

SPRING RESEARCH UPDATE

22 JUNE 2022



ON TODAY'S CALL



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AGENDA

WELCOME AND INTRODUCTION

- Dr Christian Thun, European Datawarehouse

CONTEXT

- Ludovic Thebault, European Datawarehouse

DATA AVAILABILITY

- Ludovic Thebault, European Datawarehouse

ADJUSTED DATABASE

- Ludovic Thebault, European Datawarehouse

MONITORING MORATORIA THROUGH COVID-19

- Usman Jamil, European DataWarehouse

MONITORING ARREARS THROUGH COVID-19

- Usman Jamil, European Datawarehouse

LOAN PERFORMANCE

- Ludovic Thebault, European Datawarehouse

ENERGY PERFORMANCE DATA AVAILABILITY

- Usman Jamil, European Datawarehouse

OUR PUBLICATIONS

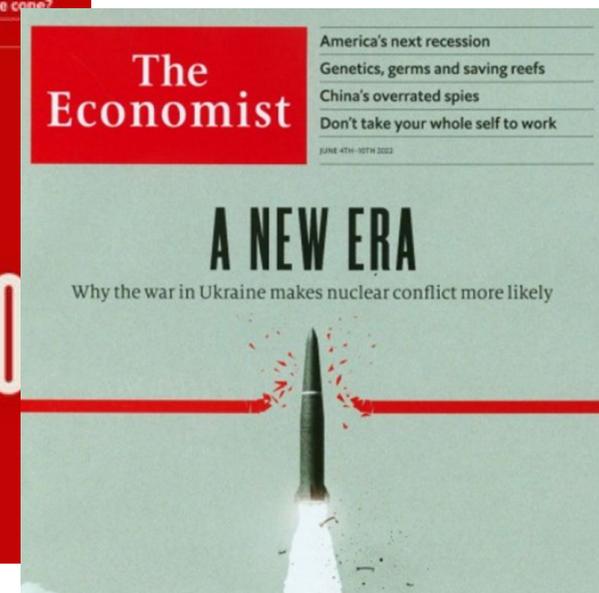
Ludovic Thebault, European Datawarehouse

MODELLING PREPAYMENTS OF INSTITUTIONAL LOANS

- Johannes Heuel - University of Hamburg

CONTEXT

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE



RESEARCH TOPICS

We will pay attention to the following...

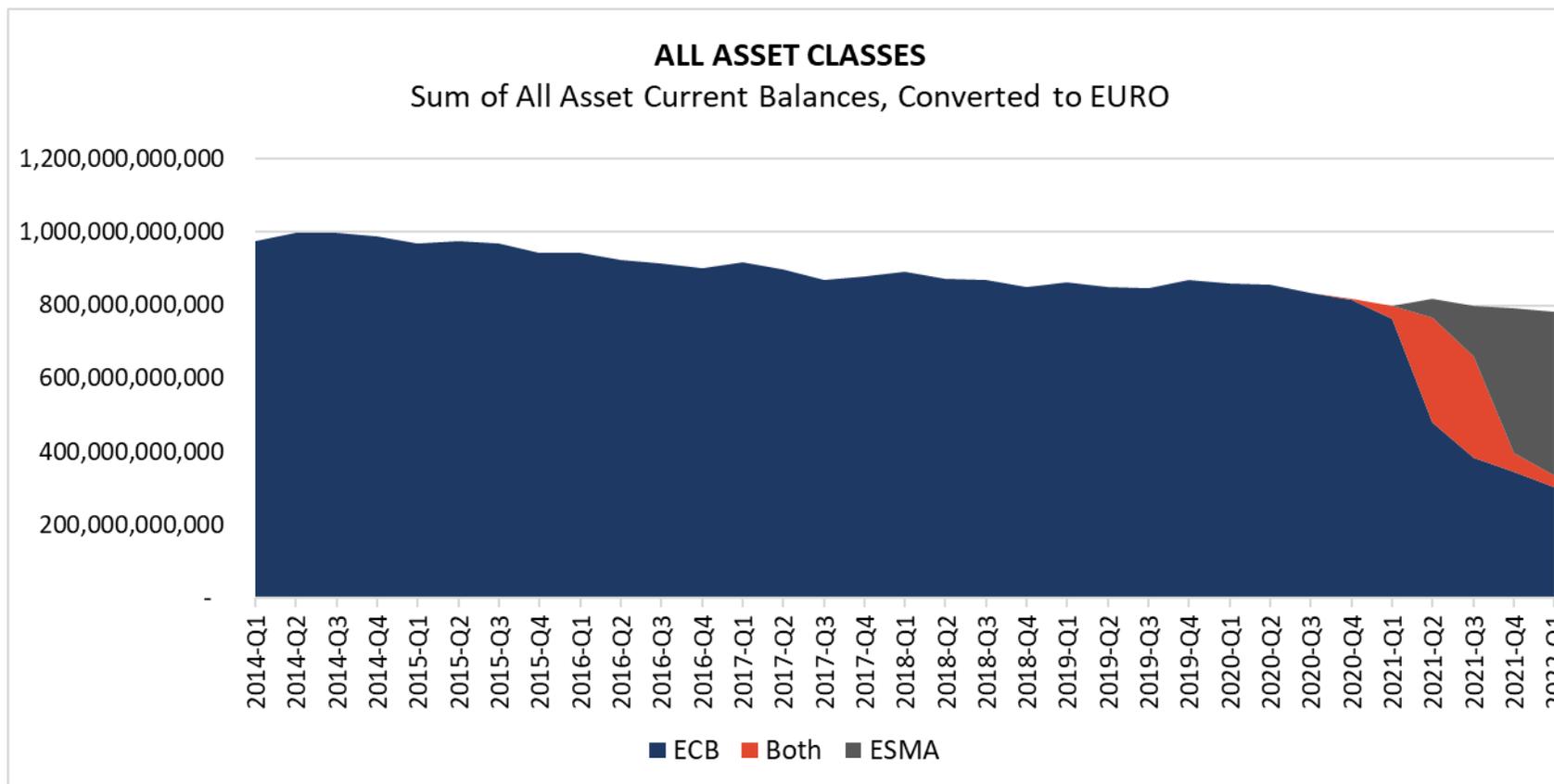
- Will inflation lead to higher interest rates?
- What will be the impact on housing affordability and prices?
- Will we see a new wave of delinquencies?
- Will (low) income become a determinant of performance?
- Will energy efficiency become a determinant of performance?
- Will energy intensive SMEs be hurt more than others?
- Will producers of food and raw materials benefit from this situation?

