

Q4 2024 RESEARCH UPDATE

12 DECEMBER

AGENDA

WELCOMING REMARKS

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

PUBLICATIONS

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

DATA AVAILABILITY REPORT

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

DELINQUENCY INDICES 90 - 360 DAYS

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

AUTO ABS DELINQUENCIES, A CLOSER LOOK...

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

RMBS DELINQUENCIES, A CLOSER LOOK...

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

STUDY ON CLIMATE RISK AND IMPACT OF AUTO ABS

MAXIME BARTHE, BANQUE DE FRANCE

Q & A

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE



2024 OVERVIEW...

EDW ARCHIVES EVENTS...

THE SLIDES AND THE RECORDINGS OF OUR PAST RESEARCH WEBINARS ARE AVAILABLE IN OUR [ARCHIVED EVENTS SECTION](#)

EUROPEAN
DATAWAREHOUSE

SOLUTIONS INSIGHTS NEWS & EVENTS ABOUT CONTACT



2024
EVENT

24.
JUN
2024
WEBINAR

Q2 Research Update Webinar @ 16:00 CEST

29.
MAY
2024
WEBINAR

ENGAGE for ESG Unlocking EU Taxonomy Alignment
Webinar Series: ENGAGE Templates – Technical Session III

22.
MAY
2024
WORKSHOP

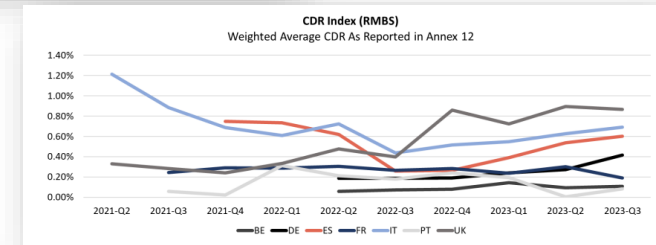
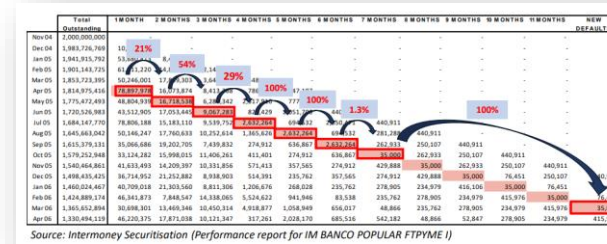
2024 UK Securitisation Event – London

2024 RESEARCH TOPICS

EDW PUBLICATIONS AND TOPICS OF 2024

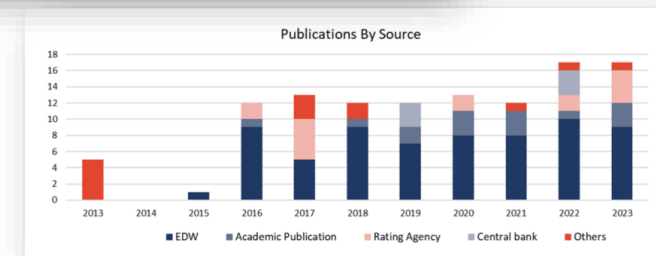
2024 Q1 Research Webinar

- [Inventory of publications](#)
- European Benchmarking Exercise on Private deals (EBE)
- Arrears, roll rates and defaults
- Constant default rates



		2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p	Δ
Number of Participants	#	12	12	12	12	12	0.0%	0.0%
Number of Commitments	#	610	556	525	527	504	9.7%	10.5%
Committed Amount	Million EUR	78,590	73,182	67,241	65,064	62,814	7.4%	12.6%
Funded Amount	Million EUR	57,748	60,502	56,400	53,009	50,205	-4.6%	7.5%
Utilisation		73.5%	82.7%	83.9%	81.5%	80.0%	-11.1%	-4.1%
Total Asset Amount	Million EUR	184,765	184,159	183,326	173,016	177,329	0.3%	2.1%
Estimated Market Size	Million EUR	209,400	195,669	194,784	183,830	188,412	7.0%	5.6%
Number of Transactions	#	443	433	412	387	404	2.3%	4.8%

Δ =annualised growth rate, Δ_p =growth in last period



2024 RESEARCH TOPICS

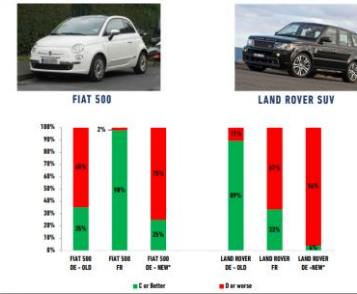
EDW PUBLICATIONS AND TOPICS OF 2024

2024 Q2 Research Webinar

- Edward, EDW's artificial intelligence
- Blog on EPC ratings Babel tower or EPCs
- Has energy efficiency become credit relevant?
- Impact of new German auto EPCs

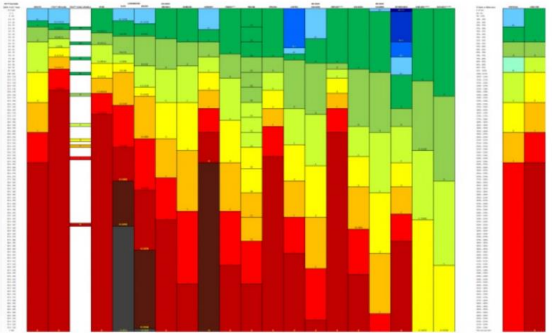
AMBITIOUS NEW CO₂ LABELING ORDINANCE FOR CARS IN GERMANY

Its impact on EPCs assigned to common cars



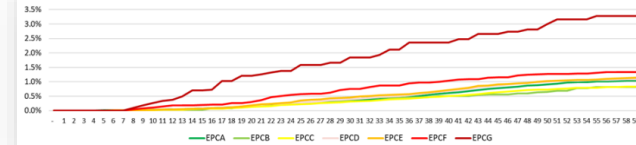
Revisiting "The Babel Tower of EPC Ratings"

<https://eurodw.eu/revisiting-the-babel-tower-of-epc-ratings-updated-thresholds-across-europe/>



Cumulative Delinquencies by EPC (France - Mortgages)

As % of Original Balance, Months after Origination

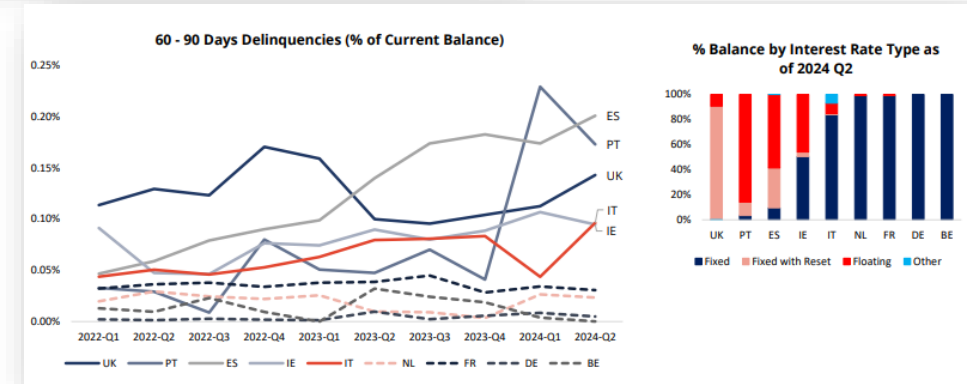
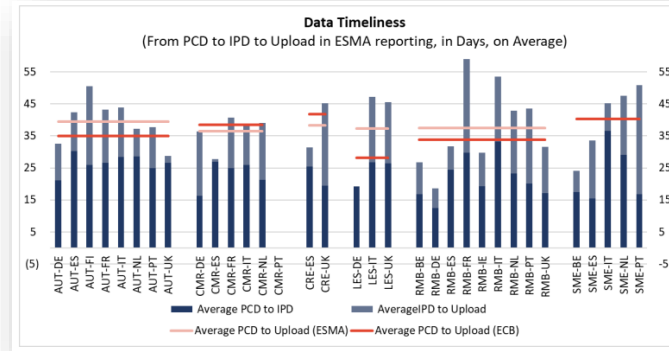


2024 RESEARCH TOPICS

EDW PUBLICATIONS AND TOPICS OF 2024

2024 Q3 Research Webinar

- Data reporting lag
- Mortgage performance in the context of increasing interest rates
- 60-90 days performance indices
- Green Auto Securitisation update



DRIVING THE FUTURE: EUROPEAN GREEN AUTO SECURITISATION EVENT
TUESDAY, 12 NOVEMBER - FRANKFURT



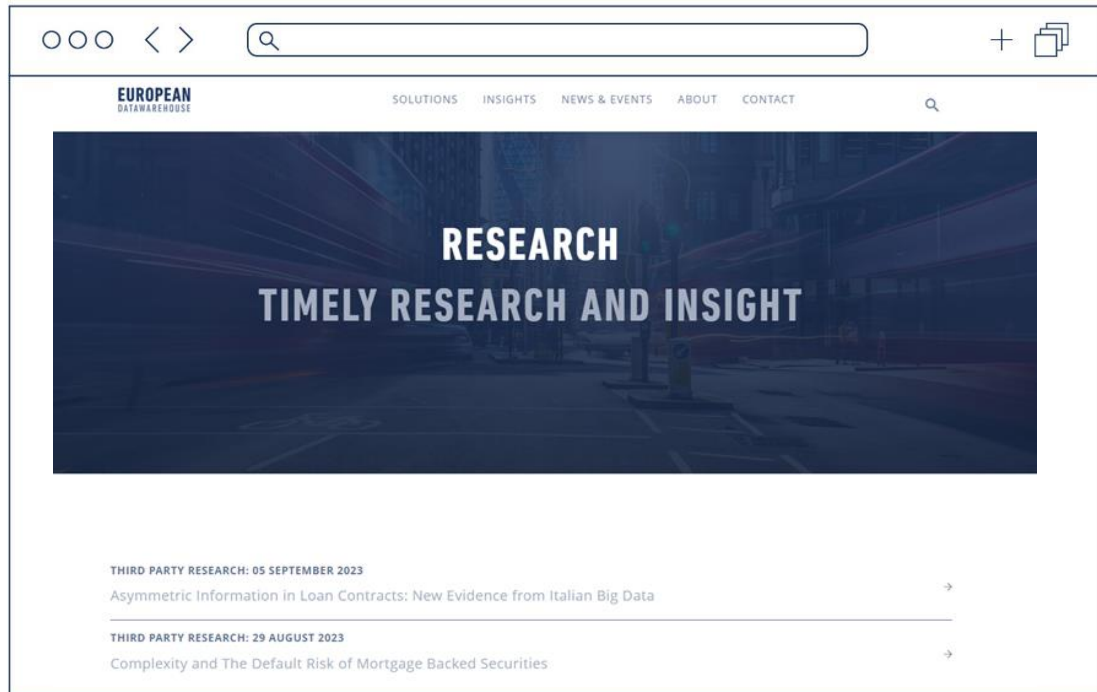
Download [AGENDA](#) and click to [REGISTER](#)



PUBLICATIONS

EDW RESEARCH SECTION

OUR OWN PUBLICATIONS PLUS THIRD-PARTY RESEARCH: [HTTPS://EURODW.EU7KNOWLEDGE/RESEARCH](https://eurodw.eu7knowledge.com/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 TYPE	KEYWORDS	ACCESSIBILITY	EDW/THIRD PARTY
2022	July	European Systemic Risk Board (ESRB) Monitoring System for ESRB	ESRB	Central bank publication	Systemic risk, securitization	Direct	Central bank
2022	June	Spring 2022 Research Bulletin	EDW (Guest speaker from Universita' Woburn)	Webinar	Loan performance, data availability, energy performance, adjuste	Direct	EDW
2022	June	Deutsche Bundesbank discussion paper on the real economy	Deutsche Bundesbank	Central bank publication	RES SME, revolving transactions	Direct	Central bank
2022	May	Moody's Investors Service: ESG rules and case data quality & Moody's	Moody's	Data comment	ESG reporting standards	Restricted	Rating agency
2022	April	Monitoring the Impact of COVID-19 on the Real Estate Market	EDW	Webinar	Adjusted database	Direct	EDW
2022	February	Spring 2022 Research Bulletin	EDW	Webinar	Loan performance, energy performance, adjusted database, COV	Direct	EDW
2022	February	ESG Impact ESG securitization database increase 20% from	APME	Data comment	ESG, sustainable finance, data availability	Direct	Others
2021	December	Winter 2021 Research Bulletin	EDW (Guest speaker from European	Webinar	Loan defaults, machine learning, RMBS prepayments, forecasting	Direct	EDW
2021	November	Winter 2021 - from the IMF-BISK: European Mortgage Risk	IMF-BISK (EDW & IMF/OTM)	Academic publication	COVID impact, mortgages, mortgages	Direct	Others
2021	October	Journal of Financial Economics: Forecasting Loan Defaults in	Journal of Financial Economics	Academic publication	mortgage defaults, machine learning	Direct	Academic Publication
2021	September	Summer 2021 Research Bulletin	EDW	Webinar	COVID, mortgages, credit risk and COVID	Direct	EDW
2021	May	Spring 2021 Research Bulletin	EDW	Webinar	Data availability, COVID, Energy efficiency, payment holidays	Direct	EDW
2021	May	Journal of Real Estate Finance & Economics: Building Energy E	The Journal of Real Estate Finance & Economics	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 on the RMBS Market	EDW	COVID impact	COVID impact, mortgages, mortgages	Direct	EDW
2021	February	Spring 2021 Research Bulletin	EDW (Guest speaker from European	Webinar	COVID, RMBS performance, Loan amortisation, Cover your assets	Direct	EDW
2021	February	Monitoring the Impact of COVID-19 on the RMBS Market	EDW	COVID impact	COVID impact, mortgages, mortgages	Direct	EDW
2020	December	COVID-19: How has Structured Asset from COVID-19 Affected	EDW	Webinar	COVID, loan performance, payment holiday, reporting practices	Direct	EDW
2020	December	COVID-19 Survey of Payment Holiday Reporting Practices in E	EDW	COVID impact	COVID impact, auto loans, mortgages	Direct	EDW
2020	November	Moody's Analytics: COVID-19: How the Dutch Mortgage	Moody's	COVID impact	COVID impact, Netherlands mortgages	Restricted	Rating agency
2020	November	Moody's Analytics: Continued Stress of the U.S. Mortgage Mark	Moody's	Credit research	COVID impact, mortgages	Restricted	Rating agency
2020	November	Monitoring the Impact of COVID-19 on the Auto Loan Trac	EDW	COVID impact	COVID impact, mortgages, 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 on the RMBS Market	EDW	COVID impact	COVID impact, mortgages, mortgages	Direct	EDW
2020	July	Marin Mikellin and Walter Dewachter: The Impact of Secur	Academic Publication	Academic publication	security design, asset-backed securities, reversion, moral hazard	Direct	Academic Publication
2020	June	Thomas Morgan: Spanish Securitization and Bank Risk Yal	Academic Publication	Academic publication	TLTRO, unconventional monetary policy, Credit Risk, Bank Capital	Direct	Academic Publication
2020	June	Monitoring the Impact of Covid-19 on 2020 Report	EDW	COVID impact	First-time delinquencies, auto, consumer, leases, RMBS	Direct	EDW
2020	February	Data Integrity and Consistency	EDW	Data comment	Reporting lag, data timeliness	Direct	EDW
2019	December	San Antonio section 3.0 and 3.1	EDW	Data comment	ESG data in ESG data	Direct	EDW
2019	November	IMB: Public Insights from European Datawarehouse	EDW	Data comment	RMBS index Spain	Direct	EDW
2019	November	Spain SME index	EDW	SME performance	Italy, SME, performance	Direct	EDW
2019	October	ECB: The Impact of Lending Standards on Default Rates of Res	ECB	Central bank publication	loan defaults, lending standards, residential real estate, loan loss	Direct	Central bank

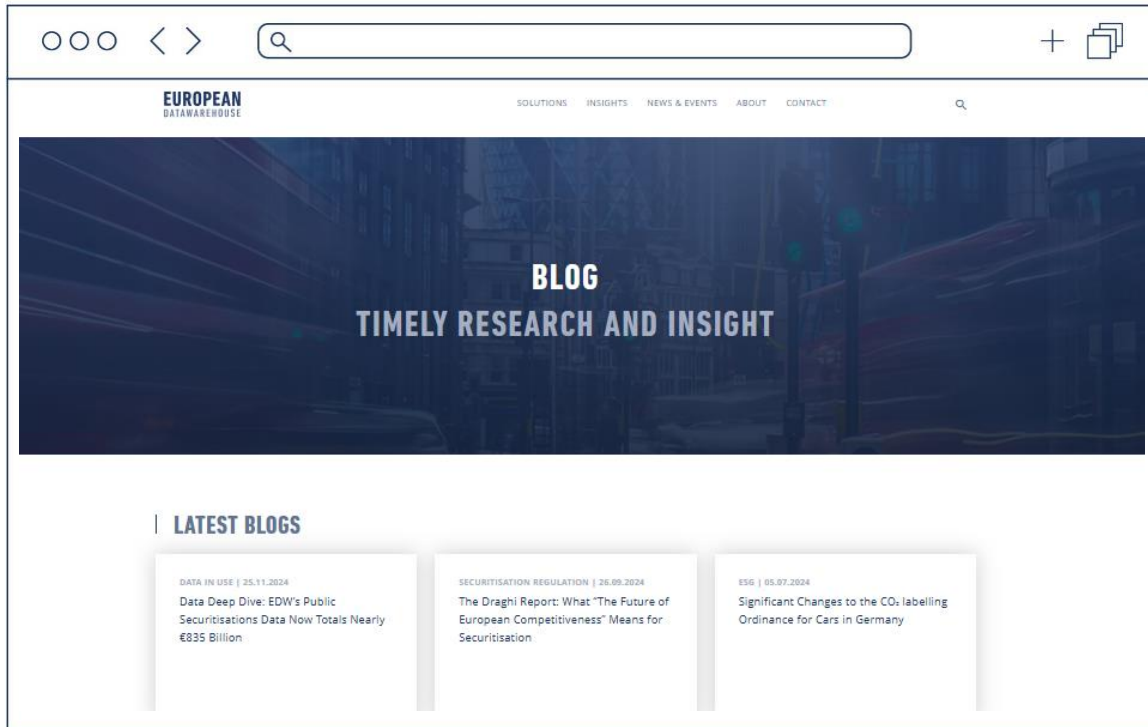
LIST OF RESEARCH PUBLICATIONS

INVENTORY OF EDW-RELATED PUBLICATIONS

YEAR	MONTH	TITLE	PUBLISHER	PUBLICATION TYPE	KEYWORDS	ACCESSIBILITY
2023	April	Understanding EDW's Loan Identifier Recurrence Score	EDW	Special Report	Loan ID Recurrence, 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 Securitizations	AFME/EDW/TSI	EBE	Private securitisation market	Direct
2022	October	Swiss Finance Institute: Do Lenders Price the Broom 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 Alternative Fuelled Vehicles	DBRS	Credit research	European Auto ABS	Restricted
2022	August	Matteo Benetton, Sergio Masordomo, Daniel Pavasini: 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 Securitization Market	ESRB	Central bank publication	Systemic risk, securitisation	Direct
2022	June	Spring 2022 Research Webinar	EDW (Guest speaker from Universität)	Webinar	Loan performance, data availability, energy performance, adjusted database	Direct
2022	June	Deutsche Bundesbank discussion paper on the replenishment of ABS backed by SME loans	Deutsche Bundesbank	Central bank publication	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, COVID	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 IMF-ECBC (European Mortgage Federation - European Covered Bond Council)	IMF 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	mortgage 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: Builders' Energy Efficiency & the Probability of Mortgage Default - The Dutch Case	The Journal of Real Estate Finance & Economics	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 (Guest 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-ERA 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 Analysis: COVID-19: 360° View of the Dutch Mortgage Market	Moody's	COVID Impact	COVID impact, Netherlands mortgages	Restricted
2020	November	Moody's Analysis: 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	SSFN	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 Martin 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 Capital	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	EFTI Index: Insights from European Data Warehouse	EDW	Data comment	EFTI 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 publication	loan defaults, lending standards, residential real estate, loan-level	Direct
2019	October	Bank of Spain: Beyond the LTV Ratio: New Macroeprudential Lessons from Spain	Bank of Spain	Central bank publication	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//](https://eurodw.eu/knowledge/magazine//)



RECENT PUBLICATIONS: DATA AVAILABILITY REPORT

REPORT LISTS ALL AVAILABLE DEALS AND OUTSTANDING AMOUNT TO Q2 2024: [HTTPS://EURODW.EU/RESEARCH_ARTICLES/DATA-AVAILABILITY-REPORT-Q2-2024/](https://eurodw.eu/research_articles/data-availability-report-q2-2024/)

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DATA AVAILABILITY REPORT Q2 2024

European DataWarehouse's (EDW) database contains over ten years of data representing most of Europe's public securitisations.

The Q2 2024 Data Availability Report provides quarterly statistics on the outstanding number of active securitisations, loan amounts, number of loans, and borrowers, as well as loan level data (LLD) uploads to our database.

As of Q2 2024, the outstanding amount of loans uploaded to EDW totalled almost €835 billion from 12+ European countries. This value is down from a historical high of nearly €1 trillion in 2014-Q3, and has consistently been at around €835 billion since 2018-Q4 whereas the number of outstanding public securitisations is at a historical low.





