Annex 5) not in the leasing template (ESMA Annex 8)
- Some auto deals contain exclusively auto leases
- Field AUTL23 of the ESMA auto template specifies the type of product. Leasing deals contain types financial leases (FNLS) or operational leases (OPLS)
- Only very few auto leases are reported in the leasing template (ESMA ANNEX 8) the lessees are typically SMEs and the assets are typically all sorts of machinery that are used by SMEs
    - Industrial machines
    - Lorries and trailers
    - Construction machines
    - Copying machines…
- There are some automobiles but these are a minority, and some are specially modified vehicles for SMEs

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

ASSETS FINANCED WITH LEASES REPORTED IN ANNEX 8 =

AND EVEN...

AND EXCEPTIONALLY...

https://eurodw.eu/wp-content/uploads/EBE_2024-H1_Report-2025-02-24-final.pdf

UPCOMING EVENTS: H1 2025

Date	EDW Hosted Event
7 April	2025 Italian Securitisation Event - Milan
15 April	2025 Greek Securitisation Event - Athens
6 May	EDW H1 Virtual Update
14 May	2025 Irish Securitisation Event - Dublin
20 May	2025 UK Securitisation Event - London
17 June	2025 Austrian Securitisation Event – Vienna **(NEW)**
16 June	Q2 Research Update

Date	Third-Party Conferences
25 March	*Sponsor- Outvie Dutch Securitisation Event
3 April	*Sponsor- AFME Spanish Capital Markets Conference
10-12 June	*Sponsor/Speaker – GlobalABS

Q&A

THANK YOU

CONTACT US

EUROPEAN DATAWAREHOUSE GMBH
Walther-von-Cronberg-Platz 2
60594 Frankfurt am Main

www.eurodw.eu
+49 (0)69 50986 9017
enquiries@eurodw.eu

This presentation (the "Presentation") has been prepared by European DataWarehouse GmbH (the "Company") and is being made available for information purposes only. The Presentation is strictly confidential and any disclosure, use, copying and circulation of this Presentation is prohibited without the consent from the Company. Information in this Presentation, including forecast financial information, should not be considered as advice or a recommendation to investors or potential investors in relation to holding, purchasing or selling securities or other financial products or instruments and does not take into account your particular investment objectives, financial situation or needs. No representation, warranty or undertaking, express or implied, is made as to the accuracy, completeness or appropriateness of the information and opinions contained in this Presentation. Under no circumstances shall the Company have any liability for any loss or damage that may arise from the use of this Presentation or the information or opinions contained herein. Certain of the information contained herein may include forward-looking statements relating to the business, financial performance and results of the Company and/or the industry in which it operates. Forward-looking statements concern future circumstances and results and other statements that are not historical facts, sometimes identified by the words "believes", "expects", "predicts", "intends", "projects", "plans", "estimates", "aims", "foresees", "anticipates", "targets", "may", "will", "should" and similar expression. The forward-looking looking statements, contained in this Presentation, including assumptions, opinions and views of the Company or cited from third party sources are solely opinions and forecasts which are uncertain and subject to risks.