DATA AVAILABILITY (ECB VS ESMA DATA)

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

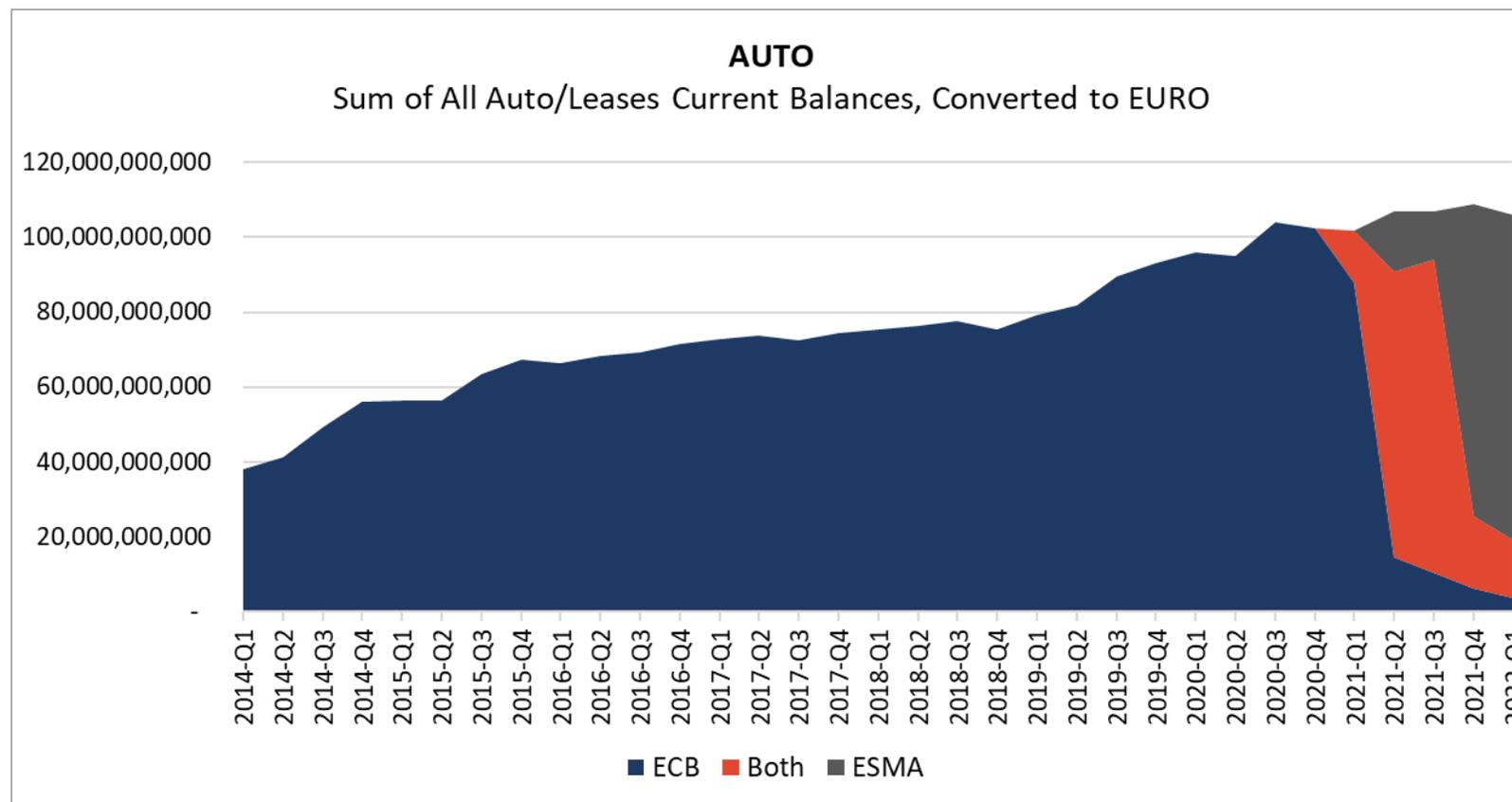
DATA AVAILABILITY ECB VS ESMA DATA (2)