DATA AVAILABILITY REPORT

PHASE OUT OF LEGACY ECB REPORTING FRAMEWORK

EU ABS ISSUERS HAD TO MIGRATE BY SEPTEMBER 30, 2024, TO RETAIN ELIGIBILITY

PRESS RELEASE

Transparency requirements of EU Securitisation Regulation to be incorporated into Eurosystem collateral framework

22 March 2019

- > Eligibility requirements for loan-level data reporting in collateral framework to be adjusted to reflect EU Securitisation Regulation's disclosure requirements
- > Eligibility requirements for loan-level data reporting in collateral framework to be adjusted to reflect EU Securitisation Regulation's disclosure requirements
- > Phase-out of legacy ECB reporting framework

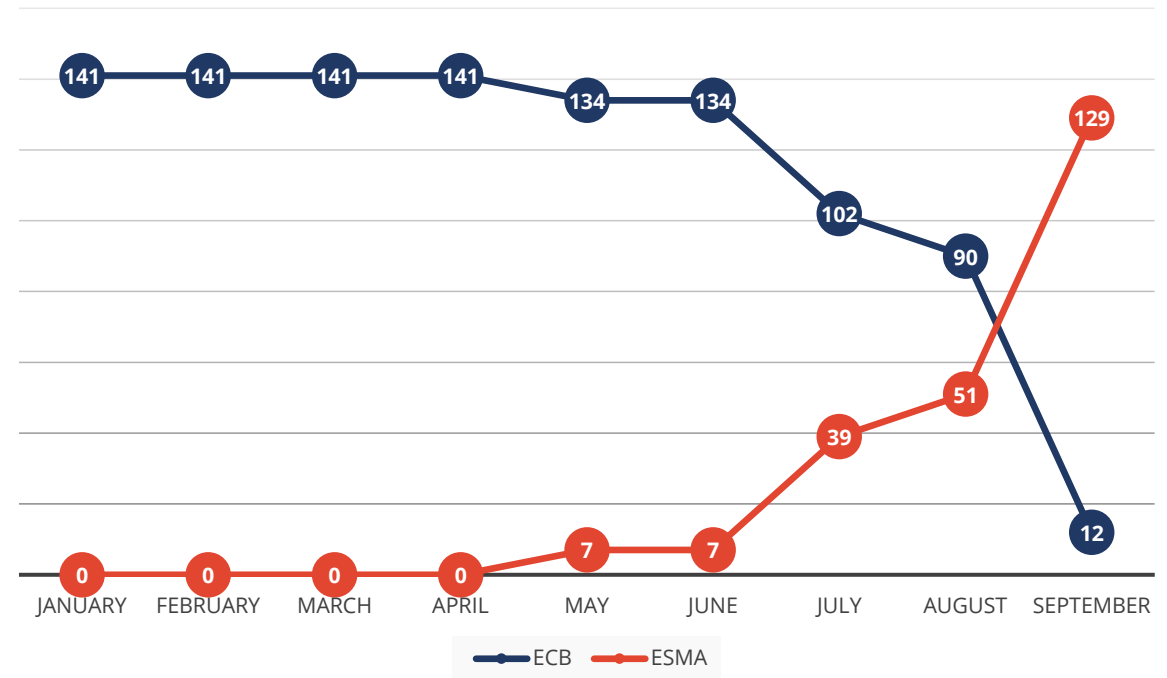
PRESS RELEASE

Changes to the Eurosystem's loan-level data requirements

28 June 2021

- > ESMA reporting templates to be used as of 1 October 2021, replacing the current ECB templates
- > All asset-backed securities (ABSs) seeking collateral eligibility are subject to the same Eurosystem loan-level data requirements, regardless of any disclosure exemption under the Securitisation Regulation
- > New reporting template for non-marketable debt instruments backed by eligible credit claims (DECCs)

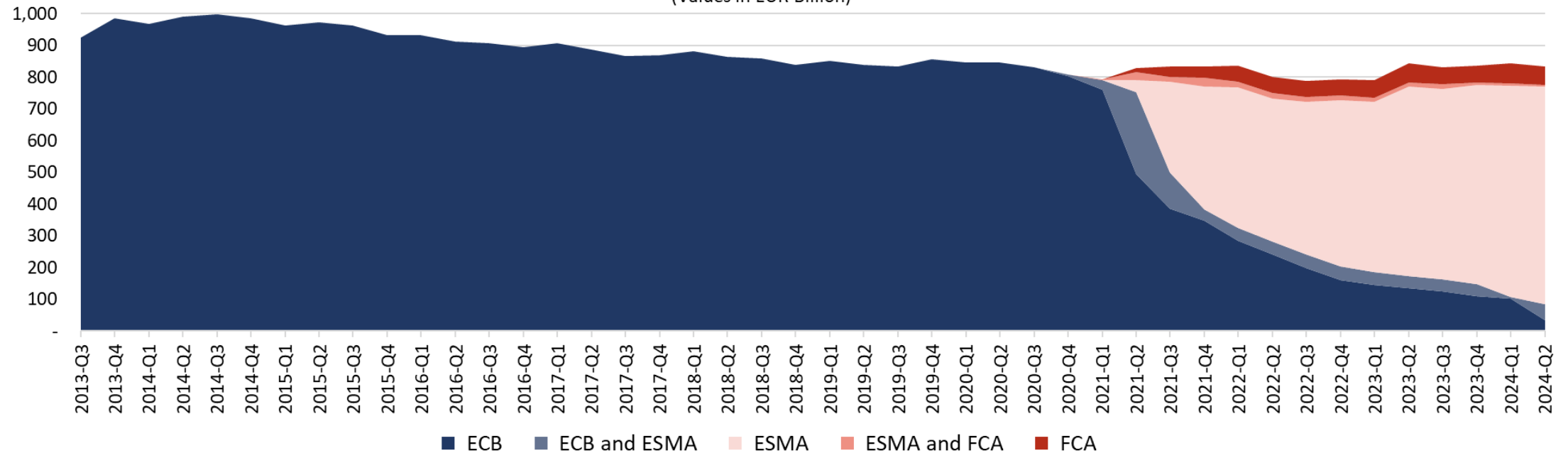
Migration from ECB reporting to ESMA reporting in 2024



EDW DATA INVENTORY (1)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

ALL ABS - PUBLIC DEALS ONLY
(Values in EUR Billion)



EDW DATA INVENTORY (2)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

EDCODE	SEC_ID	DEAL NAME	COUNTRY	ASSET CLASS	QTR	ECB/ESMA/	OUTSTANDING I	(Converted in E	MARKET
3260	RMBSFR000175101020184	54930002GQ40DD57AK55N201801	FR	RMB	2024-Q2	ecb and esma	11,222	533,102,078	RMB-FR
3265	RMBSFR000082100920234	5493000A72AEYJMOJN08N202301	FR	RMB	2024-Q2	esma	56,025	11,838,392,893	RMB-FR
3281	RMBSFR000083100920208	5493001Y7OCB84GOJ429N202001	FR	RMB	2024-Q2	esma	6,870	655,525,003	RMB-FR
3301	RMBSFR000083100820192	54930032M1SQPJNRZ420N201901	FR	RMB	2024-Q2	esma	7,105	416,053,680	RMB-FR
3403	RMBSFR000175101220222	5493005TM46YMTICAU84N202201	FR	RMB	2024-Q2	esma	13,050	2,100,265,650	RMB-FR
3786	RMBSFR000082100820228	549300CTJYX4WOMP6B38N202201	FR	RMB	2024-Q2	esma	42,760	7,868,536,837	RMB-FR
3790	RMBSFR000083500220233	549300CV91UZJXB8RL09N202301	FR	RMB	2024-Q2	esma	10,019	911,080,291	RMB-FR
3972	RMBMFR000083100220149	549300HQGL7PSLFK4G36N201401	FR	RMB	2024-Q2	esma	856,165	94,421,629,616	RMB-FR
0002	RMBSFR000175100820162	549300HXU11QLHV9NT89N201701	FR	RMB	2024-Q2	ecb and esma	12,430	352,702,225	RMB-FR
0014	RMBSFR000083500120219	549300KV5TH1YCNIUQ94N202101	FR	RMB	2024-Q2	esma	11,618	1,190,158,692	RMB-FR
0028	RMBSFR000175101120216	549300MIF85K8BXC6M91N202101	FR	RMB	2024-Q2	esma	14,264	1,931,397,601	RMB-FR
0277	RMBSFR000175100920178	549300RUEYYMW163W968N201702	FR	RMB	2024-Q2	ecb	3,517	281,519,762	RMB-FR
0712	RMBSFR000083100620170	549300V6B3GYHJKZU741N201701	FR	RMB	2024-Q2	esma	52,393	3,424,839,932	RMB-FR
0796	RMBSFR000175100720149	549300WBHY25B75DWR71N201401	FR	RMB	2024-Q2	ecb and esma	3,394	119,219,106	RMB-FR
3905	RMBMFR102669100120227	9695003SJ7Z9C9HIGV14N202201	FR	RMB	2024-Q2	esma	6,208	3,251,185,145	RMB-FR
3924	RMBSFR102115100120194	969500651HMG0IO6S894N201901	FR	RMB	2024-Q2	esma	8,370	358,819,897	RMB-FR
3935	RMBSFR000226101020227	969500EF6ED9WU4JFN81N202201	FR	RMB	2024-Q2	esma	12,422	1,162,031,515	RMB-FR
3944	RMBSFR102115100620227	969500EK5N7NN7IRWK83N202201	FR	RMB	2024-Q2	esma	11,540	432,164,380	RMB-FR
3962	RMBSFR102115100220200	969500JLLGA7AQZQ1L92N202001	FR	RMB	2024-Q2	esma	10,496	355,275,034	RMB-FR
3975	RMBSFR102115100420214	969500KPK1WZO8QA4W81N202101	FR	RMB	2024-Q2	esma	11,874	415,713,865	RMB-FR
3994	RMBSFR000226100820205	969500MFD98SLZ425M62N202001	FR	RMB	2024-Q2	esma	14,649	1,160,032,667	RMB-FR
4009	RMBSFR000175500120247	969500TJWRCC8CMQWT96N202401	FR	RMB	2024-Q2	esma	10,215	1,979,843,220	RMB-FR
6435	RMBSFR000222100220157	NULL	FR	RMB	2024-Q2	ecb	2,707	141,316,388	RMB-FR
6451	RMBSFR000086101120223	O2RNE8IBXP4R0TD8PU41N202201	FR	RMB	2024-Q2	esma	71,143	11,049,495,529	RMB-FR
9956									

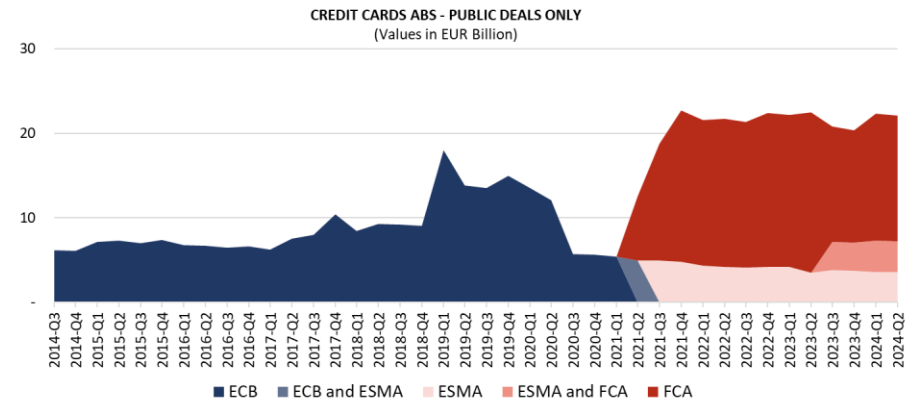
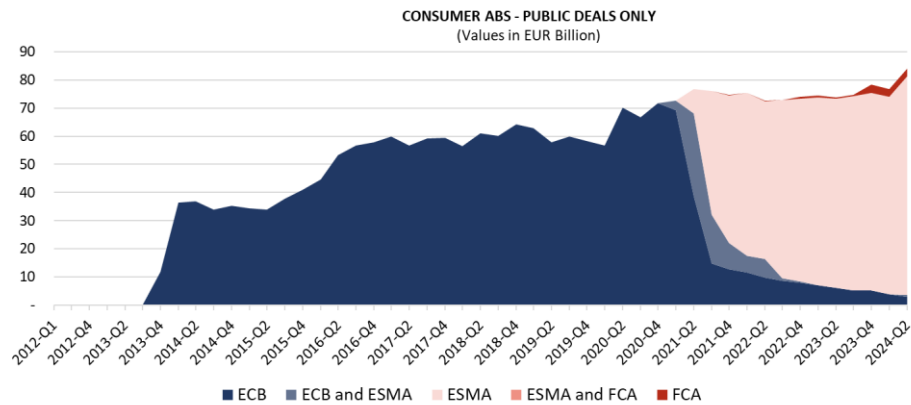
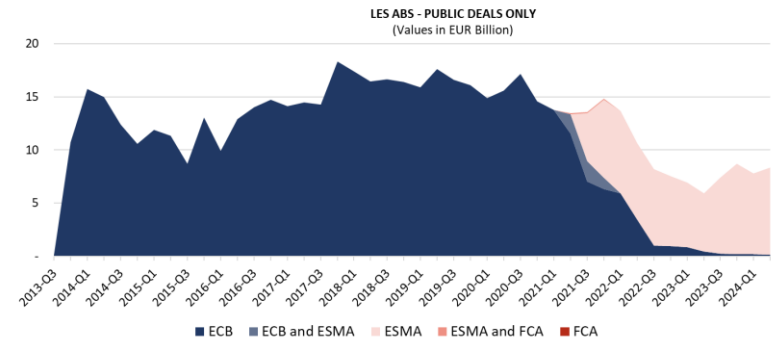
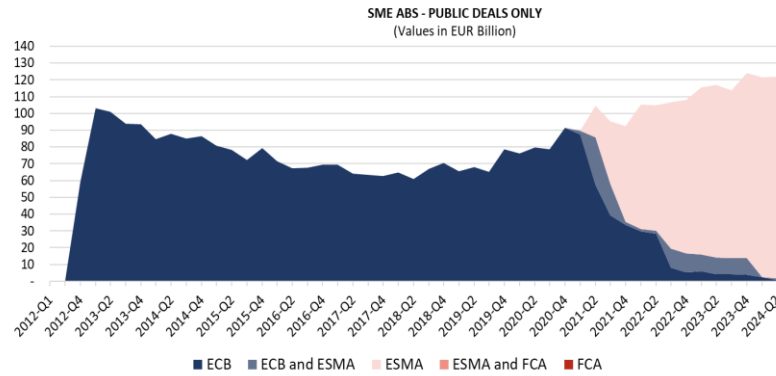
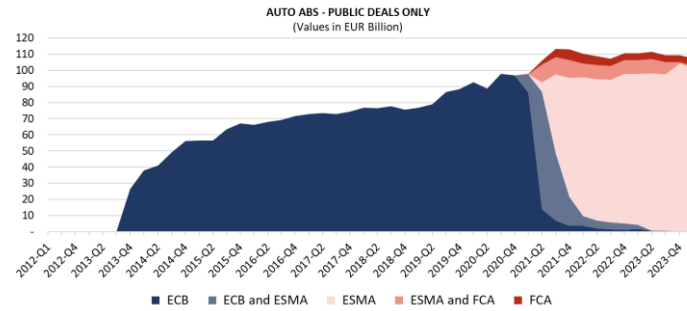
EDW DATA INVENTORY (3)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

6		2021-Q1	2021-Q2	2021-Q3	2021-Q4	2022-Q1	2022-Q2	2022-Q3	2022-Q4	2023-Q1	2023-Q2	2023-Q3	2023-Q4	2024-Q1	2024-Q2
705	RMBMFR000083100220149	40.77	40.81	40.15	40.34	40.68	40.31	40.31	40.31	40.35	75.23	75.22	94.46	94.39	94.42
706	RMBMFR102669100120227	-	-	-	-	-	-	-	2.70	2.70	2.70	2.70	2.70	3.25	3.25
982	RMBSFR000082100820228	-	-	-	-	-	7.77	7.76	7.83	7.82	7.66	7.84	7.86	7.69	7.87
983	RMBSFR000082100920234	-	-	-	-	-	-	-	-	-	12.75	12.57	12.75	12.77	11.84
985	RMBSFR000083100620170	5.94	5.69	5.41	5.15	4.92	4.65	4.44	4.26	4.10	3.96	3.81	3.68	3.55	3.42
987	RMBSFR000083100820192	0.77	0.72	0.68	0.64	0.61	0.57	0.54	0.52	0.50	0.48	0.46	0.45	0.43	0.42
988	RMBSFR000083100920208	1.03	0.99	0.94	0.90	0.86	0.82	0.78	0.76	0.74	0.72	0.70	0.69	0.67	0.66
989	RMBSFR000083500120219	-	-	1.63	1.59	1.53	1.46	1.41	1.37	1.33	1.30	1.27	1.24	1.22	1.19
990	RMBSFR000083500220233	-	-	-	-	-	-	-	-	-	-	1.25	0.95	0.93	0.91
993	RMBSFR000086101120223	-	-	-	-	10.36	10.03	9.66	12.78	12.43	12.12	11.81	11.51	11.23	11.05
1006	RMBSFR000175100720149	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.16	0.15	0.14	0.14	0.13	0.12	0.12
1007	RMBSFR000175100820162	0.71	0.67	0.63	0.60	0.57	0.54	0.50	0.48	0.45	0.43	0.41	0.39	0.37	0.35
1008	RMBSFR000175100920178	0.49	0.47	0.45	0.43	0.41	0.39	0.38	0.36	0.34	0.33	0.32	0.30	0.29	0.28
1009	RMBSFR000175101020184	0.89	0.85	0.82	0.78	0.75	0.72	0.69	0.66	0.64	0.61	0.59	0.57	0.55	0.53
1010	RMBSFR000175101120216	2.92	2.86	2.77	2.68	2.59	2.50	2.41	2.33	2.25	2.18	2.11	2.04	1.99	1.93
1011	RMBSFR000175101220222	-	-	-	-	-	-	-	2.50	2.44	2.37	2.29	2.22	2.16	2.10
1012	RMBSFR000175500120247	-	-	-	-	-	-	-	-	-	-	-	-	-	1.98
1015	RMBSFR000222100220157	0.25	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.14
1021	RMBSFR000226100820205	1.16	1.16	1.16	1.16	1.16	1.16	1.17	1.16	1.16	1.16	1.16	1.16	1.16	1.16
1022	RMBSFR000226101020227	-	-	-	-	1.16	1.16	1.17	1.16	1.16	1.16	1.16	1.16	1.16	1.16
1027	RMBSFR102115100120194	0.59	0.56	0.54	0.52	0.50	0.48	0.46	0.44	0.43	0.41	0.40	0.38	0.37	0.36
1028	RMBSFR102115100220200	0.61	0.59	0.56	0.54	0.51	0.49	0.48	0.45	0.43	0.41	0.40	0.38	0.36	0.36
1030	RMBSFR102115100420214	-	0.64	-	0.59	0.57	0.55	0.52	0.51	0.49	0.47	0.46	0.44	0.43	0.42
1031	RMBSFR102115100620227	-	-	-	-	0.62	-	0.57	0.54	0.52	0.50	0.48	0.46	0.45	0.43

EDW DATA INVENTORY (4)

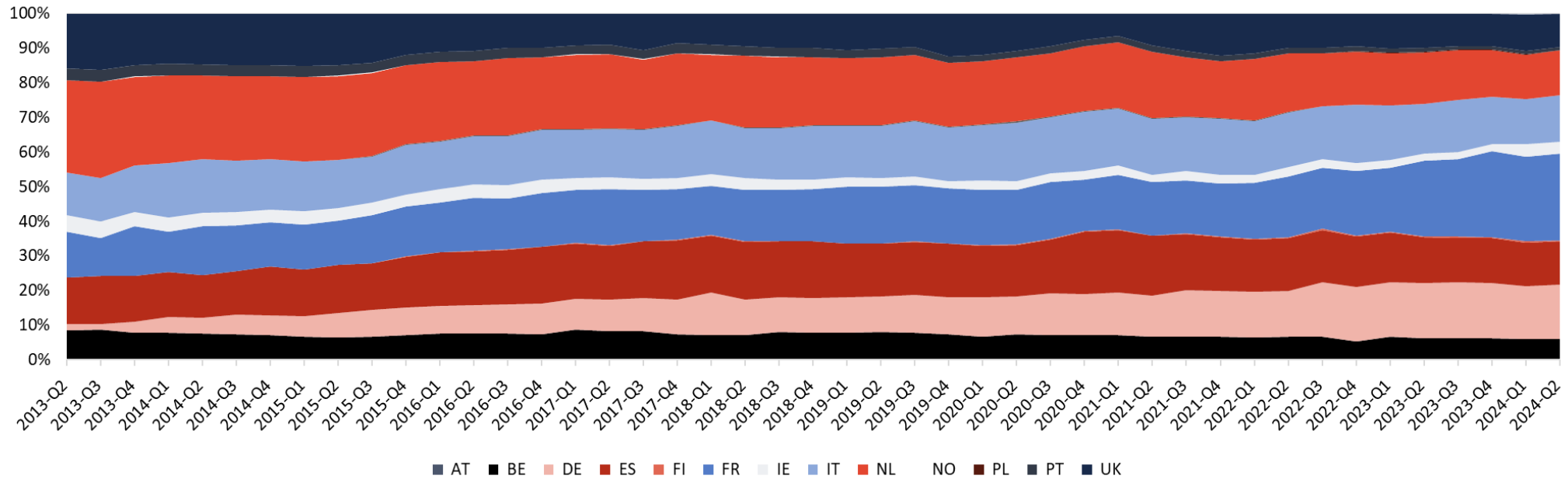
RMBS WAS LAST ASSET CLASS WITH SIGNIFICANT ECB REPORTING, THE OTHER ASSET CLASSES HAD SWITCHED BEFORE...