RMBS



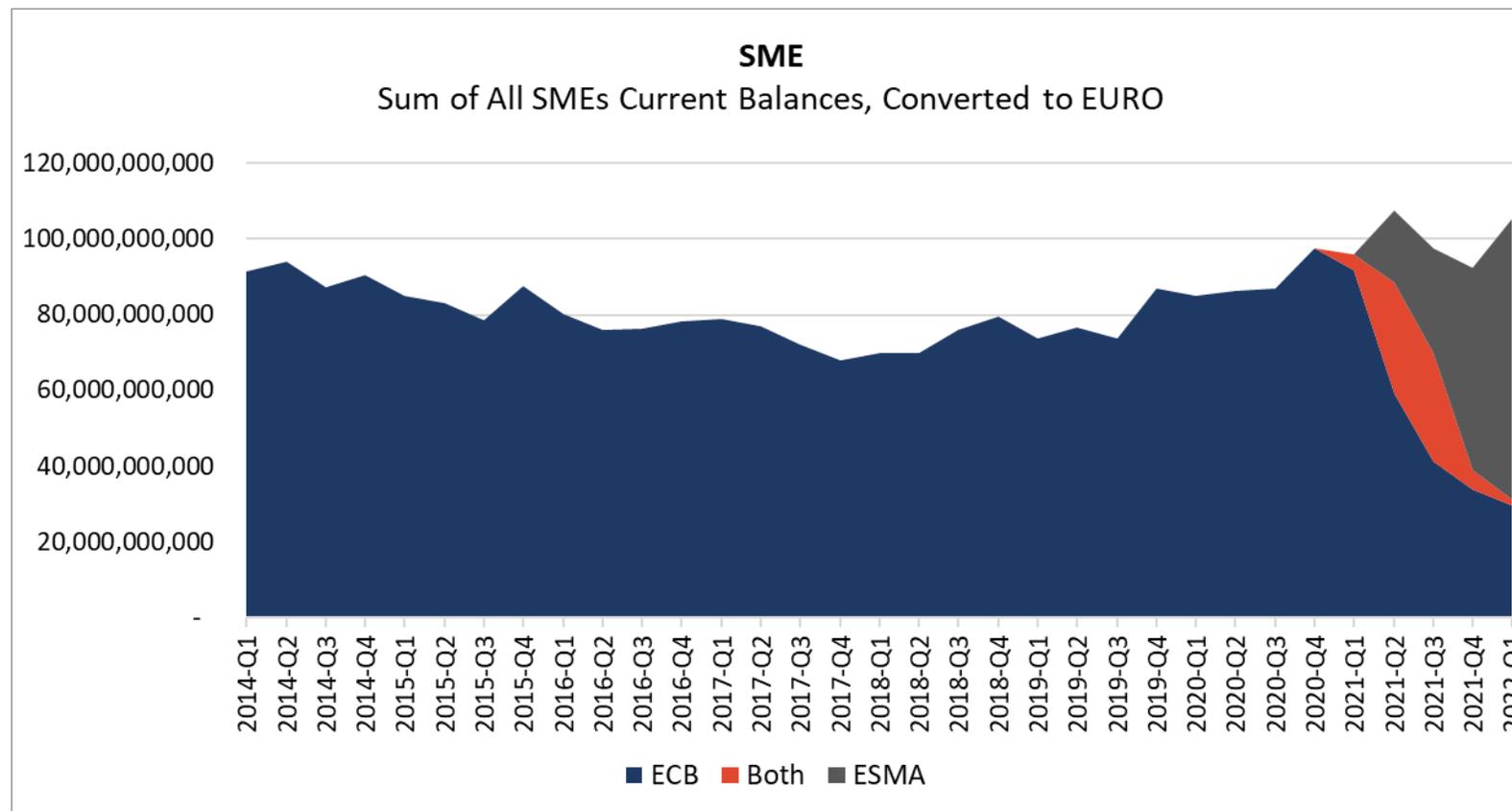
DATA AVAILABILITY ECB VS ESMA DATA (3)

Auto



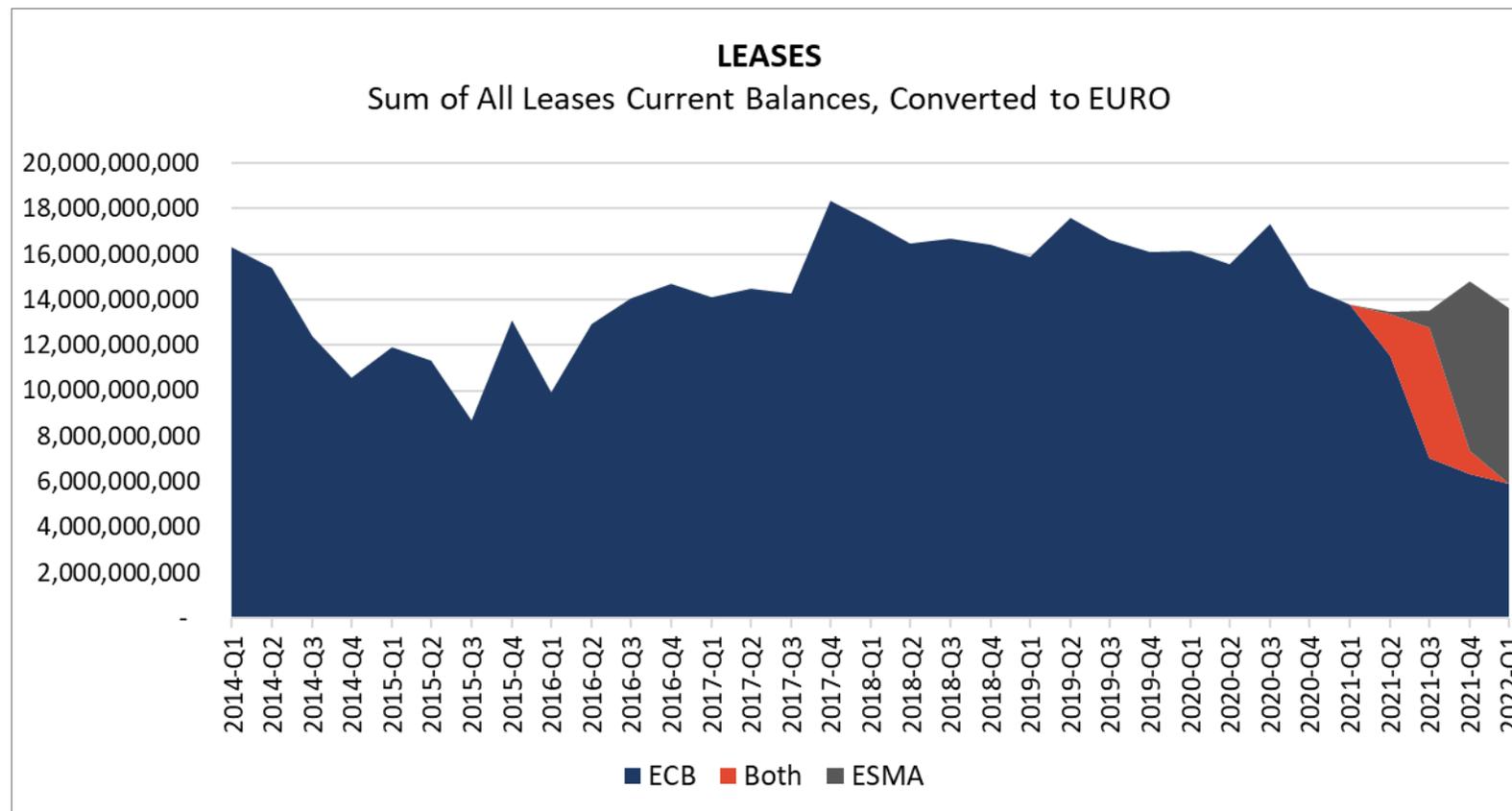
DATA AVAILABILITY ECB VS ESMA DATA (4)