EDW DATA INVENTORY (5)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

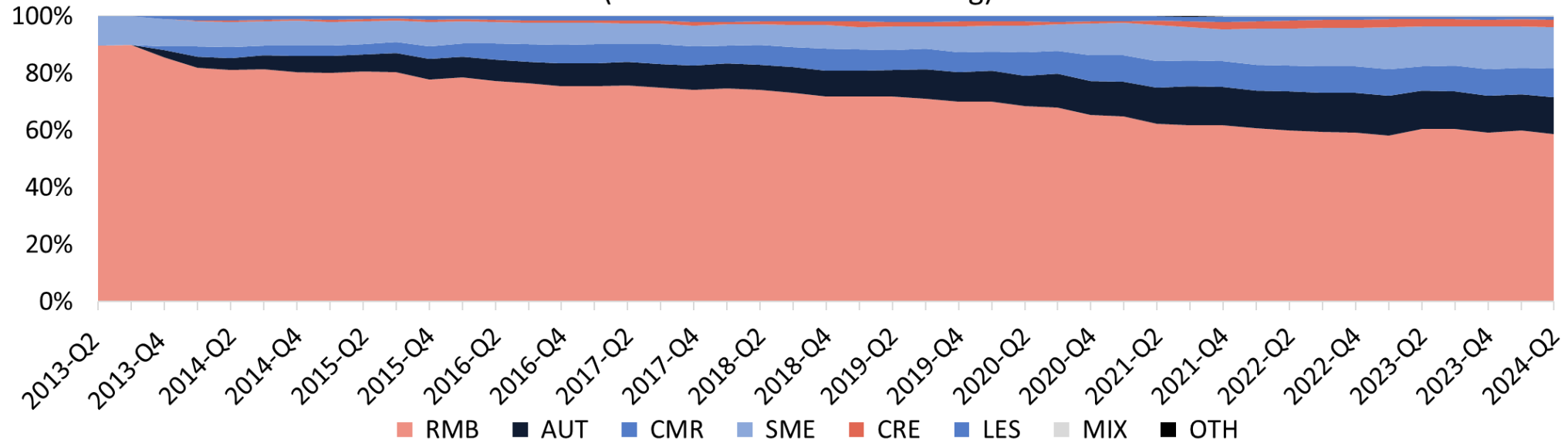
ALL ABS - PUBLIC DEALS ONLY
(Available data by country %)



EDW DATA INVENTORY (6)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

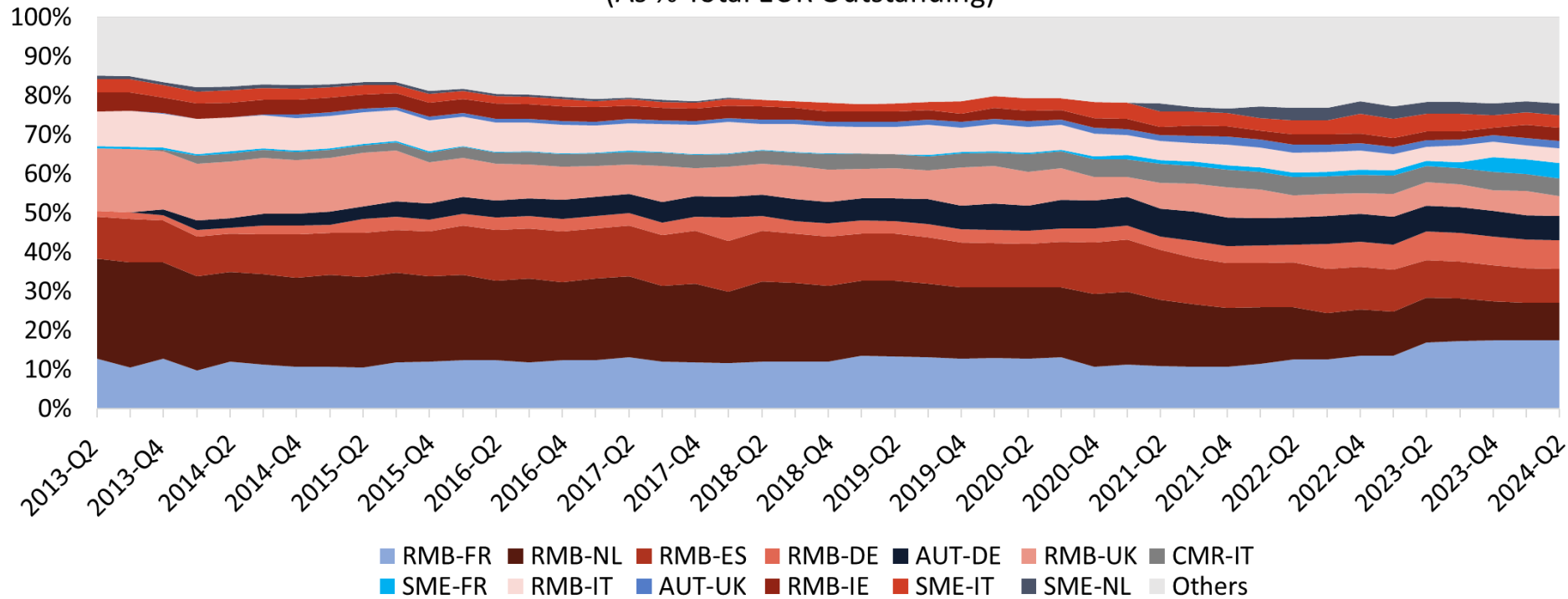
Most Important Market Segments
(As % Total EUR Outstanding)



EDW DATA INVENTORY (7)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

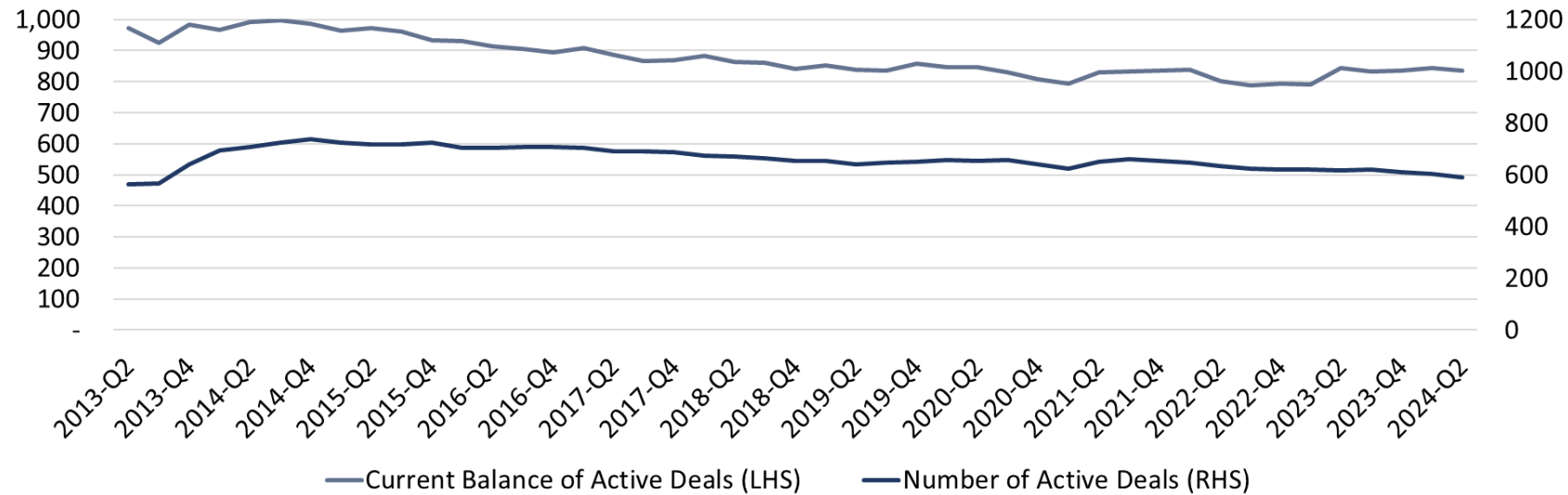
Most Important Market Segments
(As % Total EUR Outstanding)



EDW DATA INVENTORY (8)

REPORT ON DATA AVAILABILITY BLOG AND EXCEL

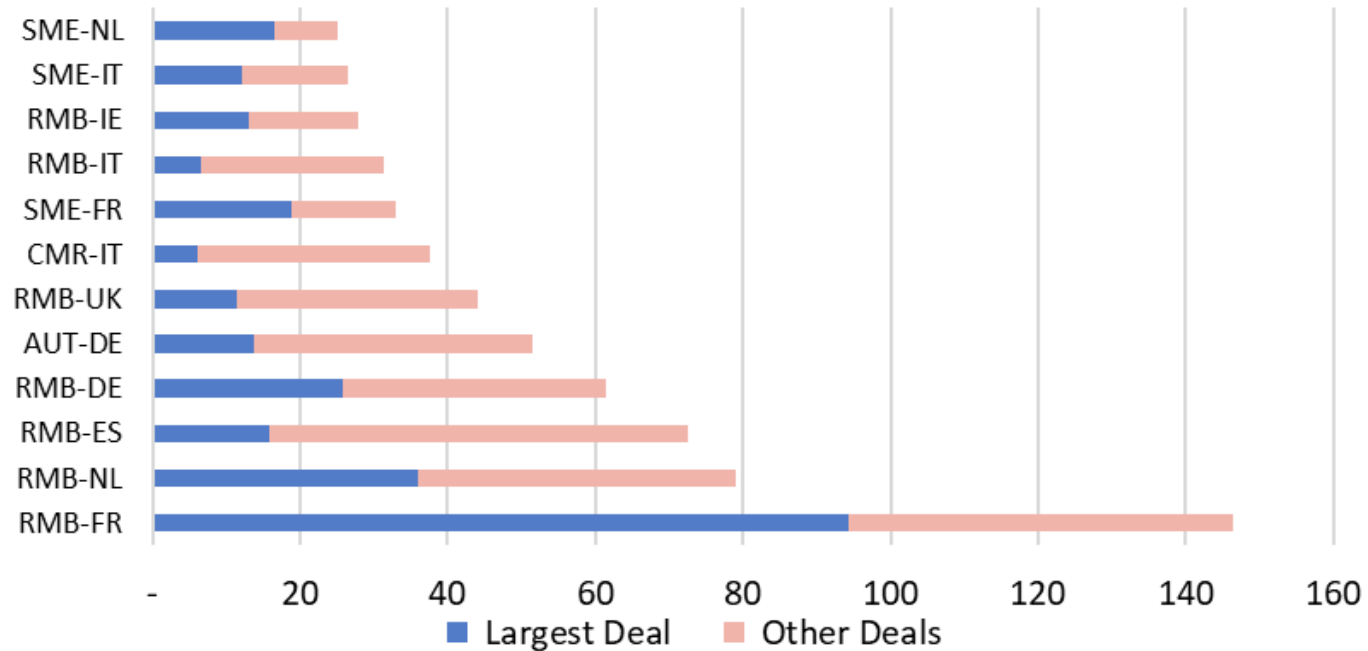
Number Of Active Deals vs EUR Amount
(Amounts in EUR Billions)



CONCENTRATION EFFECTS

IN MANY MARKETS, THE LARGEST DEAL REPRESENTS A SUBSTANTIAL PART OF THE TOTAL

Total Market Size as of 2024-Q2 of Which Largest Deal
(Outstanding Amount in EUR Billions)

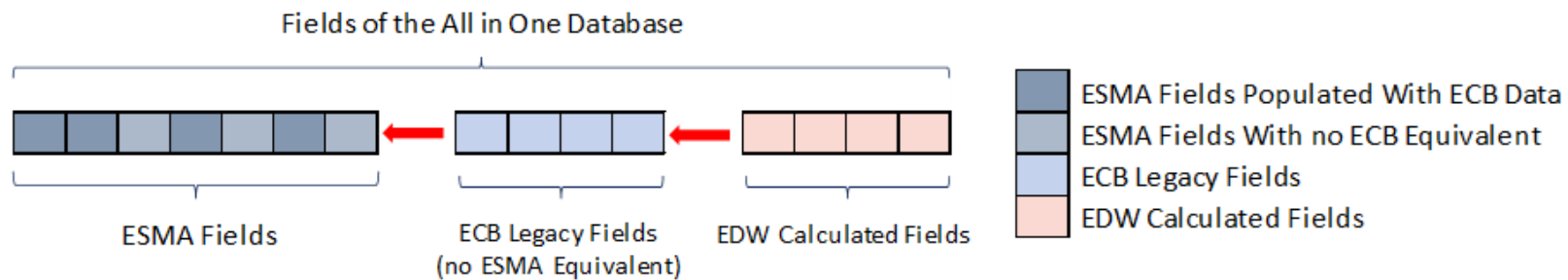
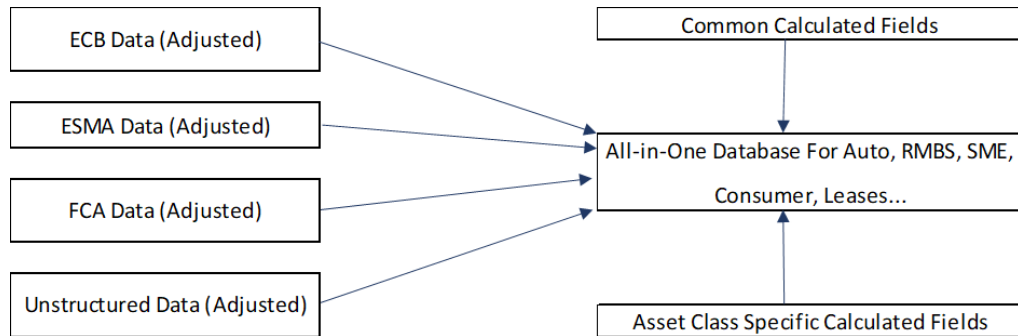




ALL IN ONE DATABASE

ALL IN ONE DATABASE

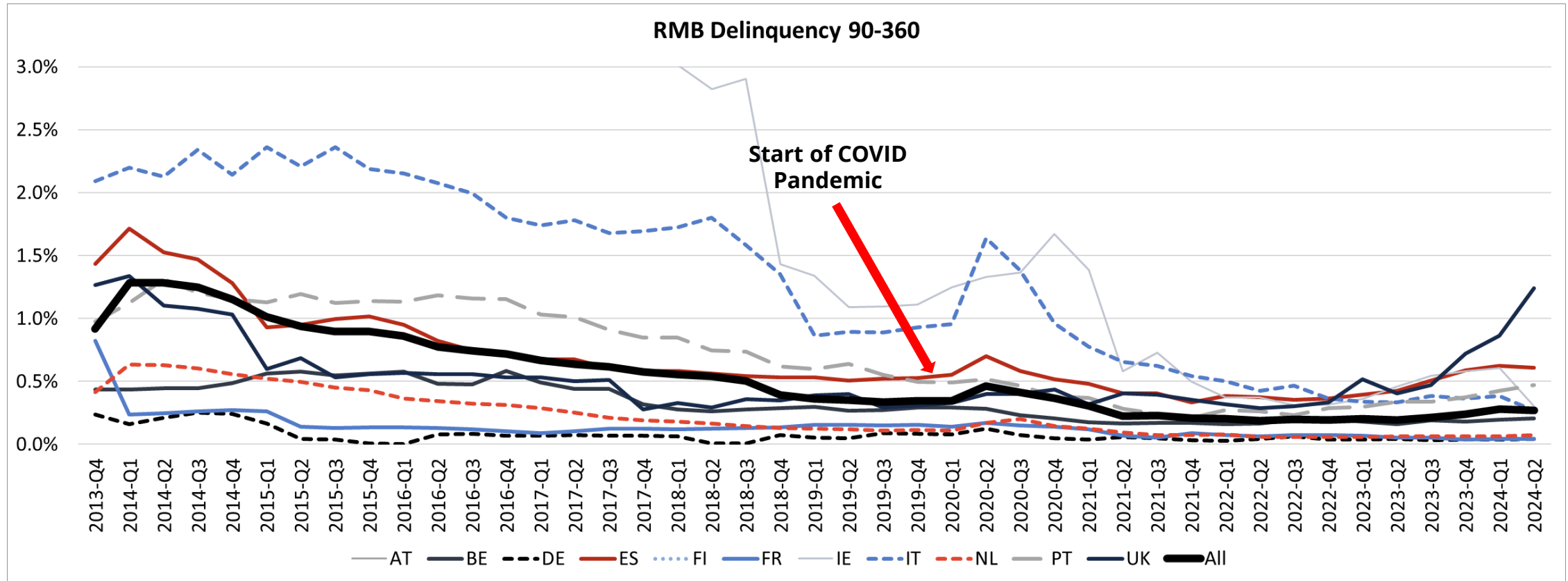
ECB AND ESMA DATA INTEGRATED IN 1 DATABASE



DELINQUENCY INDICES 90 - 360 DAYS

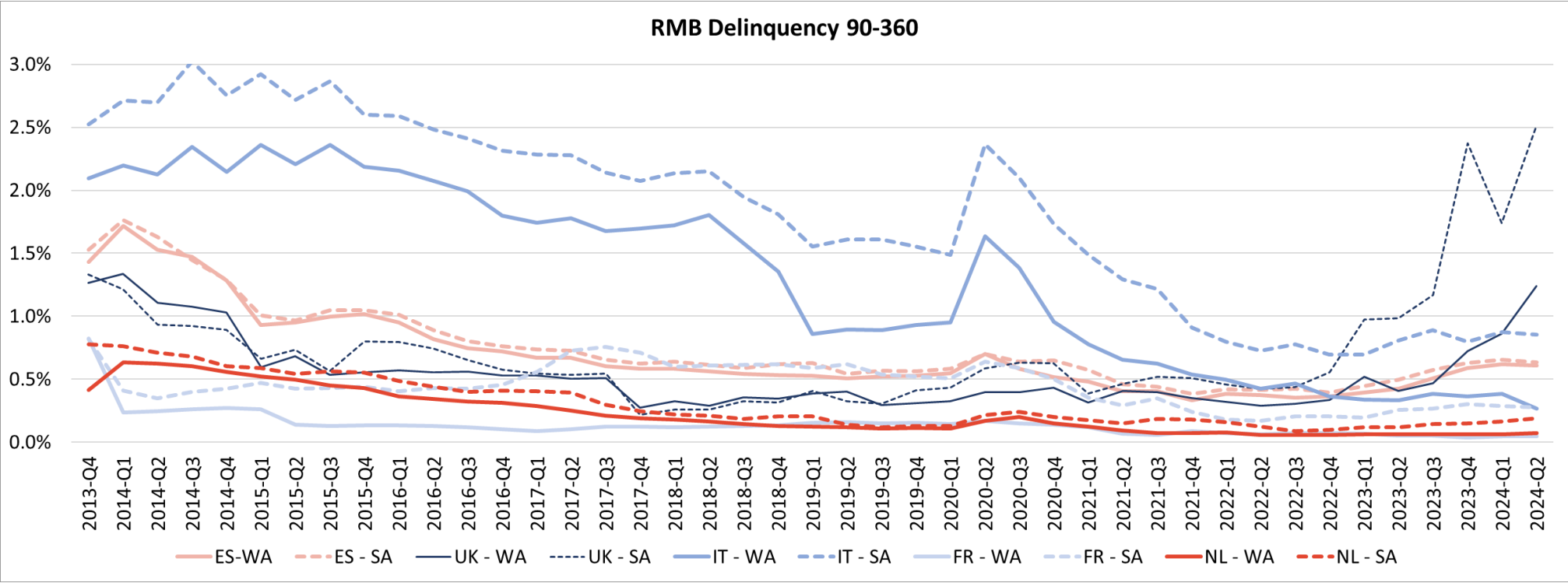
DELINQUENCY RATES 90-360 DAYS

MORTGAGES



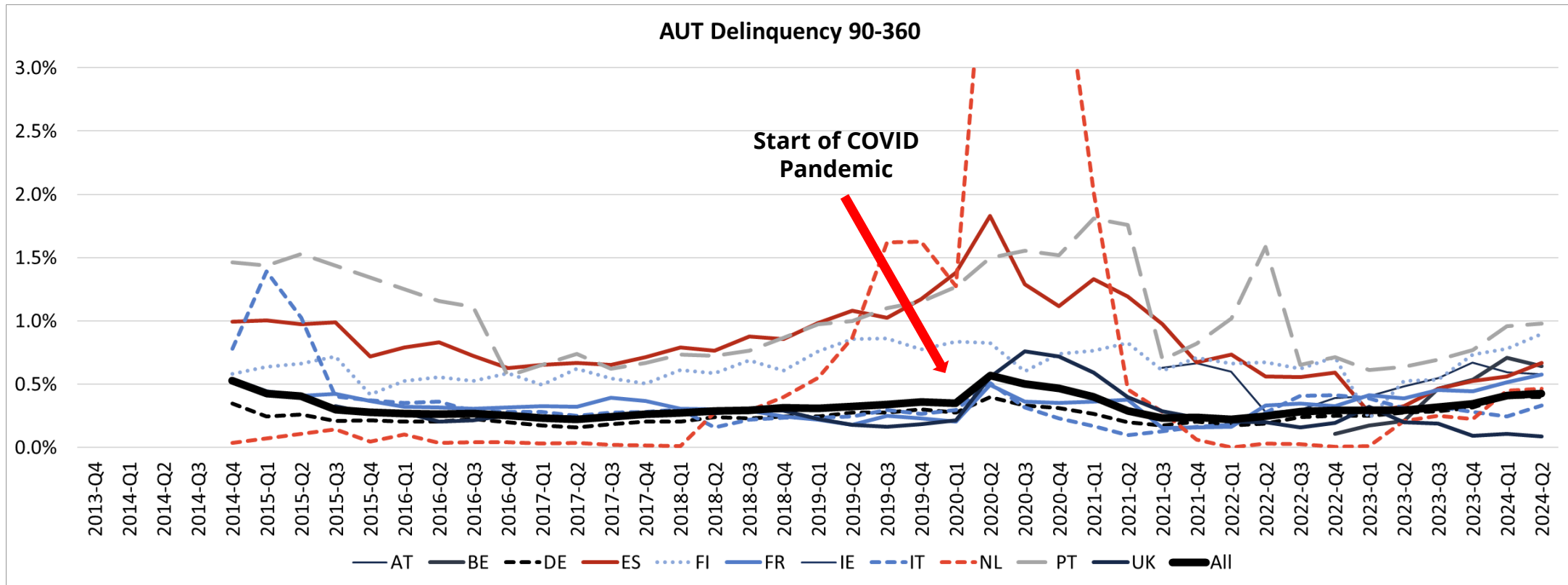
SIMPLE AVERAGE VS WEIGHTED AVERAGE DELINQUENCY 90 - 360