SME



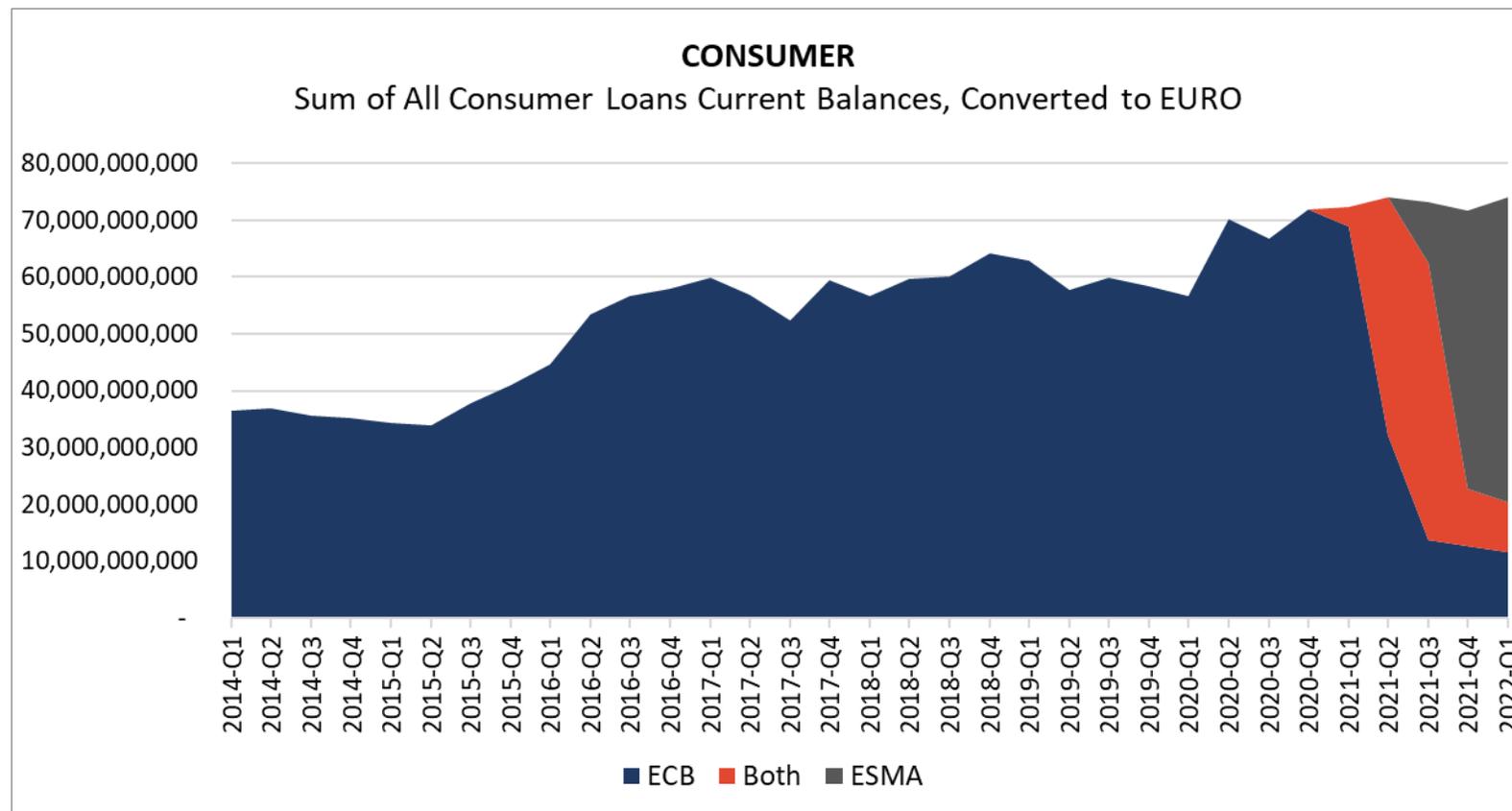
DATA AVAILABILITY ECB VS ESMA DATA (5)

Leases



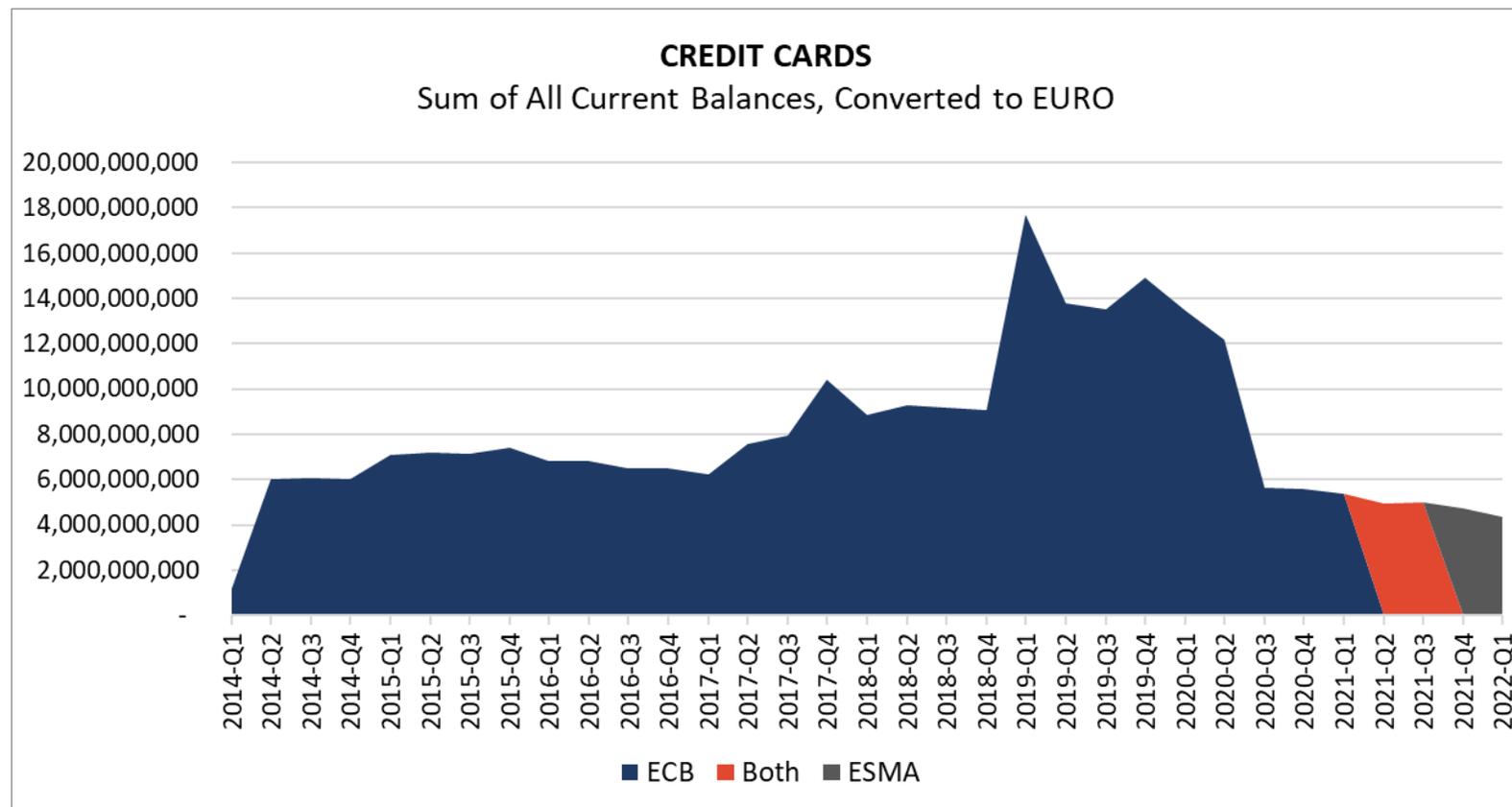
DATA AVAILABILITY ECB VS ESMA DATA (6)

Consumer Loans



DATA AVAILABILITY ECB VS ESMA DATA (7)

Credit Cards



ADJUSTED DATABASE (ECB DATA ONLY)

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

EDW ADJUSTED DATABASE FEATURES

Adjustments at the field level (e.g. elimination of dummy values)

Adjustments at the EDCODE+PCD+field level (e.g. AR67 / 100 in some LLD)

We correct data errors when possible

Report NULL when data is not usable

Add extra fields where needed (WIP)