VALUES FOR THE WEIGHTED AVERAGE ARE GENERALLY LOWER THAN FOR THE NON - WEIGHTED AVERAGE



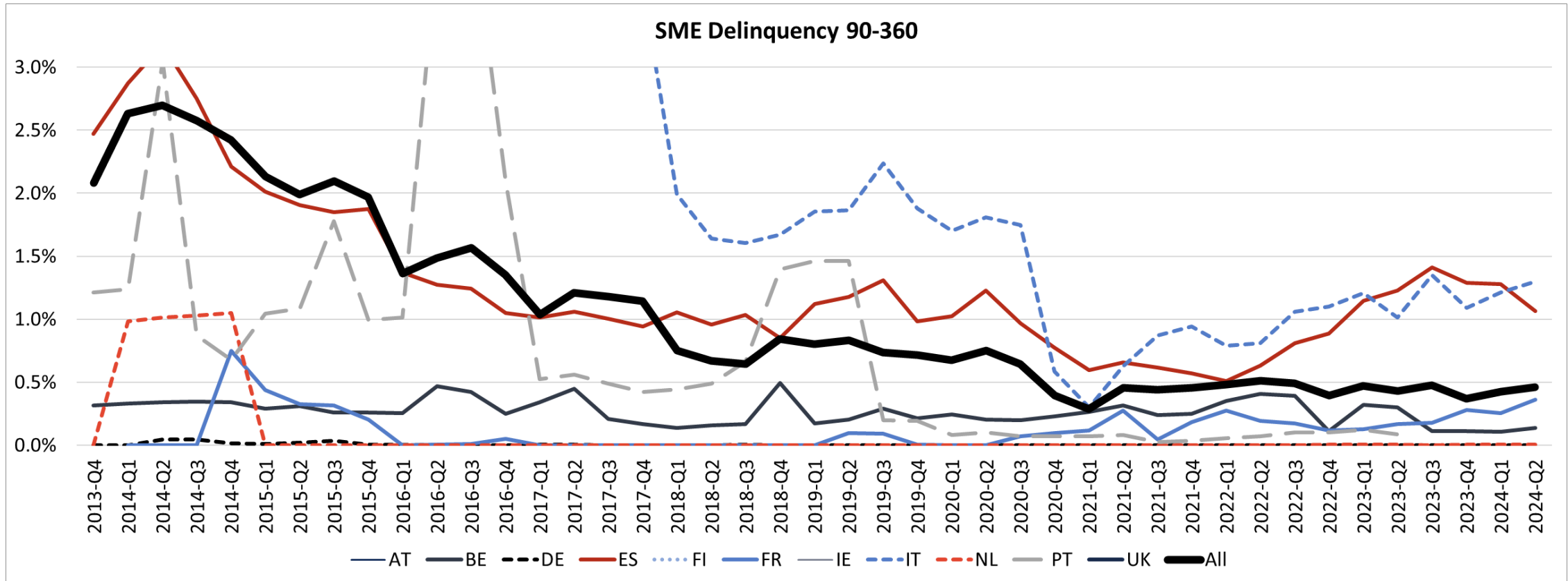
DELINQUENCY RATES 90-360 DAYS

AUTO LOANS AND LEASES



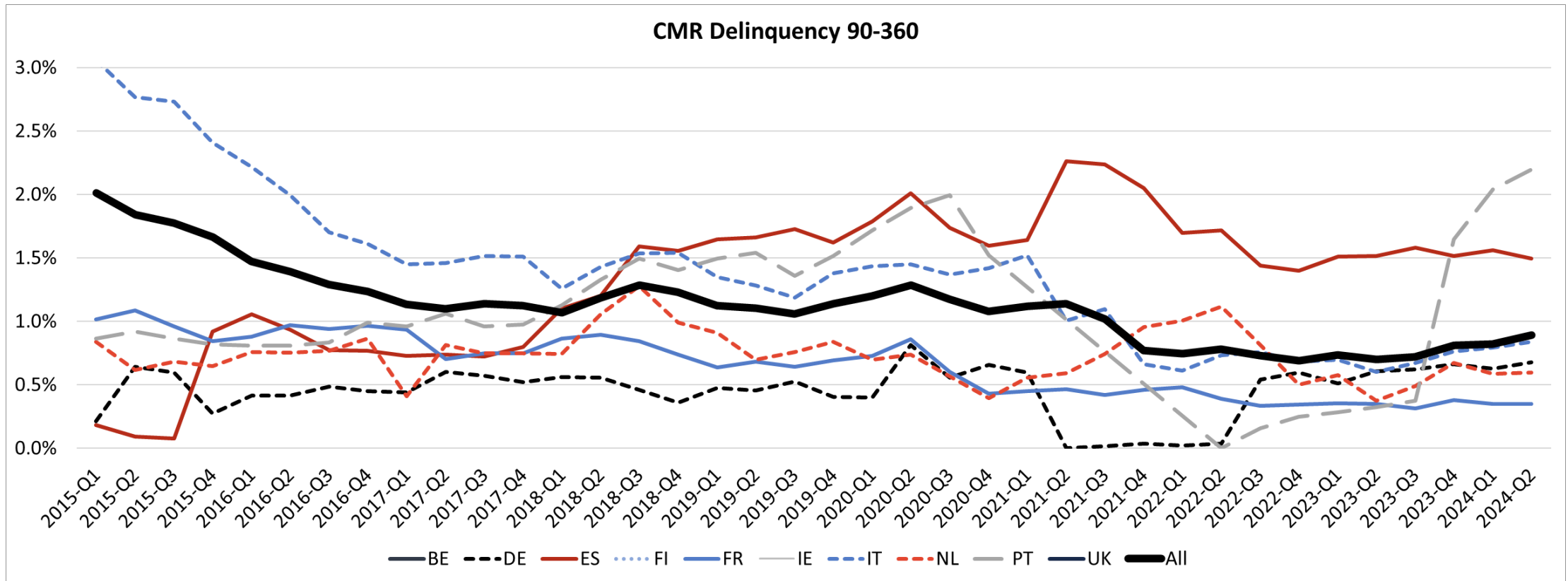
DELINQUENCY RATES 90-360 DAYS

SMALL AND MED. SIZE ENTERPRISES



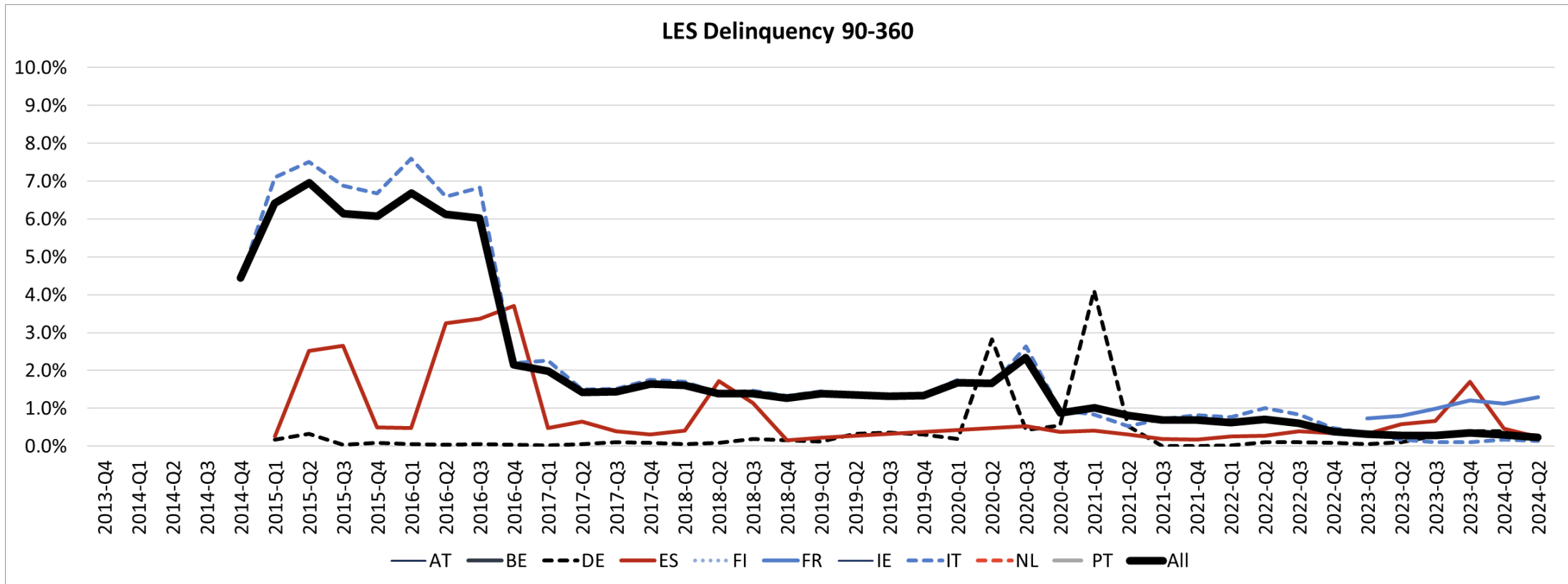
DELINQUENCY RATES 90-360 DAYS

CONSUMER



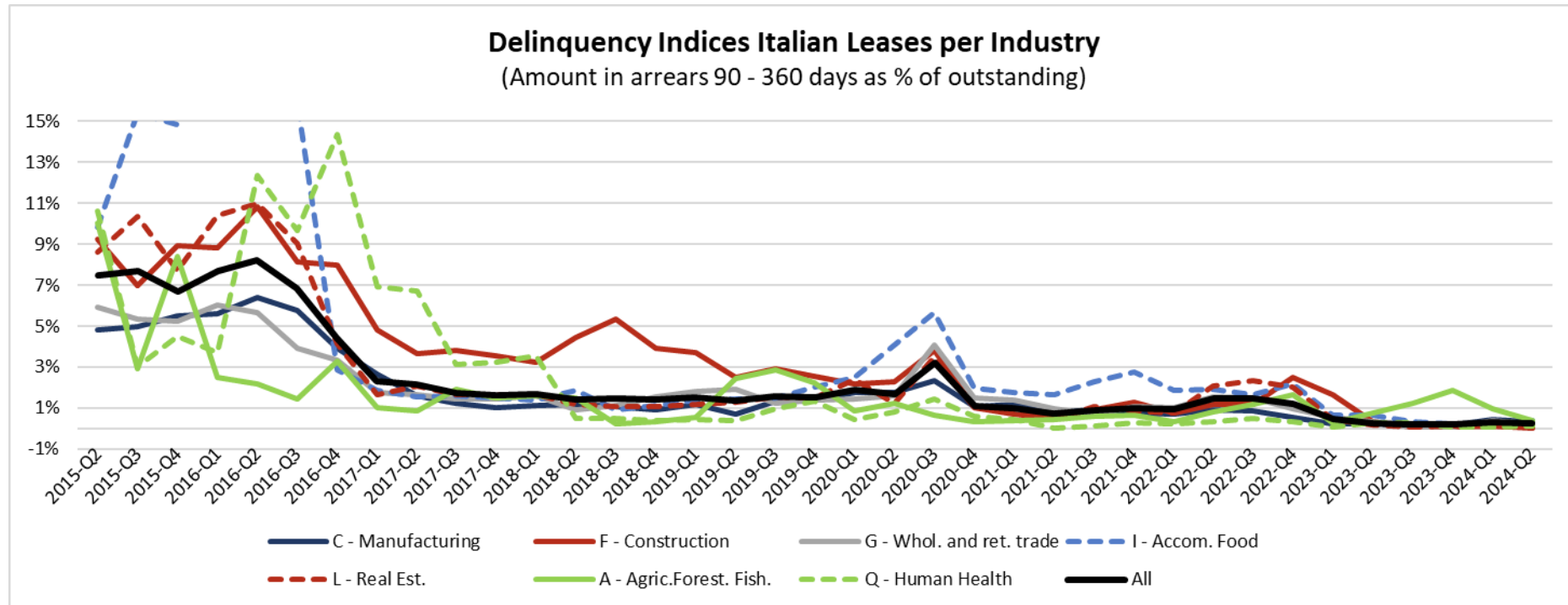
DELINQUENCY RATES 90-360 DAYS

LEASES



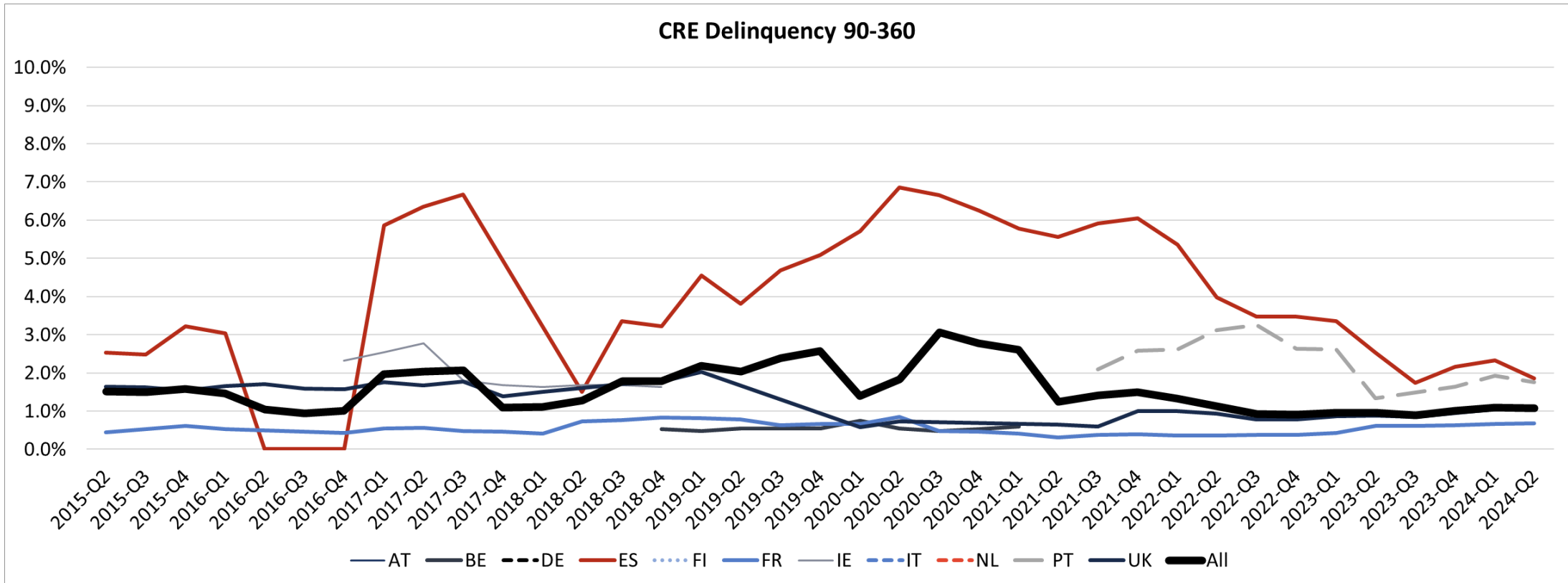
DELINQUENCY RATES 90-360 DAYS

ITALIAN LEASES BY INDUSTRY



DELINQUENCY RATES 90-360 DAYS

CREDIT CARDS



AUTO ABS DELINQUENCIES, A CLOSER LOOK...

SECOND GREEN AUTO SECURITISATION WORKSHOP

AN ENGAGING AND LIVELY EVENT WITH 15 SPEAKERS

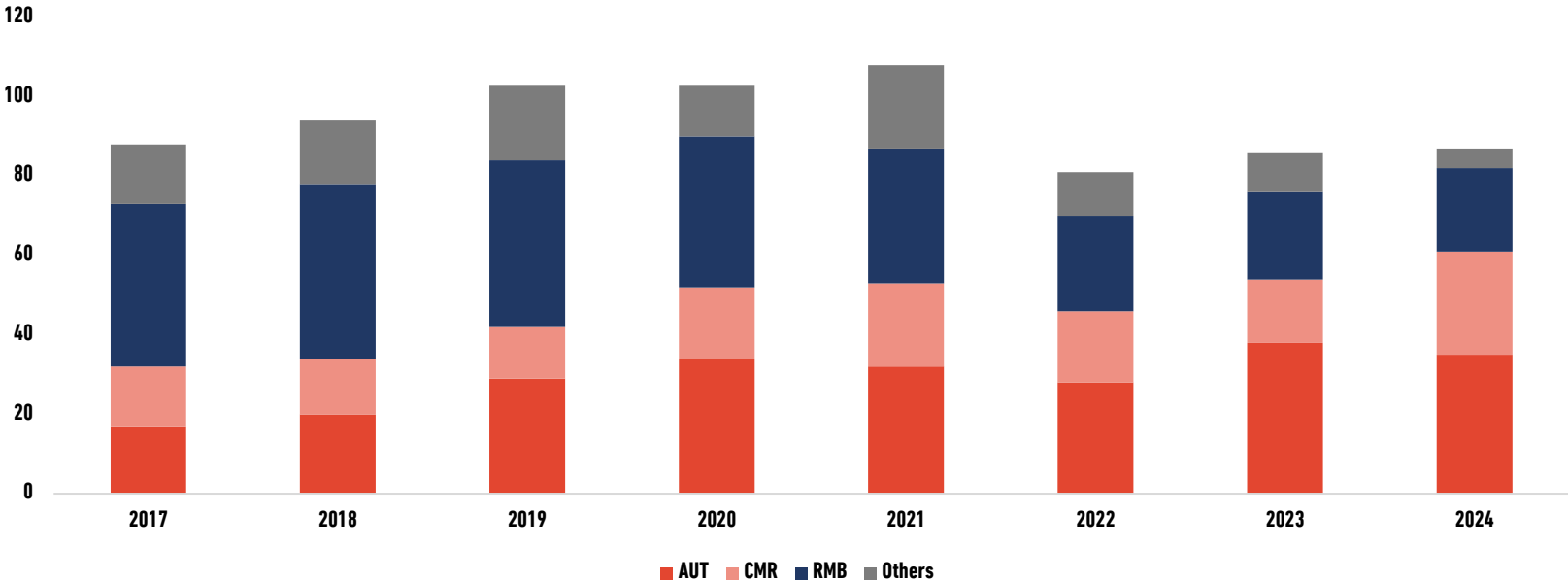
- Road Transport Data at European Environment Agency's (EEA) enables tracking CO2 emissions across countries and manufacturers
- The Bank of France stressed importance of climate-related data on Auto ABS to monitor environmental impact
- New German EPC methodology has completely reversed the general distribution
- Green mutual funds favour Auto ABS that disclose climate-related data
- Disclosure requirements improve transparency but pose implementation challenges and costs
- Limited charging infrastructure and lower residual values hinder greater LEV representation in ABS pools
- Slides are available at the EDW website:
https://eurodw.eu/wp-content/uploads/GAS-Workshop-2024-11-12_Website-2.pdf



PUBLIC DEALS ISSUED OVER THE YEARS BY ASSET CLASS

AUTO ABS IS NOW THE LARGEST ASSET CLASS – FOLLOWED BY CONSUMER AND THEN RMBS

Number of Public ABS deals created in EDW

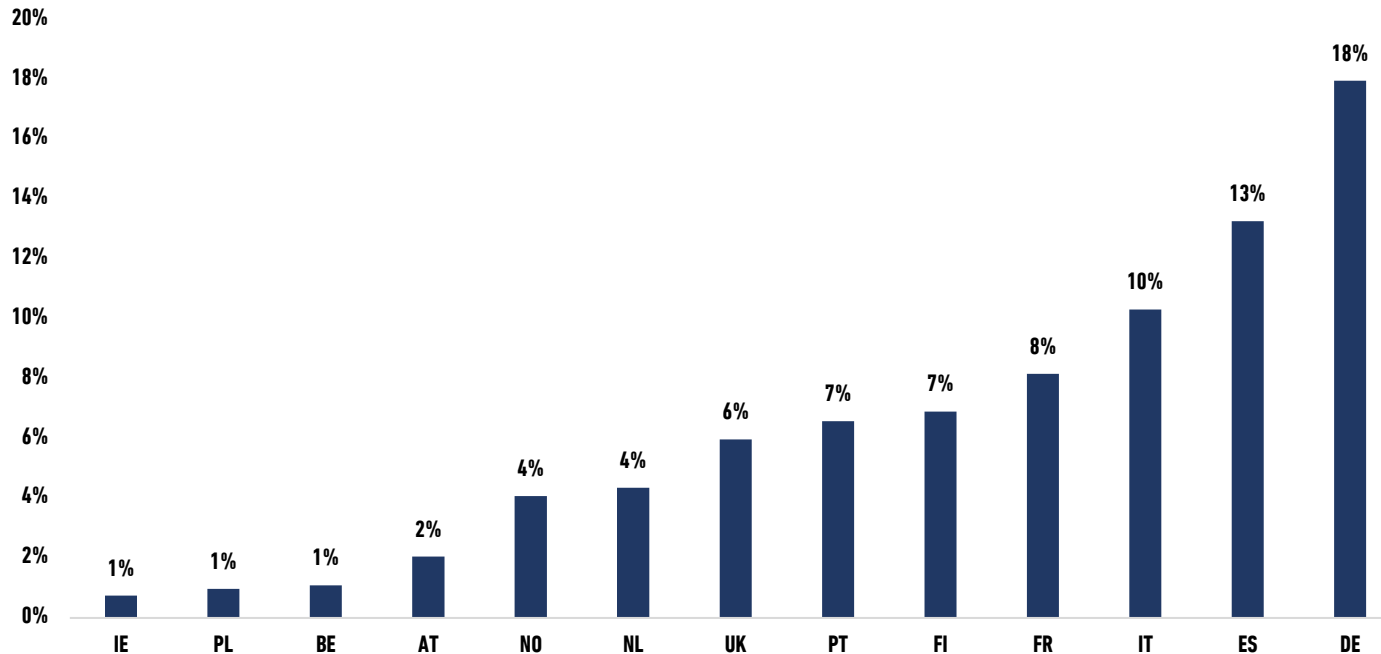


Source: EDW calculations

PERCENTAGE OF NEW CAR REGISTRATIONS SECURITISED IN PUBLIC ABS DEALS

A SIGNIFICANT PORTION OF NEW CARS FROM GERMANY, SPAIN, ITALY AND FRANCE SHOW UP IN PUBLIC AUTO ABS

Percentage of New Car Registrations Securitized in Public ABS Deals



Source: EDW calculations

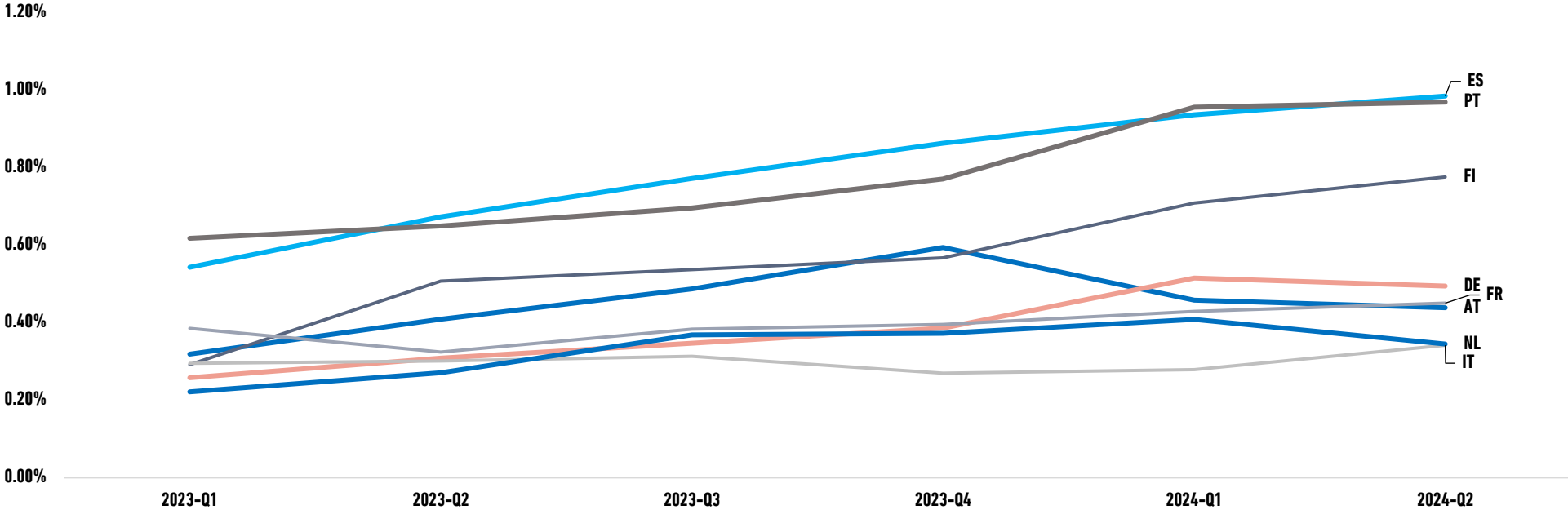
*using car loan/leases for New cars with a year of registration of 2010 or later

*UK data only till 2020

AUTO ABS - DELINQUENCIES BY COUNTRY

PORTUGAL, SPAIN AND FINLAND WITH SLIGHTLY HIGHER DELINQUENCIES

90 - 360 Days Delinquencies (% of Current Balance)



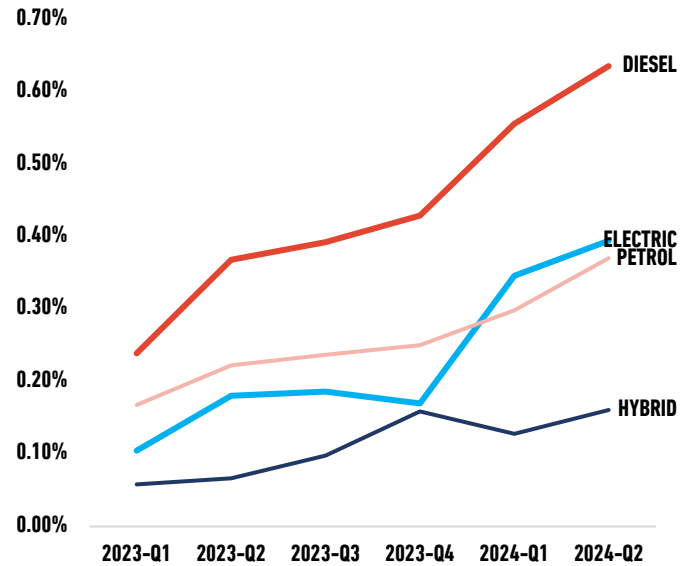
* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

GERMAN AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

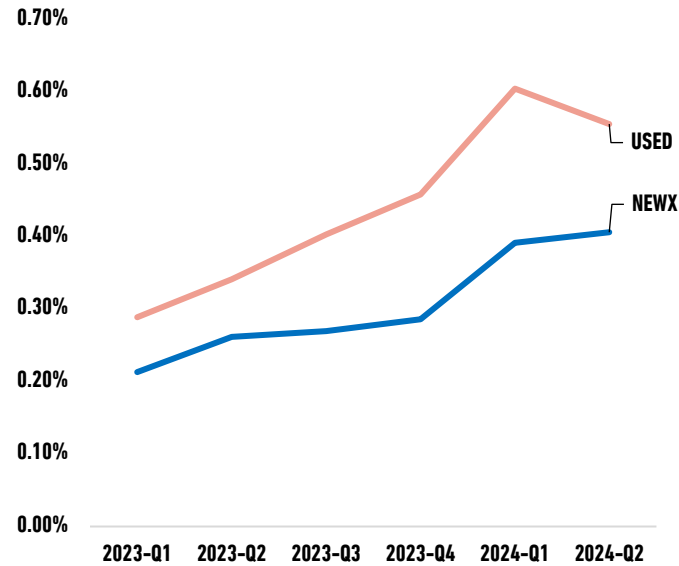
DIESEL CARS, USED CARS AND LEGAL ENTITIES HAVE HIGHER DELINQUENCIES



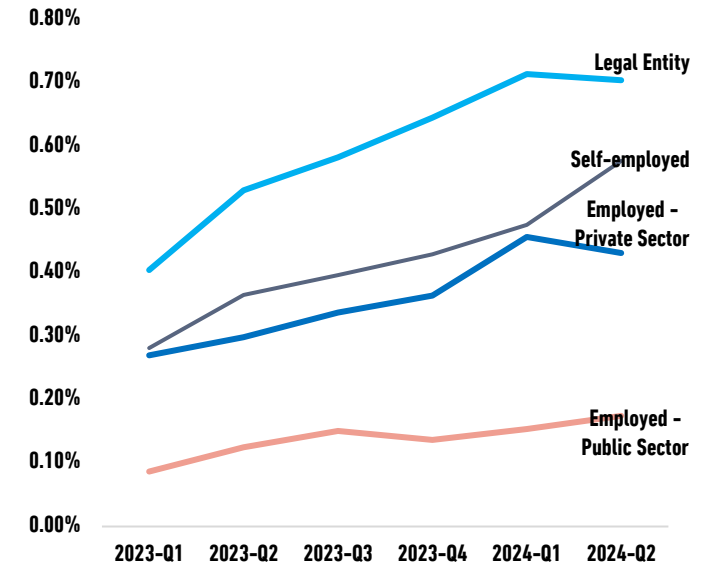
BY FUEL TYPE



NEW VS USED CARS



BY EMPLOYMENT TYPE



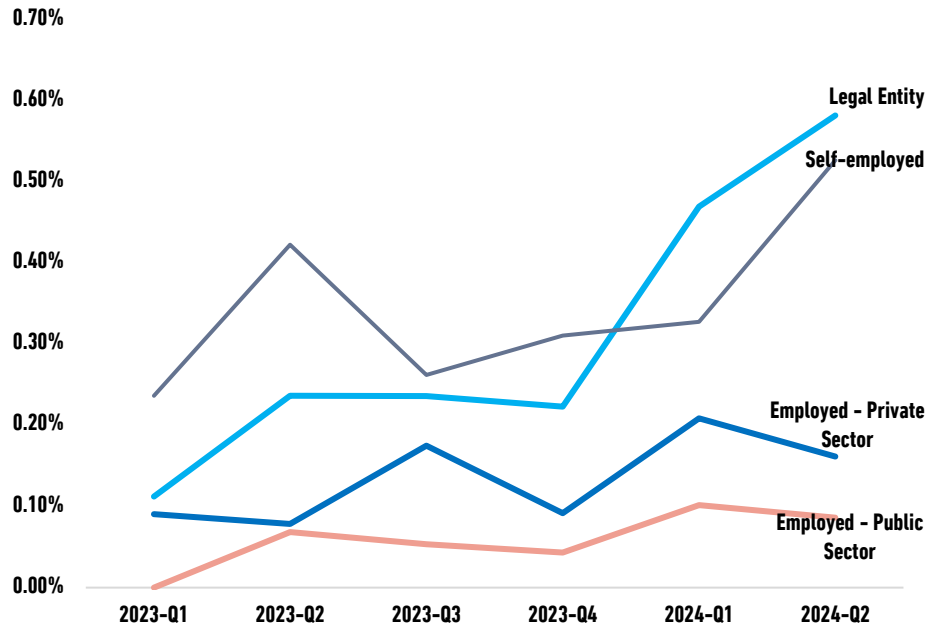
* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

GERMAN AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

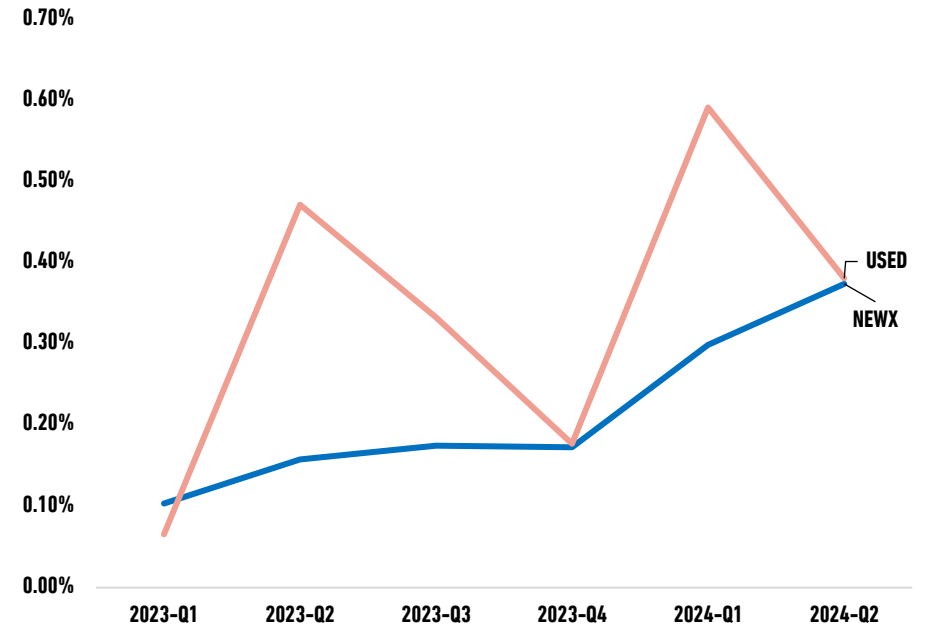
ELECTRIC ONLY – LEGAL ENTITIES AND USED CARS HAVE HIGHER DELINQUENCIES



BY EMPLOYMENT TYPE



NEW VS USED



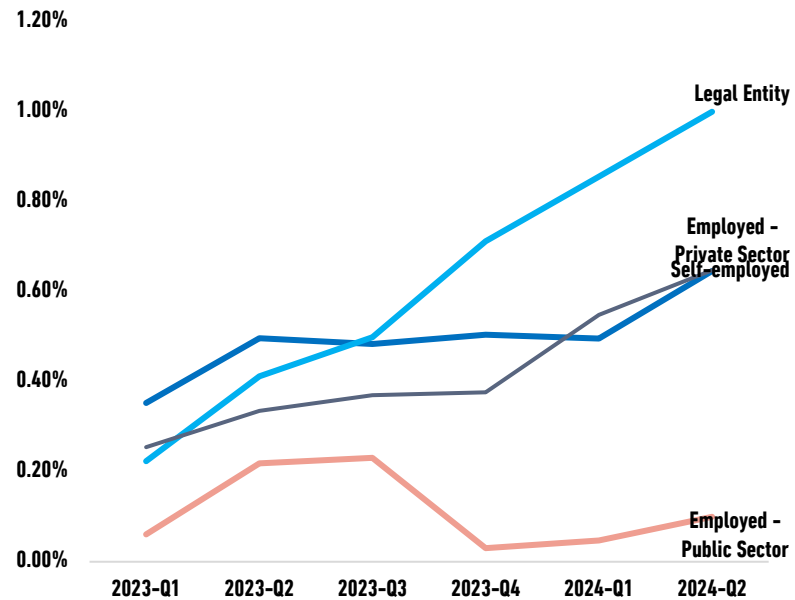
* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

GERMAN AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

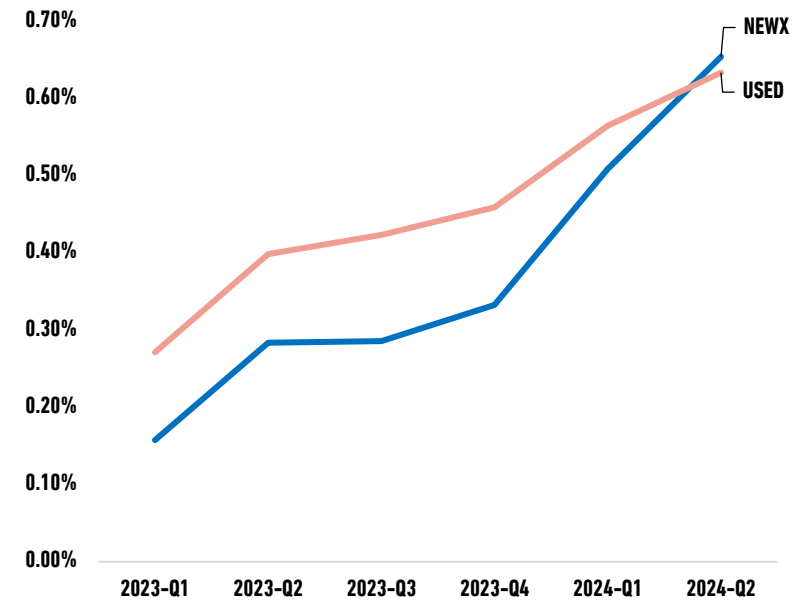
DIESEL ONLY – LEGAL ENTITIES HAVE HIGHER DELINQUENCIES, USED AND NEW CARS ARE QUITE SIMILAR



BY EMPLOYMENT TYPE



NEW VS USED



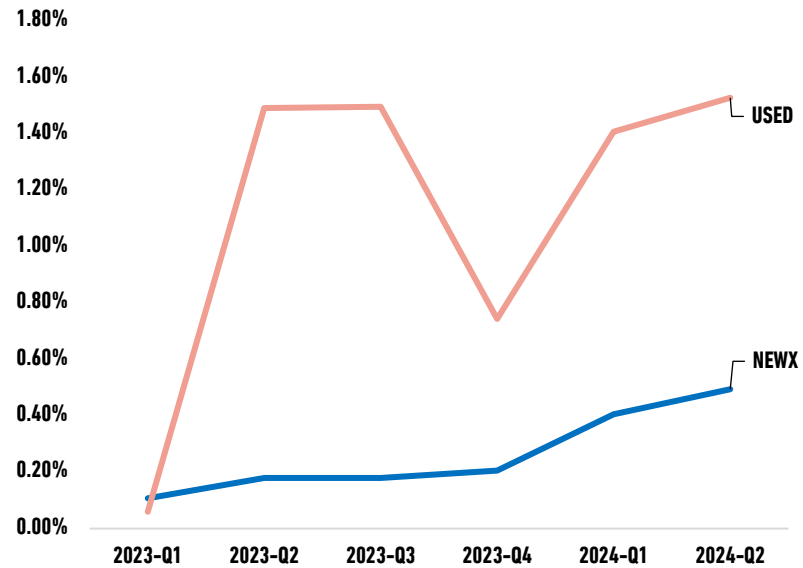
* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

GERMAN AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

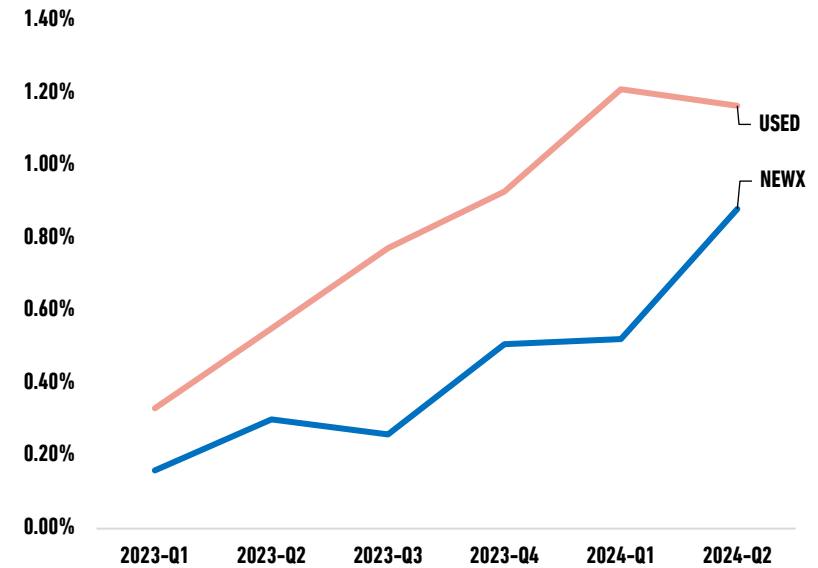
LEGAL ENTITIES ONLY – USED CARS HAVE HIGHER DELINQUENCIES FOR BOTH ELECTRIC AND DIESEL CARS



ELECTRIC – NEW VS USED



DIESEL – NEW VS USED



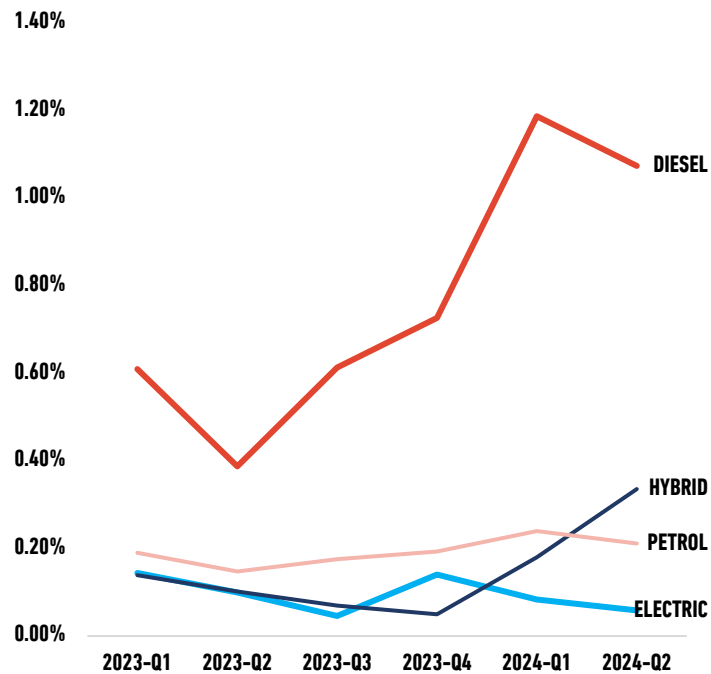
* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

FRENCH AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

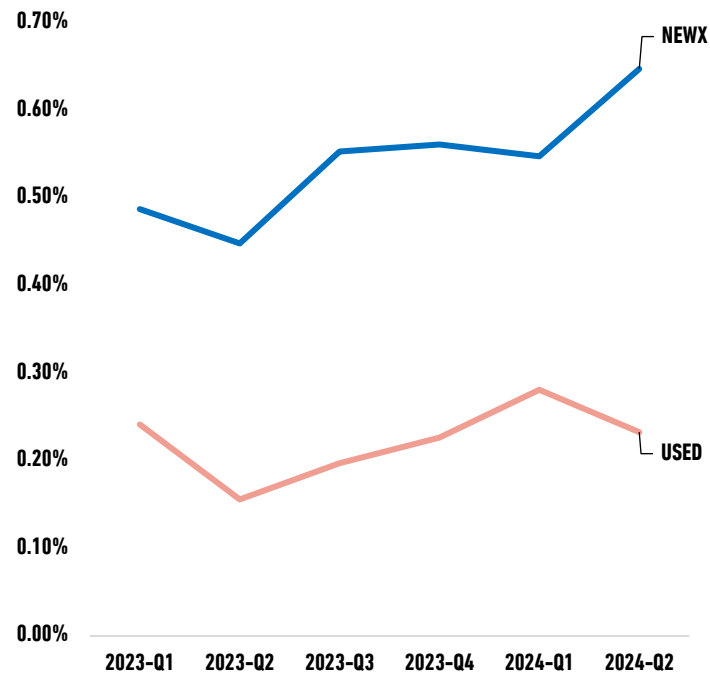
DIESEL CARS, NEW CARS AND LEGAL ENTITIES HAVE HIGHER DELINQUENCIES



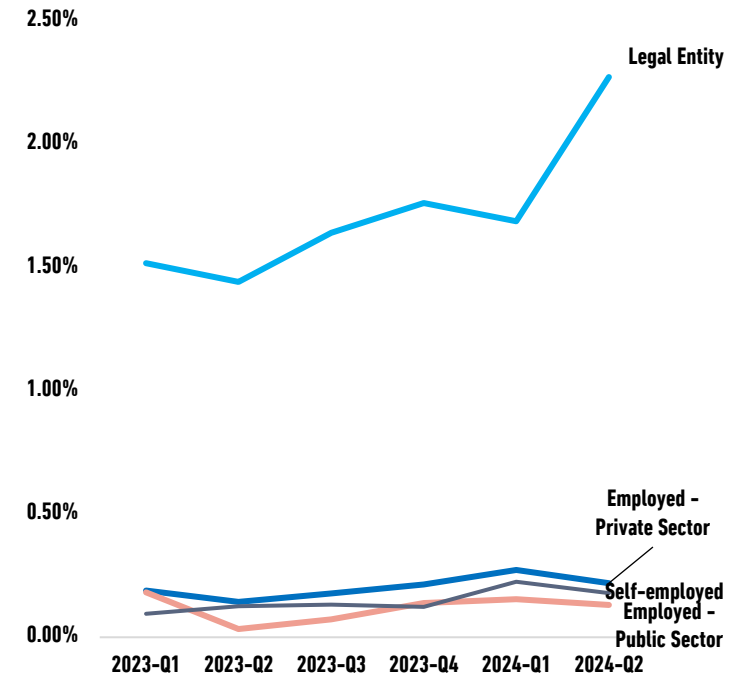
BY FUEL TYPE



NEW VS USED



EMPLOYMENT TYPE

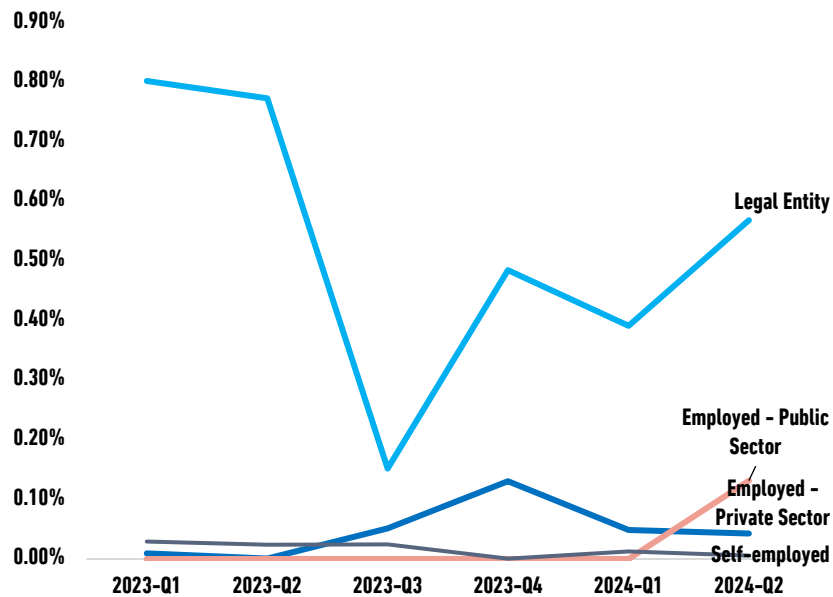


* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

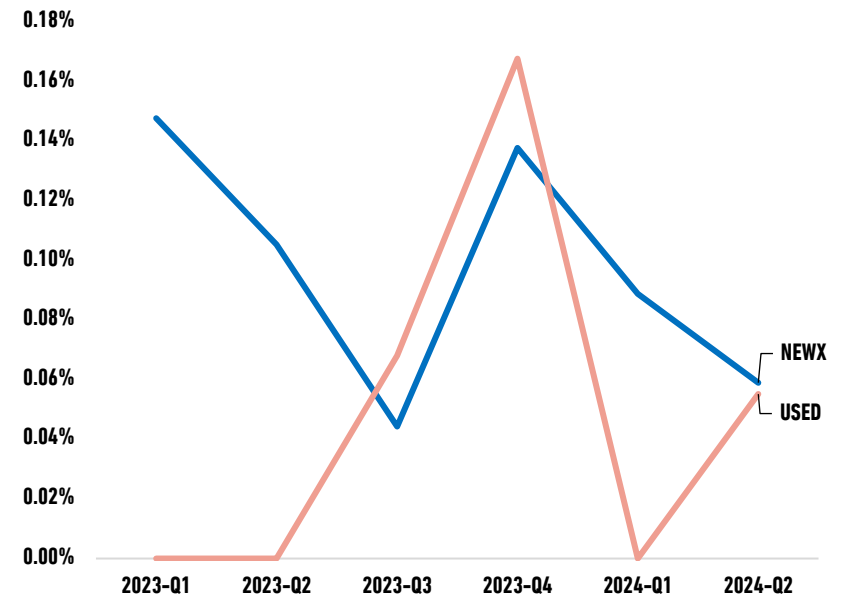
FRENCH AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