Preserve time series since 2013

Exclude the worst data submissions

EXAMPLE OF DATA CORRECTION

Inversion Y/N for Field AR16 Foreign National

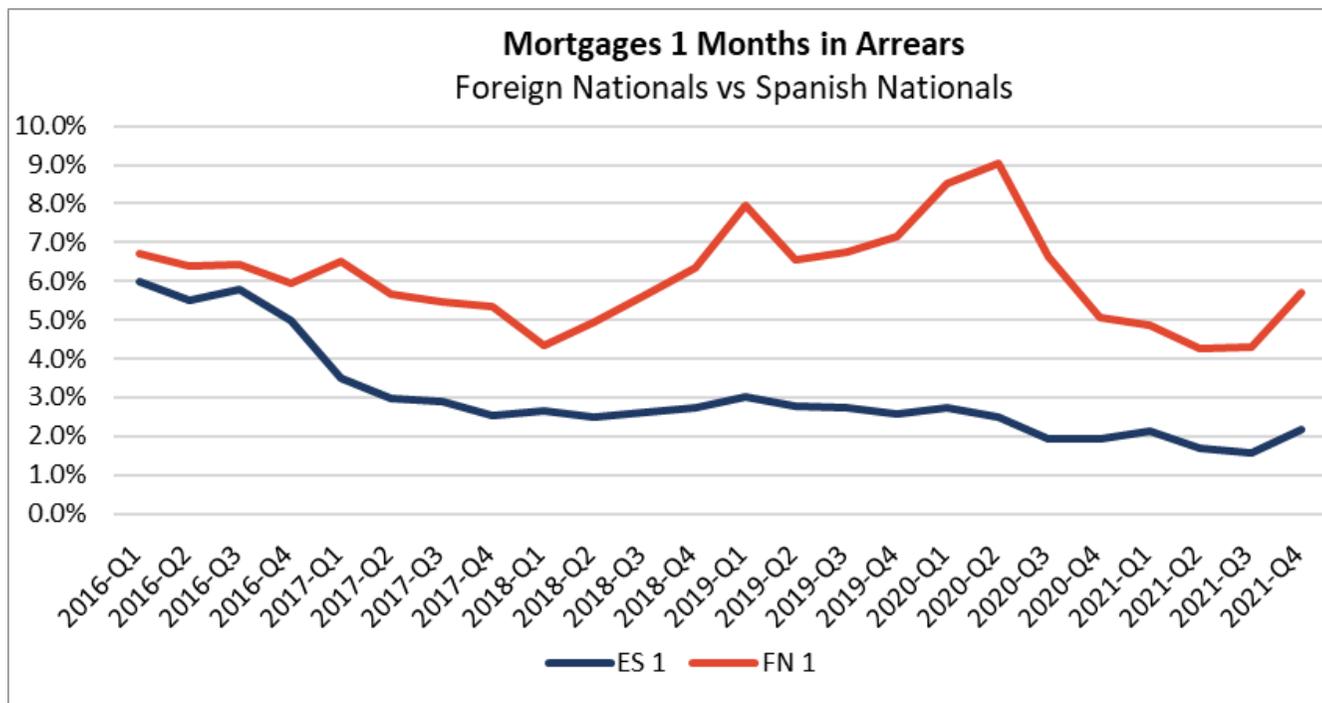
EDCODE	All PCD	Before Correction			After Correction			Amendment
		% Y	% N	% NULL	% Y	% N	%NULL	
RMBSUK000591100120144	2018-01-31	5.0%	90.1%	4.9%	90.1%	5.0%	4.9%	Inversion Y - N
RMBSUK000591100120144	2018-04-30	5.1%	90.3%	4.6%	90.3%	5.1%	4.6%	Inversion Y - N
RMBSUK000591100120144	2018-07-31	6.5%	88.9%	4.6%	88.9%	6.5%	4.6%	Inversion Y - N
RMBSUK000591100120144	2018-10-31	89.3%	6.0%	4.7%	89.3%	6.0%	4.7%	-
RMBSUK000591100120144	2019-01-31	89.1%	6.5%	4.5%	89.1%	6.5%	4.5%	-
RMBSUK000591100120144	2019-04-30	88.5%	7.2%	4.3%	88.5%	7.2%	4.3%	-
RMBSUK000591100120144	2019-07-31	88.7%	7.2%	4.0%	88.7%	7.2%	4.0%	-

Decimal Point Error in Interest Rate Field

EDCODE	PCD	MIN	MAX	Average	Corrected Average	Factor
RMBMUK000551100120075	2016-01-31	0.0069	0.0669	0.04	3.62	*100
RMBMUK000551100120075	2016-03-31	0.0069	0.0669	0.04	3.60	*100
RMBMUK000551100120075	2016-07-31	0.0069	0.0669	0.04	3.59	*100
RMBMUK000551100120075	2016-10-31	0.0035	0.0639	0.03	3.38	*100
RMBMUK000551100120075	2017-01-31	0.35	6.39	3.35	3.35	-
RMBMUK000551100120075	2017-04-30	0.35	6.39	3.33	3.33	-
RMBMUK000551100120075	2017-07-31	0.25	6.39	3.20	3.20	-