ELECTRIC ONLY - LEGAL ENTITIES HAVE HIGHER DELINQUENCIES, USED AND NEW CARS ARE QUITE SIMILAR

EMPLOYMENT TYPE



NEW VS USED

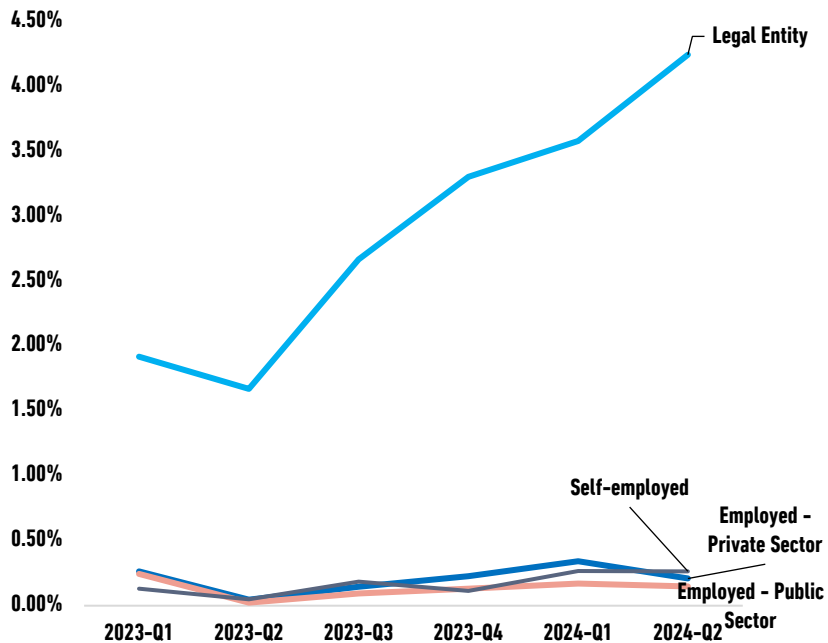


* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

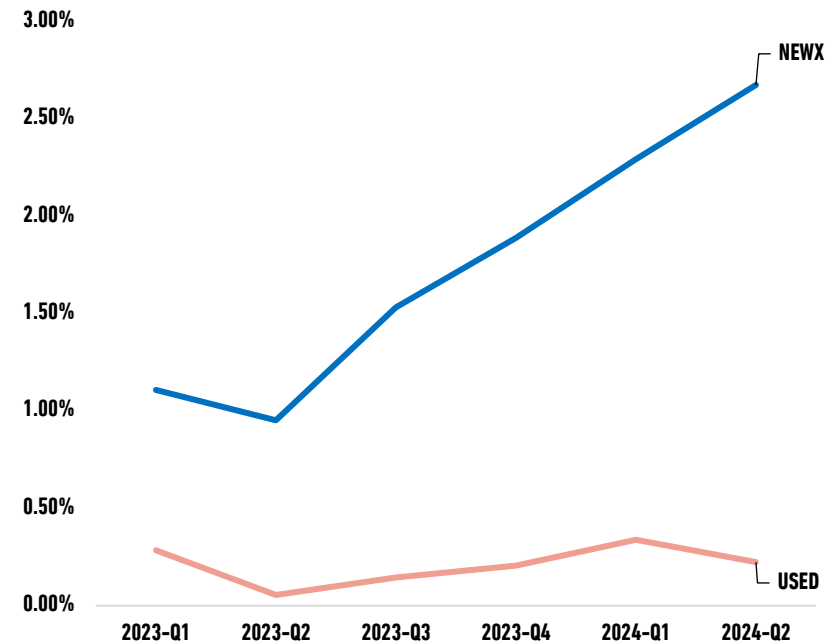
FRENCH AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

DIESEL ONLY – LEGAL ENTITIES AND NEW CARS HAVE HIGHER DELINQUENCIES

EMPLOYMENT TYPE



NEW VS USED

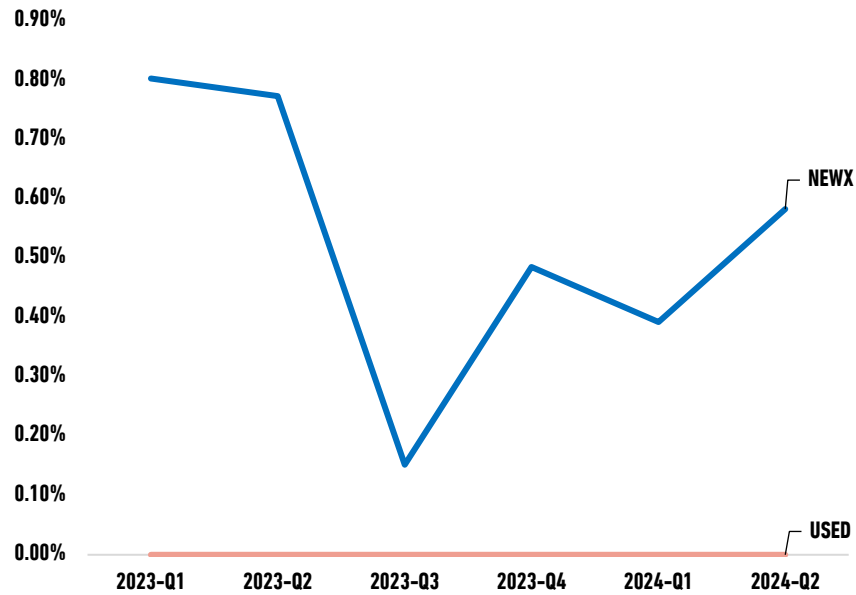


* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

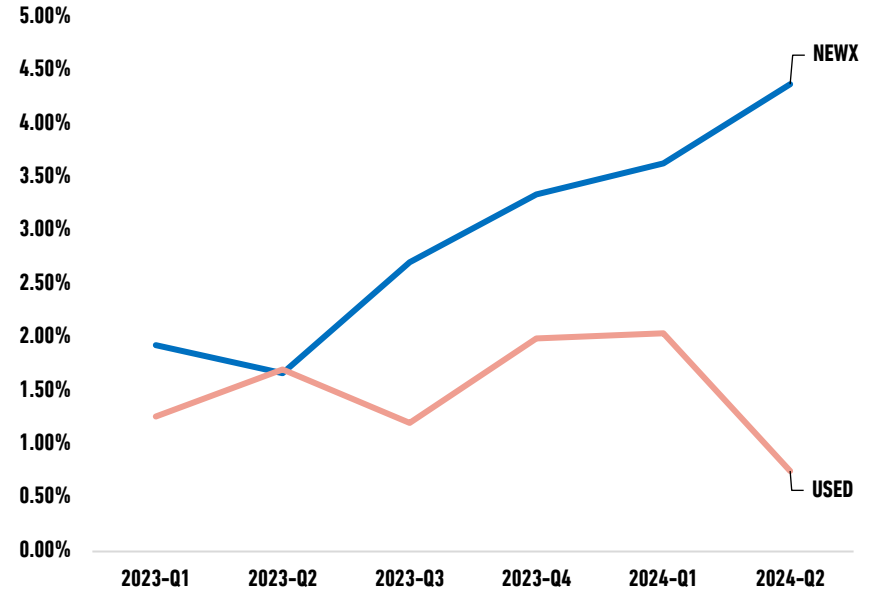
FRENCH AUTO ABS - 90 - 360 DAYS DELINQUENCIES (% OF CURRENT BALANCE)

LEGAL ENTITIES ONLY – NEW CARS HAVE HIGHER DELINQUENCIES FOR BOTH ELECTRIC AND DIESEL CARS

ELECTRIC – NEW VS OLD



DIESEL – NEW VS USED

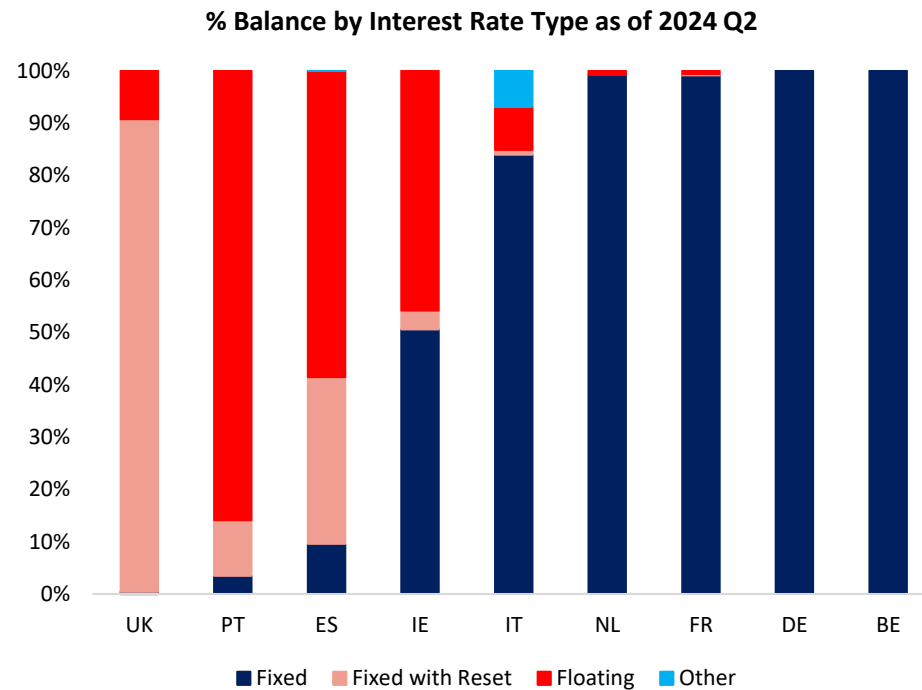
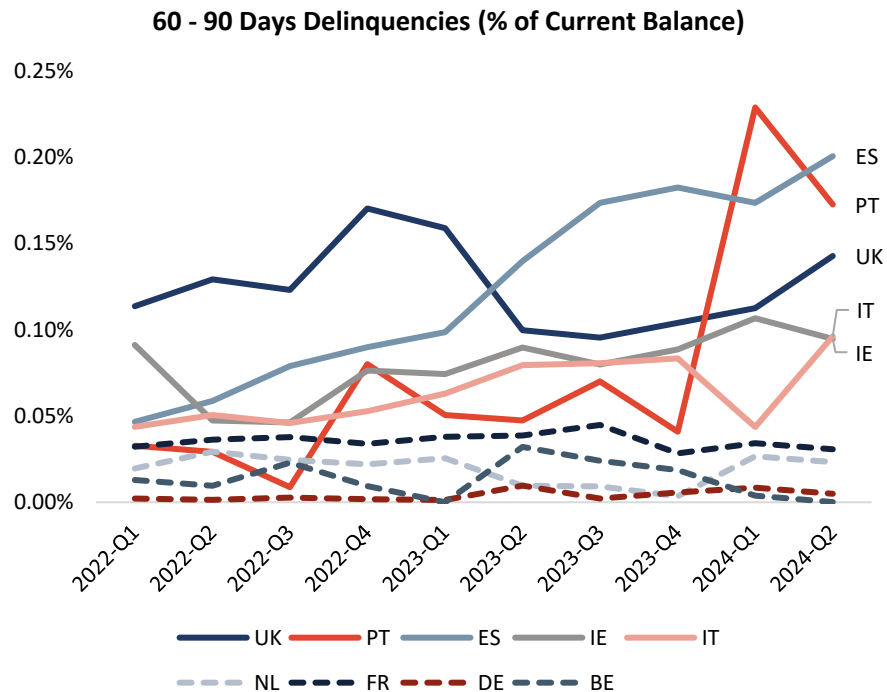


* Only those deals were included that reported in every quarter since 2022-Q1 till 2024-Q2 to allow for 1 year seasoning by 2023-Q1

RMBS DELINQUENCIES, A CLOSER LOOK...

RMBS - ARE FLOATING RATE MORTGAGES DRIVING DELINQUENCIES?

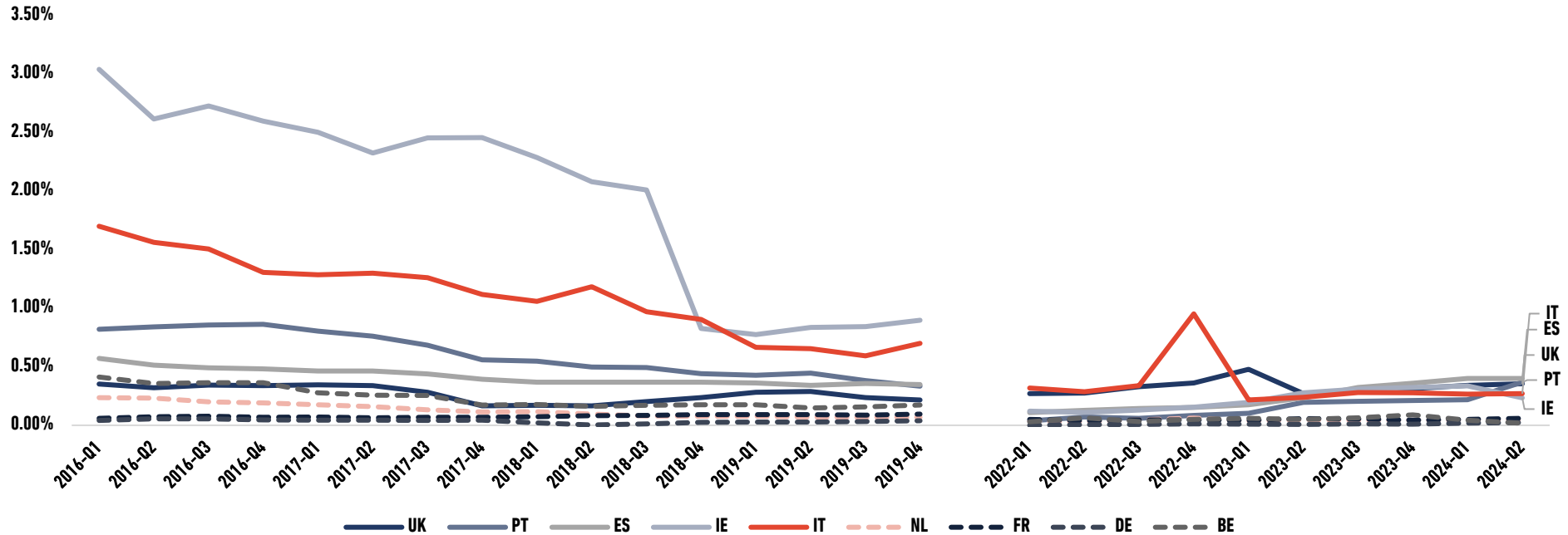
COUNTRIES WITH PREDOMINANTLY FIXED RATE MORTGAGES HAVE THE LOWEST DELINQUENCIES



RMBS - DID FLOATING RATE MORTGAGES ALSO HAVE HIGHER DELINQUENCIES BEFORE 2020?

COUNTRIES WITH FIXED RATE MORTGAGES FARED BETTER EVEN BEFORE

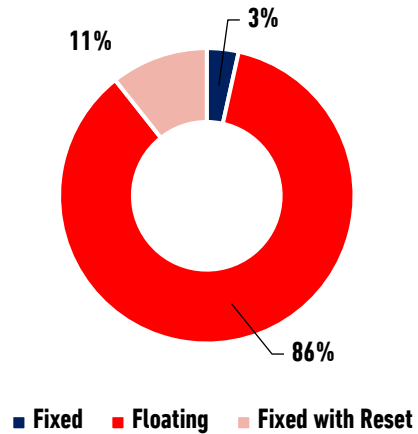
90 - 360 Days Delinquencies (% of Current Balance)



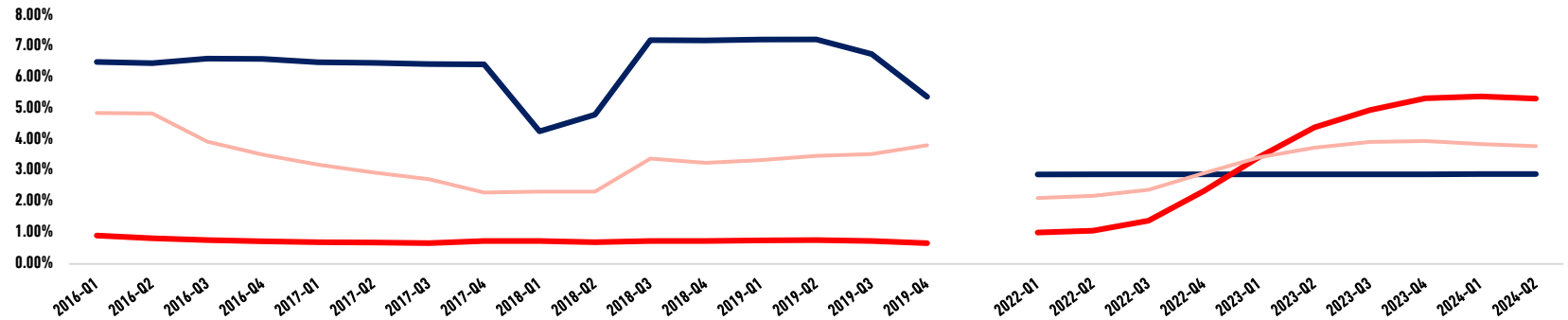
RMBS - DID FLOATING RATE MORTGAGES ALSO HAVE HIGHER DELINQUENCIES BEFORE 2020?

PORTUGAL -

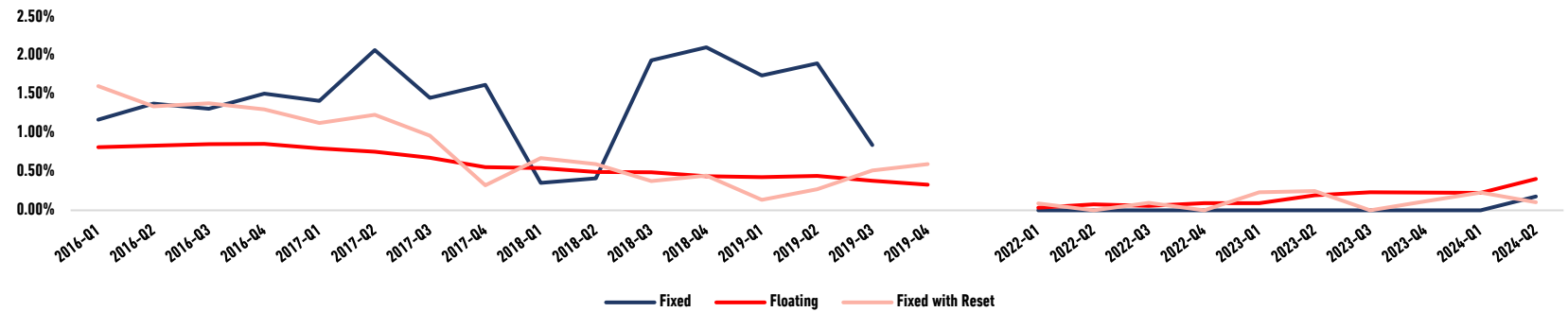
IR TYPE BREAKDOWN



Average Interest Rate by Interest Rate Type (weighted by Current Balance)



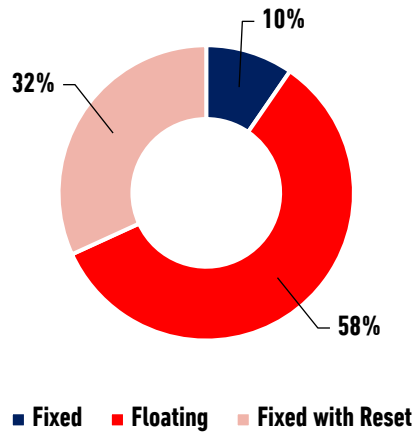
90 - 360 Days Delinquencies by Interest Rate Type (% of Current Balance)



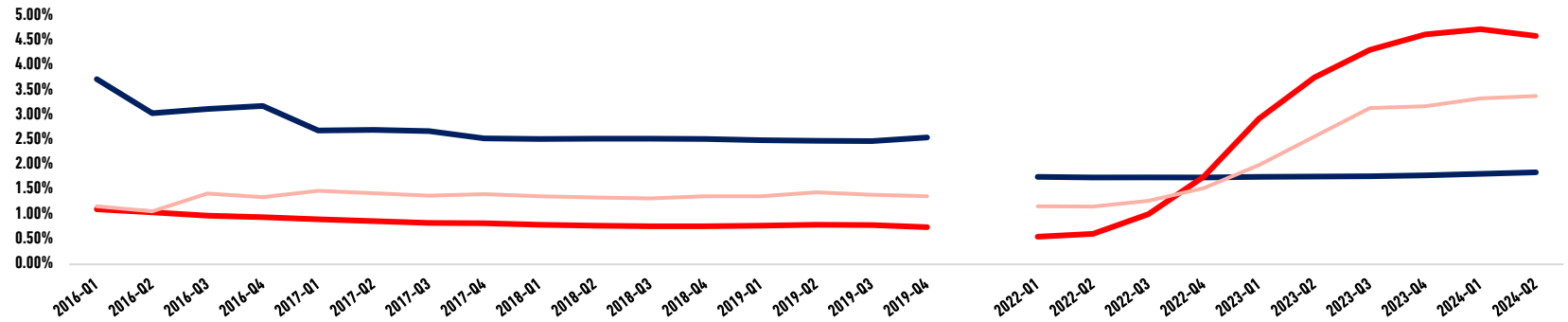
RMBS - DID FLOATING RATE MORTGAGES ALSO HAVE HIGHER DELINQUENCIES BEFORE 2020?

SPAIN -

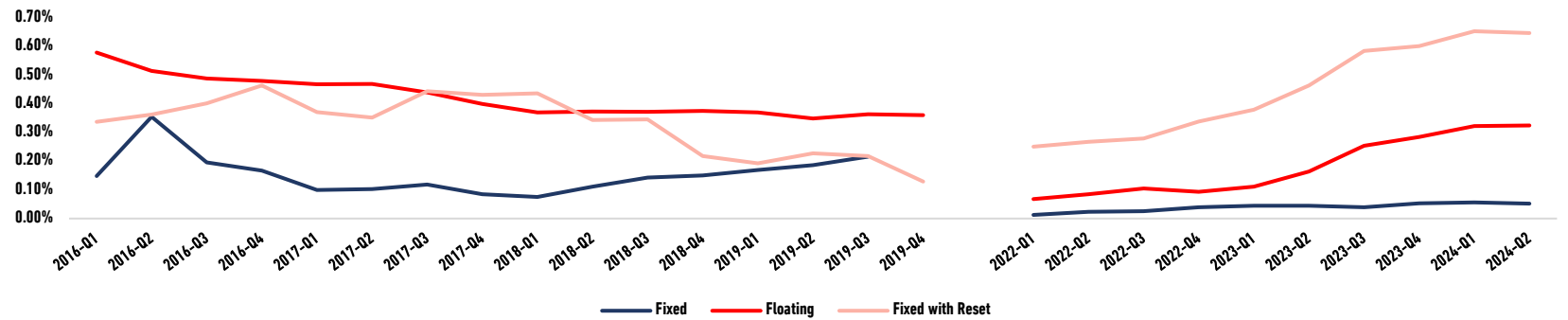
IR TYPE BREAKDOWN



Average Interest Rate by Interest Rate Type (weighted by Current Balance)



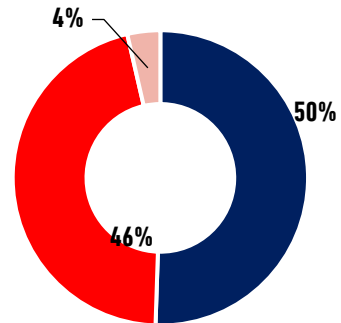
90 - 360 Days Delinquencies by Interest Rate Type (% of Current Balance)



RMBS - DID FLOATING RATE MORTGAGES ALSO HAVE HIGHER DELINQUENCIES BEFORE 2020?

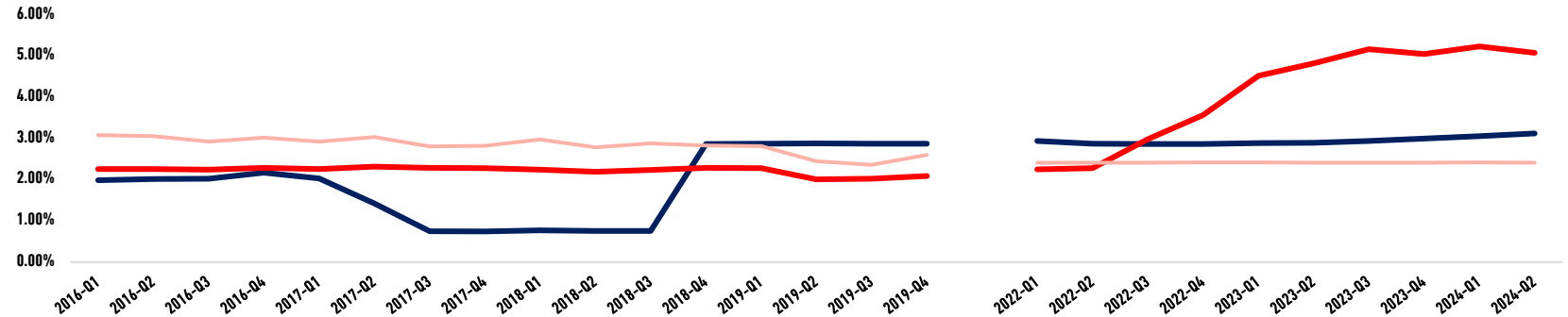
IRELAND -

IR TYPE BREAKDOWN

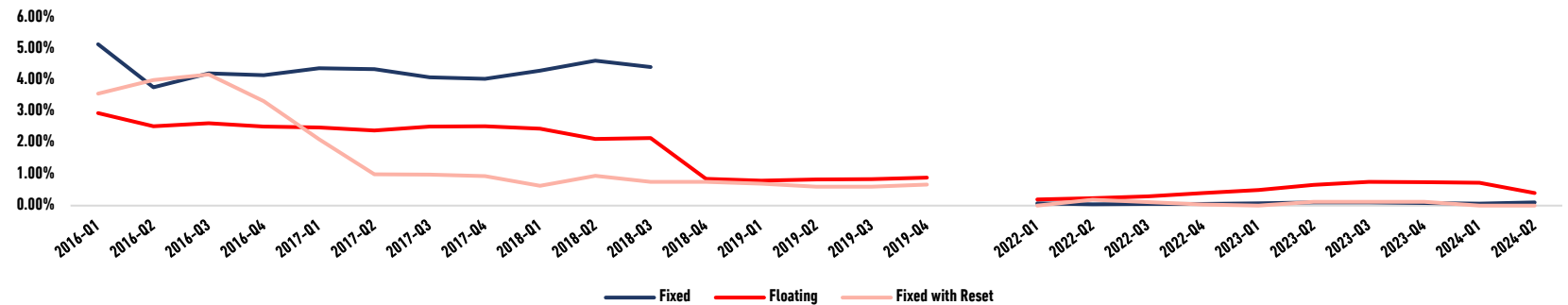


■ Fixed ■ Floating ■ Fixed with Reset

Average Interest Rate by Interest Rate Type (weighted by Current Balance)



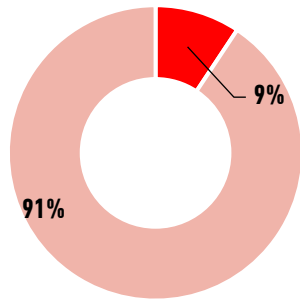
90 - 360 Days Delinquencies by Interest Rate Type (% of Current Balance)



RMBS - DID FLOATING RATE MORTGAGES ALSO HAVE HIGHER DELINQUENCIES BEFORE 2020?

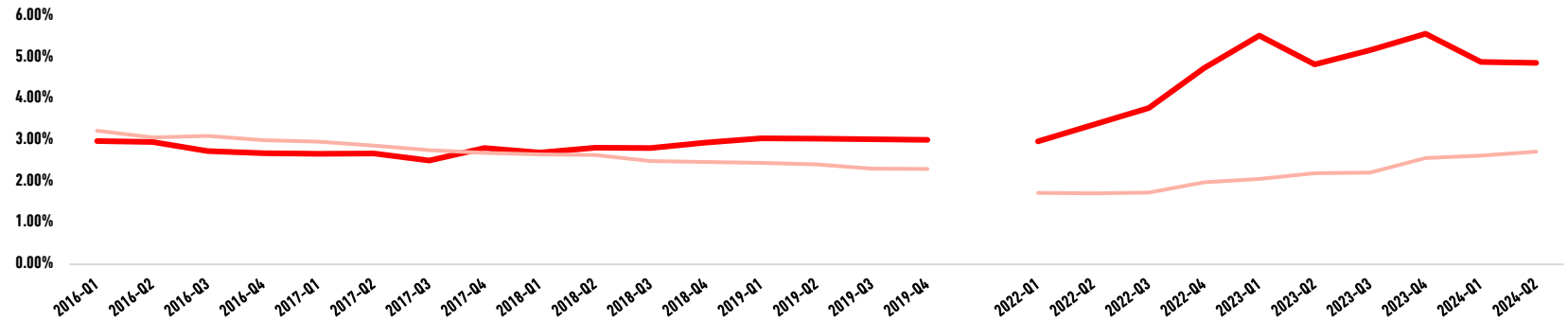
UK -

IR TYPE BREAKDOWN

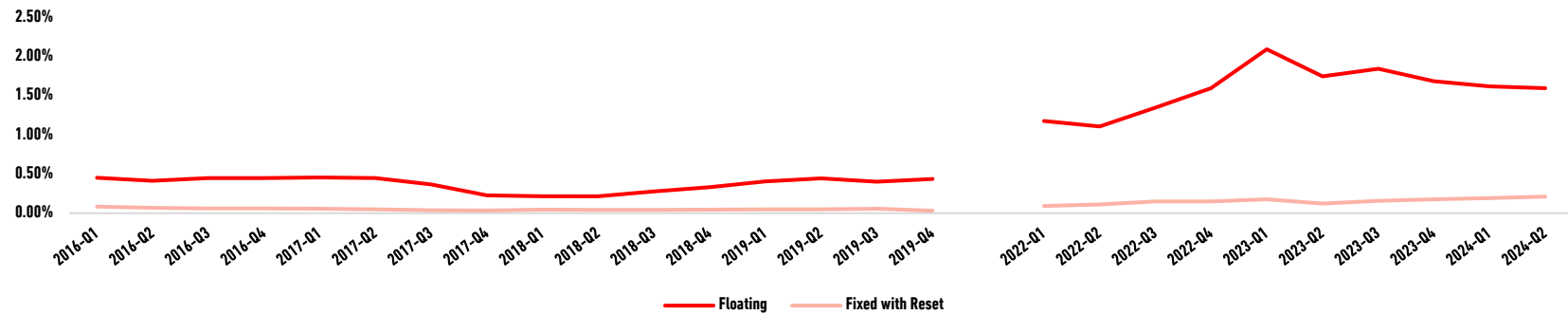


■ Floating ■ Fixed with Reset

Average Interest Rate by Interest Rate Type (weighted by Current Balance)



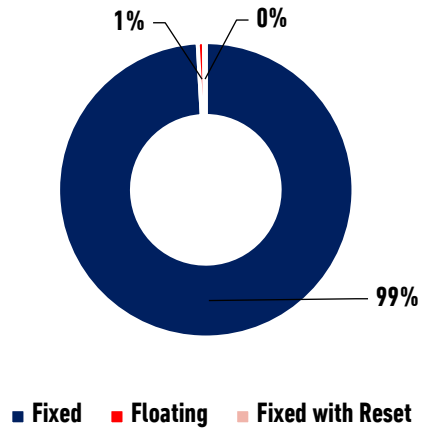
90 - 360 Days Delinquencies by Interest Rate Type (% of Current Balance)



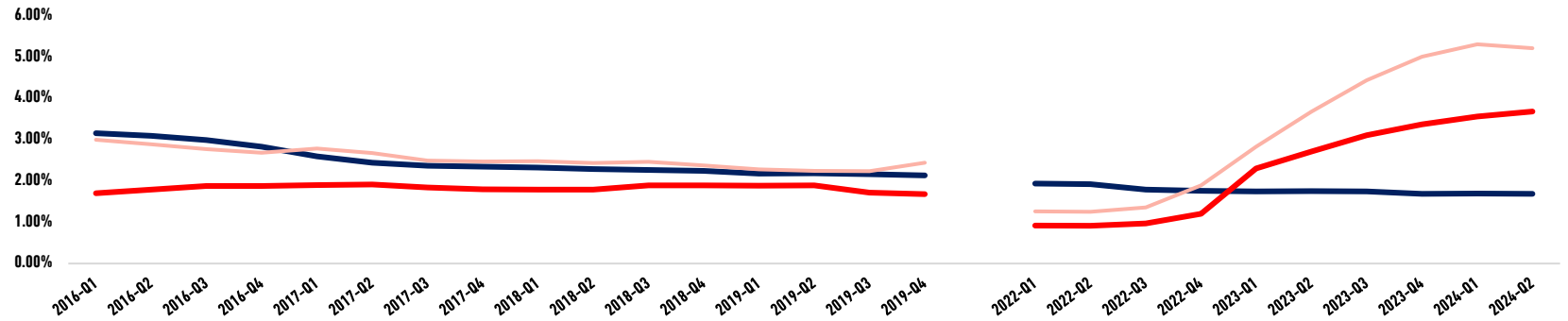
RMBS - DID FLOATING RATE MORTGAGES ALSO HAVE HIGHER DELINQUENCIES BEFORE 2020?

FRANCE -

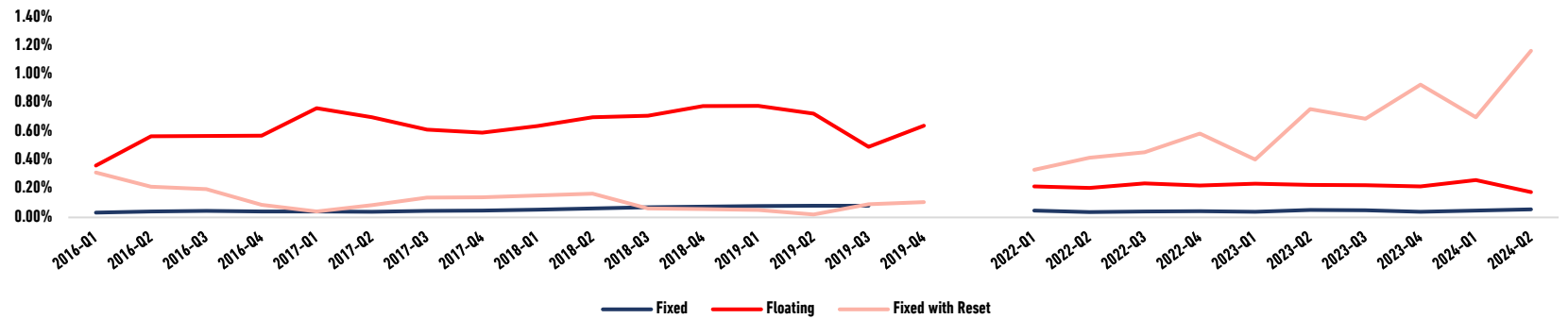
IR TYPE BREAKDOWN



Average Interest Rate by Interest Rate Type (weighted by Current Balance)



90 - 360 Days Delinquencies by Interest Rate Type (% of Current Balance)



STUDY ON THE CLIMATE RISK & IMPACT OF AUTO ABS

MAXIME BARTHE (BANQUE DE FRANCE)

Exploratory study on the Climate Risk & Impact of Auto ABSs

Maxime Barthe and students from the ENPC

DISCLAIMER

These slides and the associated report reflect the opinions of the authors and do not necessarily express the views of the Banque de France or the Ecole Nationale des Ponts & Chaussées.

Focus on Auto ABSs

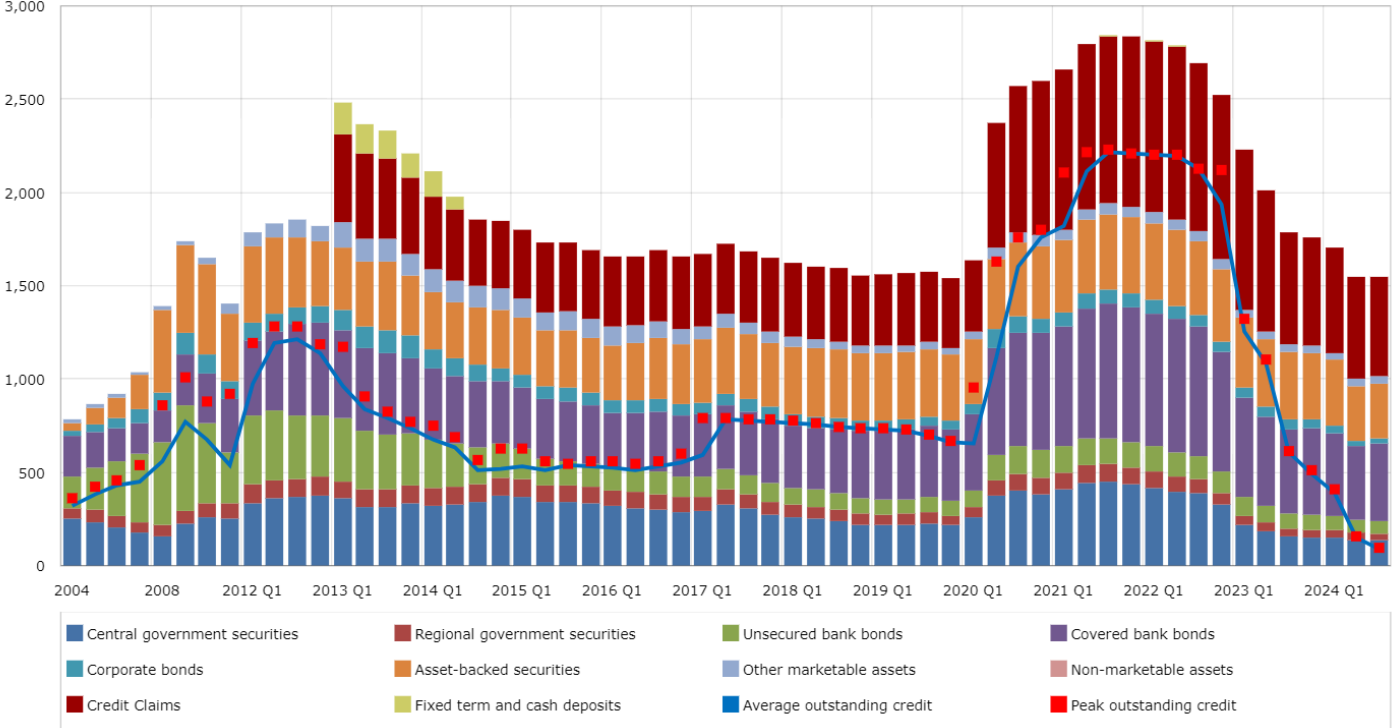
Main types of ABS pledged as collateral:

- RMBS
- Auto ABS

Auto ABSs

- Around 10% of Eurosystem collateral
- Intuitively mostly transition risks

Use of Collateral and Outstanding Credit



ABSs pledged as collateral represented around 292 billion euros at the end of the 2024 Q3. Source: Eurosystem collateral data (ECB)

Key points of the project

A basis for our research

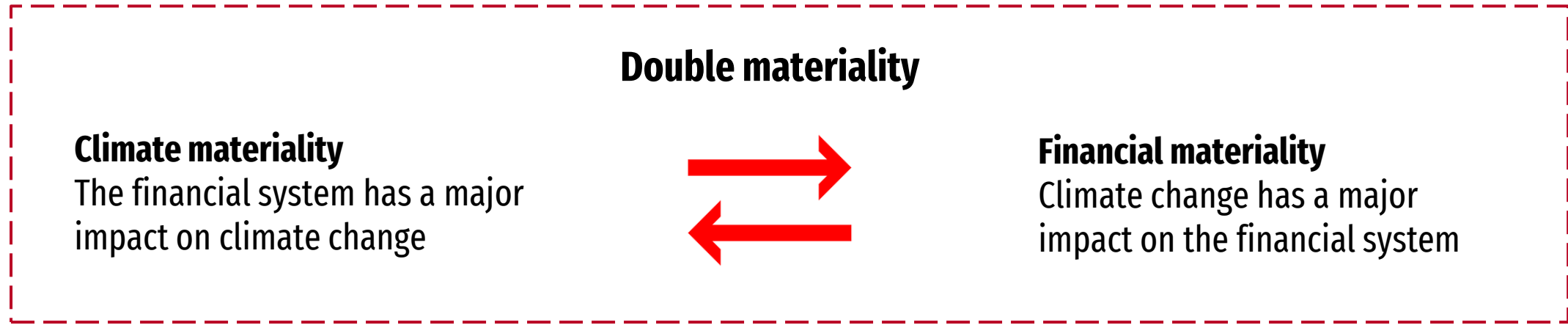
Loris André et al. *Climate Risk Measurement of Assets Eligible as Collateral for Refinancing Operations – Focus on Asset Backed Securities (ABS)* :

A theoretical framework to study climate risks

Our research contributions

- An exploration of the data available on Auto ABSs ; identification of bias, better understanding of these assets, highlight the need for completeness
- Building on previous work, metrics to measure climate risks and impacts of Auto ABSs

Several challenges for central banks



We must therefore be able to :

- **Quantify climate risks of Auto ABSs,**
- **Quantify climate impacts of Auto ABSs.**

At the heart of EDW data

Financial data

- Many metrics
- Coverage rates close to 100%
- Weak links with climate data

Autos data

- One major metric : the Energy Performance Certificate (EPC)
- Other metrics : brand, model, new or used, etc
- Low coverage rates for EPCs, inconsistencies in the formatting of other fields

Use of EPCs

We consider the emissions, in gCO₂/km, of each loans in order to assess the climate risks and impacts of ABSs, while taking into account the country of origin

	A	B	C	D	E	F	G
DBRS assumptions for french ABS	50,5	110,5	130,5	150,5	180,5	225,5	300
DBRS assumptions for german ABS	57,9	131,1	146,6	162	177,4	192,8	275,3

CO₂ emissions in France and Germany according to DBRS (gCO₂/km). Source: (DBRS, 2022)

A first solution to deal with the low coverage rates of EPCs

The goal is to progressively penalise the lack of coverage:

Methodology : Impute an EPC « D » to the first 10 % uncovered rows, a « E » to the next 20 %, a « F » to the following 20 % and a « G » for the remaining 50 % after.

Example : For an ABS which has an EPCs' coverage rate of 22%, we impute the 78 % of uncovered rows with 10 % of DPE D, 20 % DPE E, 20 % DPE F and 28 % EPC G.

Proposed metrics

General Emission Average

$$\text{GEA} = \frac{1}{N} \sum_{l=1}^N \frac{\text{loan}_l}{\text{val}_l} \times e_l$$

Derived from (André et al., 2022)

Neutral Temporal Emission-Impact

$$\text{NTE-I} = \frac{1}{N} \sum_{l=1}^N \frac{\text{loan}_l}{\text{val}_l} \times (e_l - \bar{e}_l)$$

Derived from (André et al., 2022)

Neutral Temporal Emission-Risk

$$\text{NTE-R} = \sum_{l=1}^N \frac{\text{outstanding}_l}{\sum_{i=1}^N \text{outstanding}_i} \times (e_l - \bar{e}_l)$$

Derived from (André et al., 2022)

Proposed metrics

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Derived from (André et al., 2022)

- N is the number of loans within the collateral pool of the ABS
- e_l indicates the emissions of vehicle l derived from its EPC
- loan_l is the initial value of the loan l
- val_l is the initial value of the vehicle l
- \bar{e}_l is the average emissions of the vehicle category to which the vehicle l belongs
- outstanding_l is the current outstanding amount of loan l

Proposed metrics

Climate materiality

Key assumption: when a loan finances x% of a vehicle's value, it is responsible for x% of its emissions

Financial materiality

Key assumption: the neutral temporal emissions of a vehicle is a proxy for its transition risks

General Emission Average

$$\text{GEA} = \frac{1}{N} \sum_{l=1}^N \frac{\text{loan}_l}{\text{val}_l} \times e_l$$

Derived from (André et al., 2022)

Neutral Temporal Emission-Impact

$$\text{NTE-I} = \frac{1}{N} \sum_{l=1}^N \frac{\text{loan}_l}{\text{val}_l} \times (e_l - \bar{e}_l)$$

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Derived from (André et al., 2022)

These 3 metrics allow us to compare ABSs

- We classify ABSs into four climate performance categories. We rate the climate impact of ABSs from A to D based on the two first metrics: GEA and NTE-I.
- We rate the transition risks of ABSs from 1 to 4 based on their NTE-R.

ABSs ranking

Score	A	B	C	D	Total
1	13	2	0	1	15
2	3	21	4	0	28
3	0	0	28	9	37
4	0	0	2	2	4
Total	16	23	34	12	85

French and german ABS in each category

Score	A	B	C	D	Total
1	4,830019333	0	0	0	4,830019333
2	2,185001742	5,860979464	15,90969141	0	23,95567262
3	0	0	13,25216412	9,540633881	22,79279801
4	0	0	1,499999598	1,291301198	1,291301198
Total	7,015021075	5,860979464	30,66185513	10,83193508	54,36979075

Sum of outstanding amounts for each category (in billion of euros)

The majority of data is gathered around the diagonals of the tables, confirming the link between transition risks and climate impacts of Auto ABSs

Conclusion

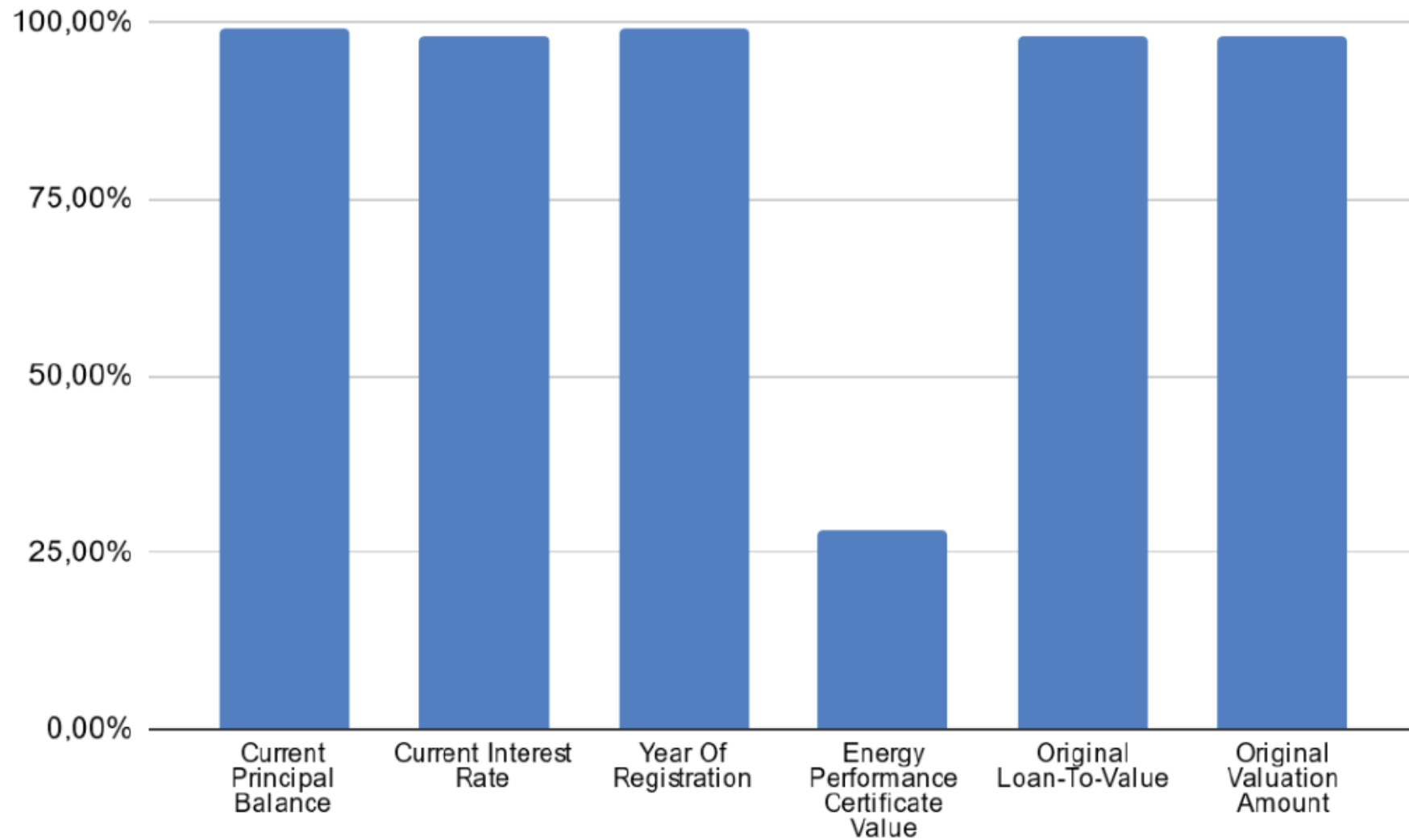
Maxime Barthe and students from the ENPC

12 Novembre 2024

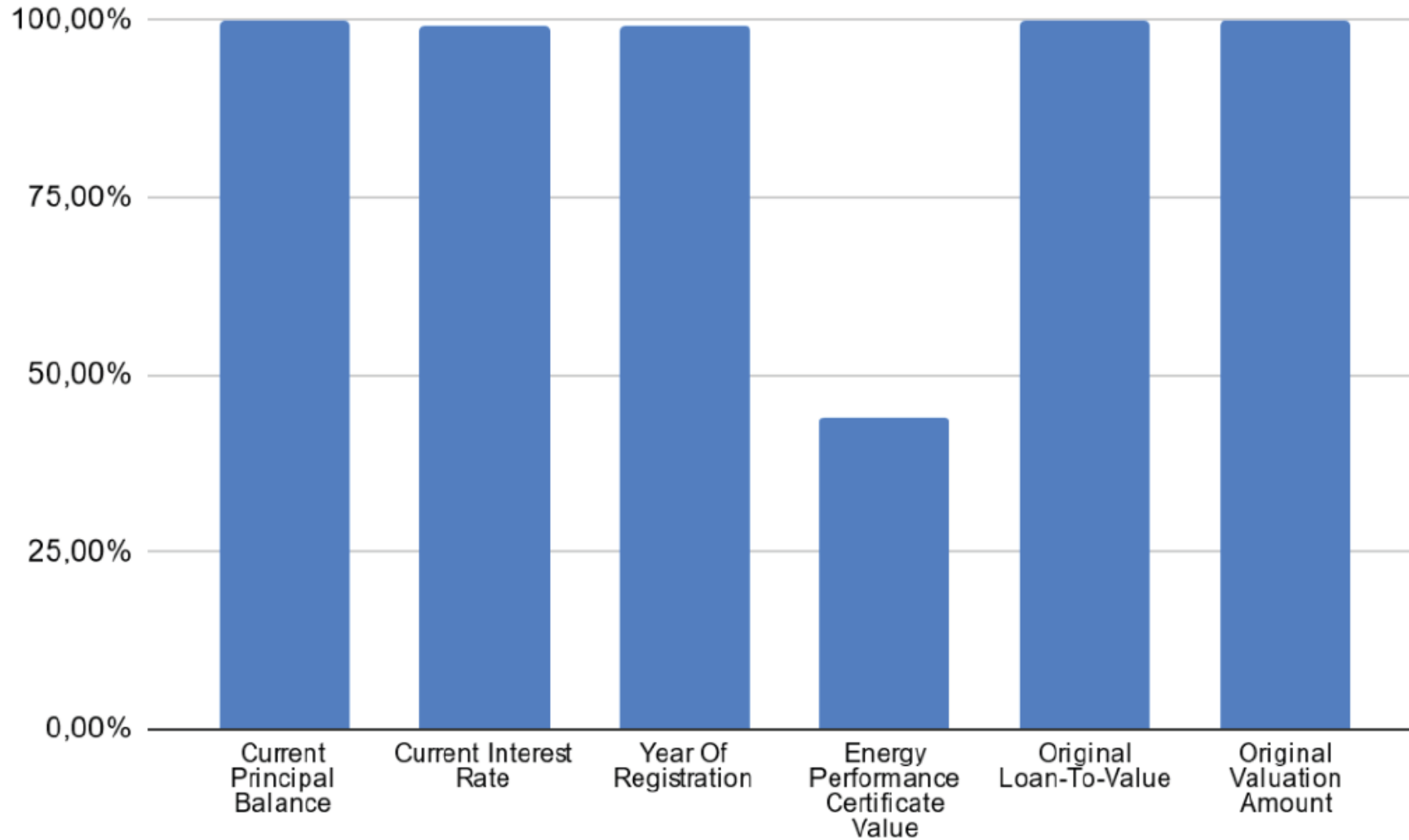
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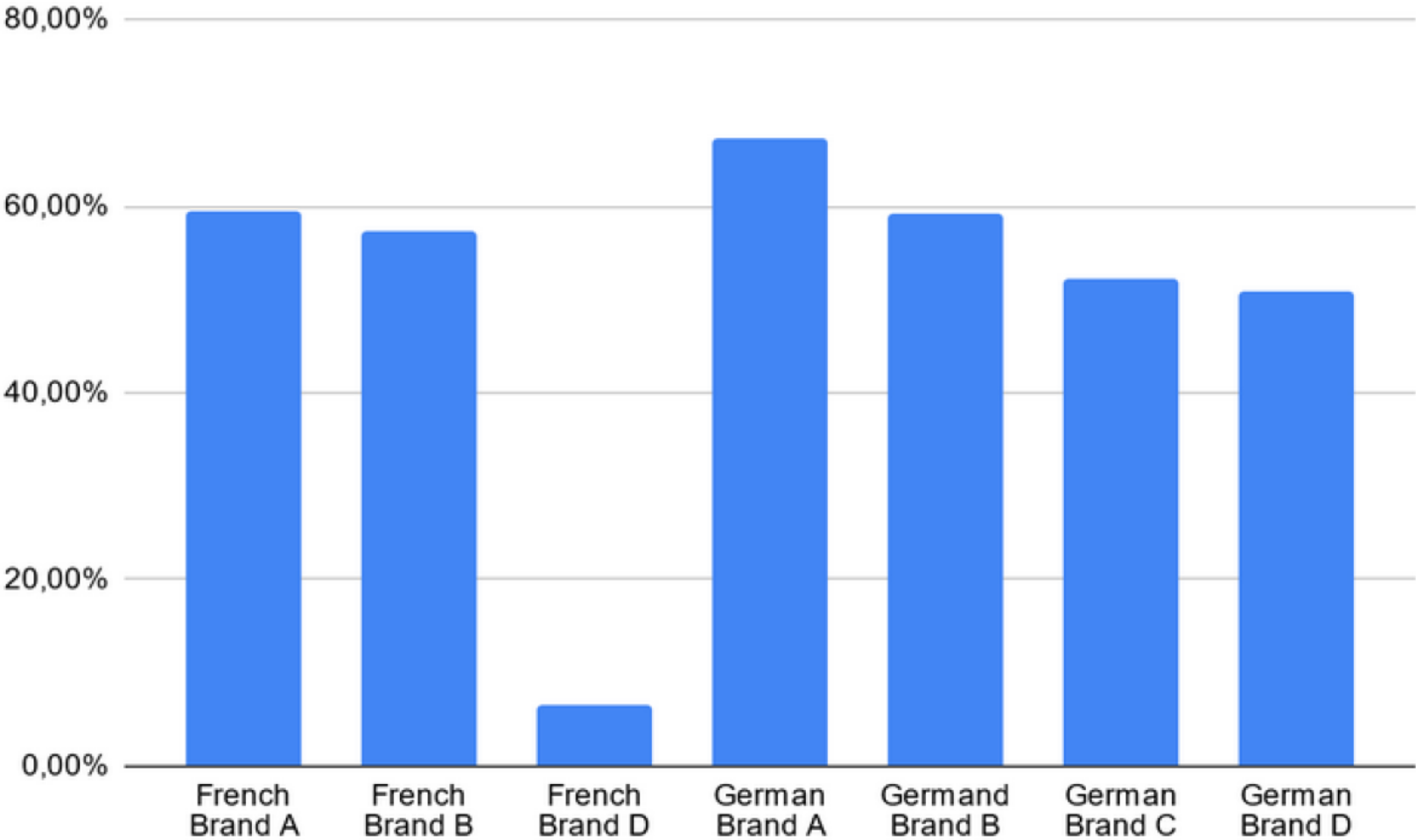
French coverage rates (value for EPCs: 28.1%)



German coverage rates (value for EPCs: 44%)



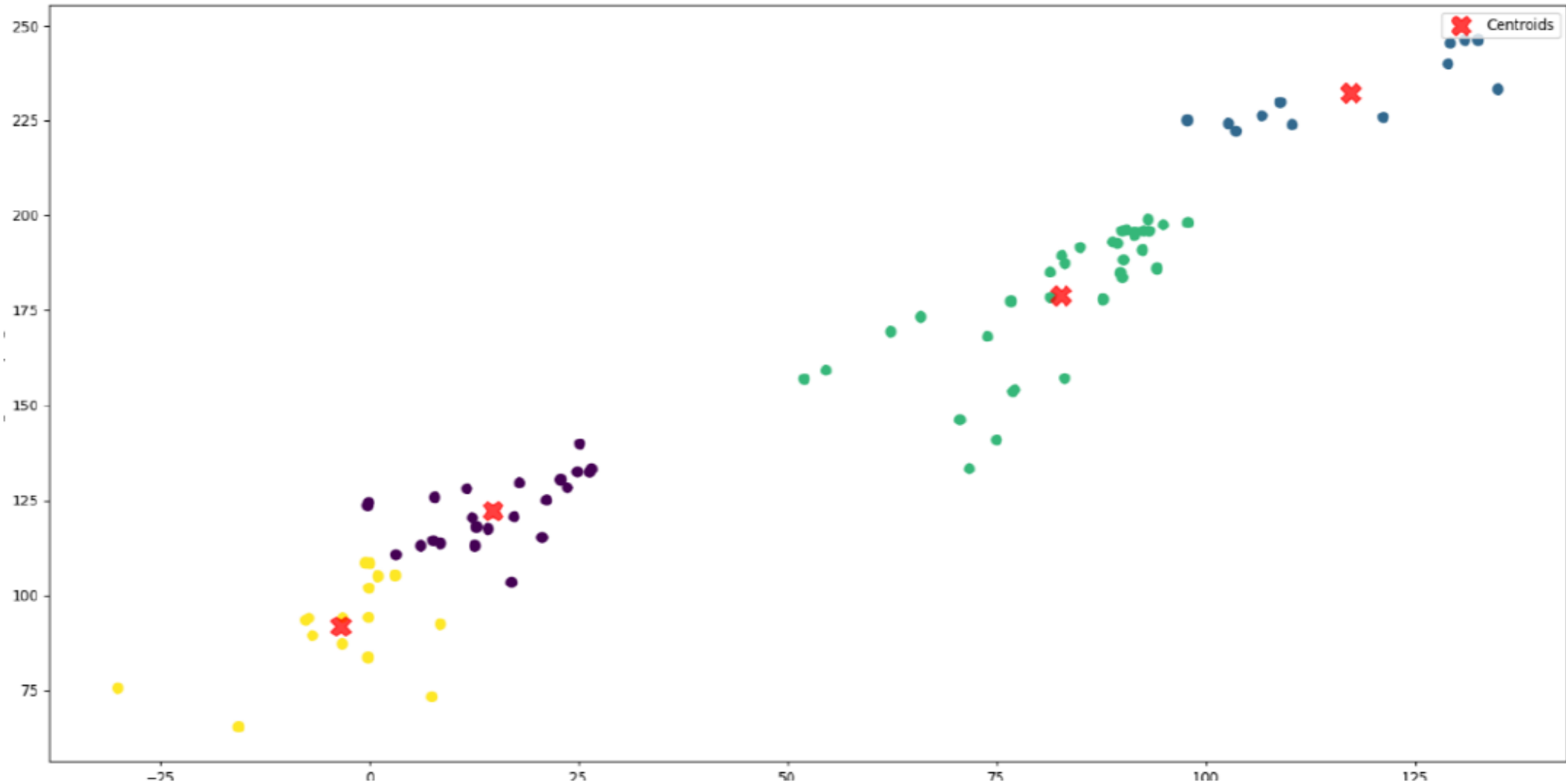
Coverage rates of EPCs for the biggest brands in France and Germany



Reference emissions by category of vehicles

	0-20 000€	20 000-40 000€	40 000-60 000€	60 000-80 000€	80 000€ ou +
2010	150.11	147.01	161.12	150.50	150.50
2011	145.53	157.38	161.23	160.72	158.17
2012	137.61	145.97	161.39	158.17	150.50
2013	131.95	139.29	169.20	161.23	158.17
2014	120.51	109.80	144.39	187.74	186.57
2015	113.48	105.98	127.30	167.91	206.45
2016	112.79	106.18	120.19	146.11	189.64
2017	115.31	110.34	123.25	135.21	176.74
2018	123.85	120.15	130.04	144.21	171.90
2019	128.99	121.75	126.39	131.35	141.27
2020	115.68	114.57	117.06	119.77	131.75
2021	114.44	112.12	109.12	113.00	129.78
2022	121.88	113.70	108.75	119.04	121.55
2023	118.84	108.97	102.74	113.57	113.79
2024	109.41	81.82	100.88	150.50	150.50

K-means clustering with 4 clusters. GEA on the x-axis, NTE-I on the y-axis



Q&A



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SHORT ARTICLES ON CURRENT TOPICS: H24_IEECR_V2_FINAL.PDF (EURODW.EU)

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IS ENERGY EFFICIENCY CREDIT RELEVANT?

Is Energy Efficiency Credit Relevant?

By Ludovic Thebault, PhD and Usman Jamil, European DataWarehouse

In this article, using a sample of securitised mortgages from France and the Netherlands, we find evidence that the energy efficiency rating of properties is credit relevant to some extent, particularly for borrowers in the lower income categories. We believe that the implementation of the European Parliament's new Energy Performance of Buildings Directive will make it even more so.

The Energy Performance of Buildings Directive (EPBD) aims to decarbonise the European building stock. Considering that "Buildings account for 40% of final energy consumption in the Union and 36% of its energy-related greenhouse gas emissions while 75 % of Union buildings are still energy-inefficient", the new EPBD aims to pave the way for a wave of renovations and includes stringent environmental criteria for future new buildings. The most striking goal stated in the EPBD is that "all new buildings should be zero-emission buildings by 2030, and existing buildings should be transformed into zero-emission buildings by 2050". This ultimate drive for energy efficiency follows from a long history starting with the oil shocks in the 1970s, when the main goal was to reduce reliance on energy imports

owners.¹ As for the disincentives, increasing constraints will apply to the worst-rated buildings, including letting bans for the most inefficient properties.² Letting bans interrupt the stream of income for 'buy to let' properties and force borrowers to borrow an extra lump amount to upgrade the property (a credit negative). Properties' Energy Performance Certificate (EPC)³ ratings will thus become more relevant when originating new mortgages. In this article however, we argue that EPCs may already have been relevant so far, particularly for the most vulnerable households.

EDW hosts data for European securitised mortgages and recently started to collect EPC ratings.⁴ We focus this study on the Netherlands and France, which are the countries where this data is the most available. We did not want to mix EPCs across countries, because the EPC mix can be radically different from one country' to the next and because EPCs can have very different meanings across countries; in France, a property with an EPC-A rating can use up to 70 kWh/m²/year vs. up to 160 kWh/m²/year in the Netherlands.⁵

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PUBLISHED IN THE NEW HYPOSTAT: [HTTPS://EURODW.EU/WP-CONTENT/UPLOADS/H24_IEECR_V2_FINAL.PDF](https://eurodw.eu/wp-content/uploads/H24_IEECR_V2_FINAL.PDF)

EXHIBIT 1a | MORTGAGES FINANCING THE LEAST EFFICIENT PROPERTIES PERFORM WORST IN FRANCE
Cumulative delinquencies by EPC (France - Mortgages) – As % of Original Balance, Months after Origination

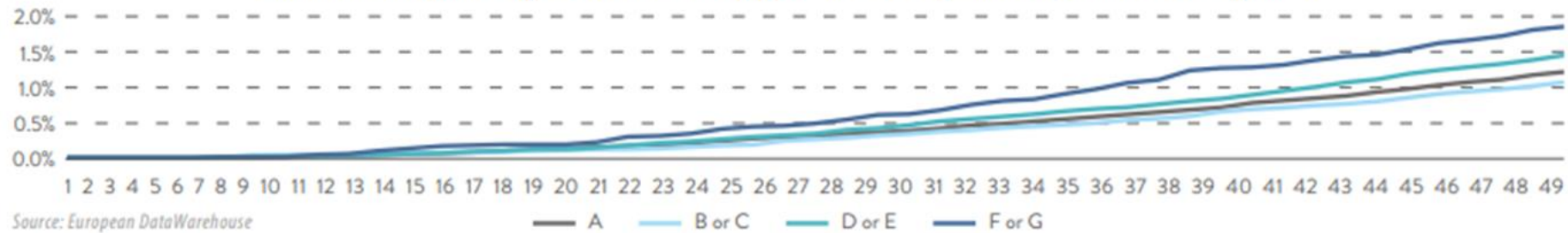
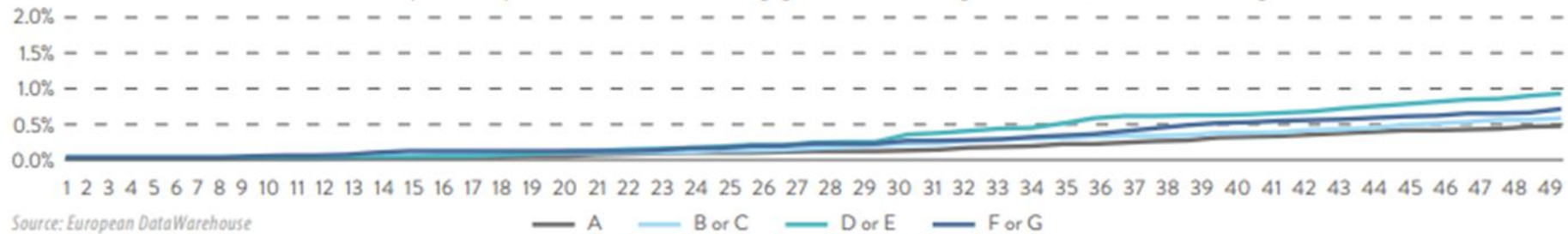


EXHIBIT 1b | PAYMENT INCIDENTS IN THE NETHERLANDS ARE ALSO MORE COMMON FOR EPC D-G
Cumulative delinquencies by EPC (Netherlands - Mortgages) – As % of Original Balance, Months after Origination



RECENT PUBLICATIONS: EBE REPORT H2 2023

REPORT ON PRIVATE SECURITISATIONS CO-AUTHORED WITH AFME AND TSI: [HTTPS://EURODW.EU/WP-CONTENT/UPLOADS/H24_IEECR_V2_FINAL.PDF](https://eurodw.eu/wp-content/uploads/H24_IEECR_V2_FINAL.PDF)

Table 1 – Overview

		2023-12	2023-06	2022-12	2022-06	2021-12	2021-06	Δ_p
Number of Participants	#	12	12	12	12	12	12	0.0%
Number of Commitments	#	610	610	556	525	527	504	0.0%
Committed Amount	Million EUR	79.424	78.590	73.182	67.241	65.064	62.814	1.1%
Funded Amount	Million EUR	59.111	57.748	60.502	56.400	53.009	50.205	2.4%
Utilisation	%	74.4%	73.5%	82.7%	83.9%	81.5%	80.0%	1.3%
Total Asset Amount	Million EUR	203.859	195.524	184.159	183.326	173.016	177.329	4.3%
Estimated Market Size	Million EUR	231.040	209.400	195.669	194.784	183.830	188.412	4.3%
Number of Transactions	#	457	443	433	412	387	404	3.2%

Δ_p =growth in last period