RMBS PERFORMANCE (FOREIGN NATIONAL)

Mortgages “1 months in arrears”/ total outstanding (ECB data only)



MONITORING MORATORIA THROUGH COVID-19

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

METHODOLOGY

We see if the loans that amortised in each quarter in 2019 also amortised in the following quarters

Select performing loans whose current balance at the end of each quarter is less than the quarter before



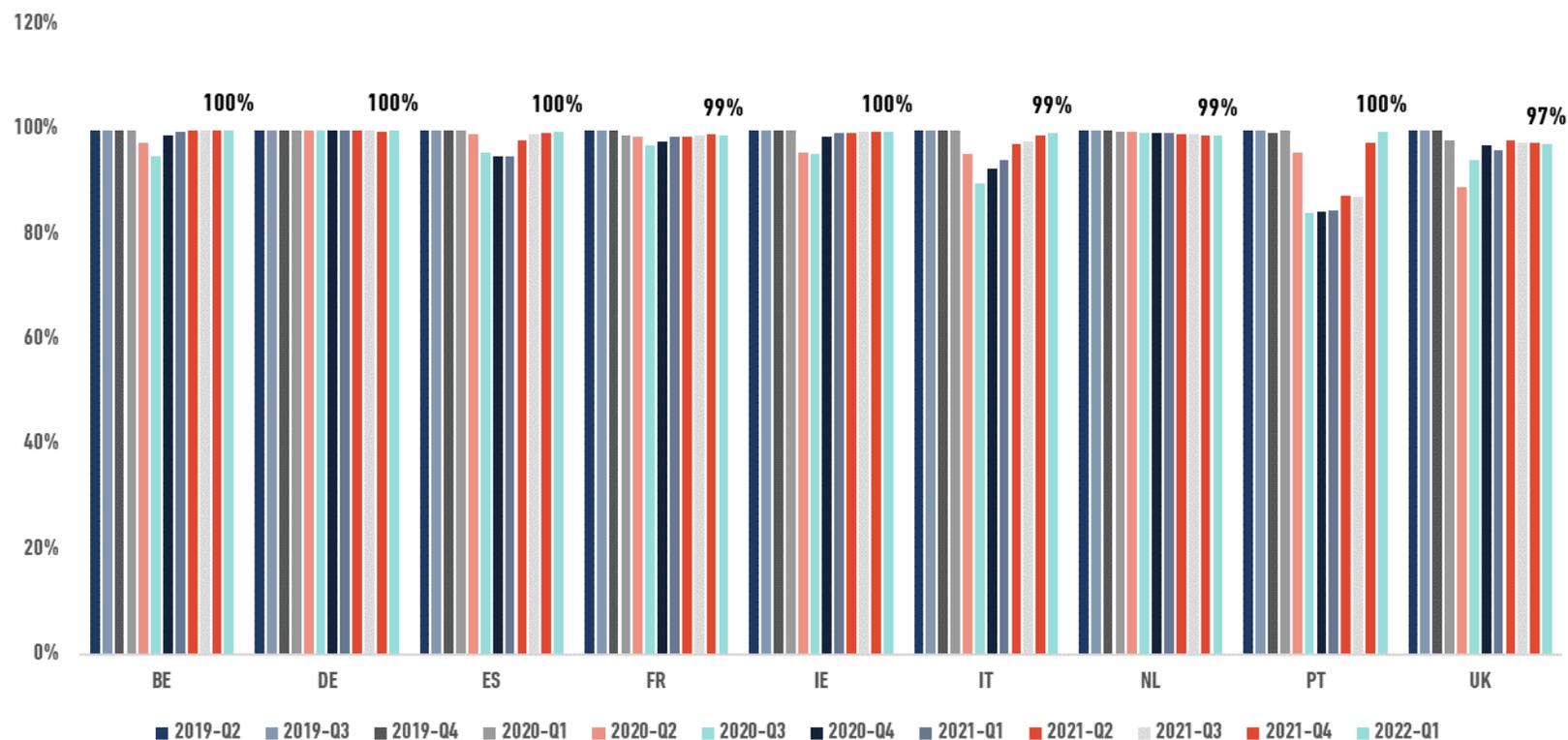
Calculate the portion of selected loans that still had a decrease in balance in each of the following quarters

Note: Only the loans with a positive Current Balance from 2019 Q1 to 2022 Q1 are used in the analysis

RESIDENTIAL MORTGAGES

Borrowers in all countries seem to have started paying again

Mortgages that Amortised since the previous Quarter
(As % of Outstanding Amount, Considering Mortgages that Amortised Consistently Prior to the Crisis)

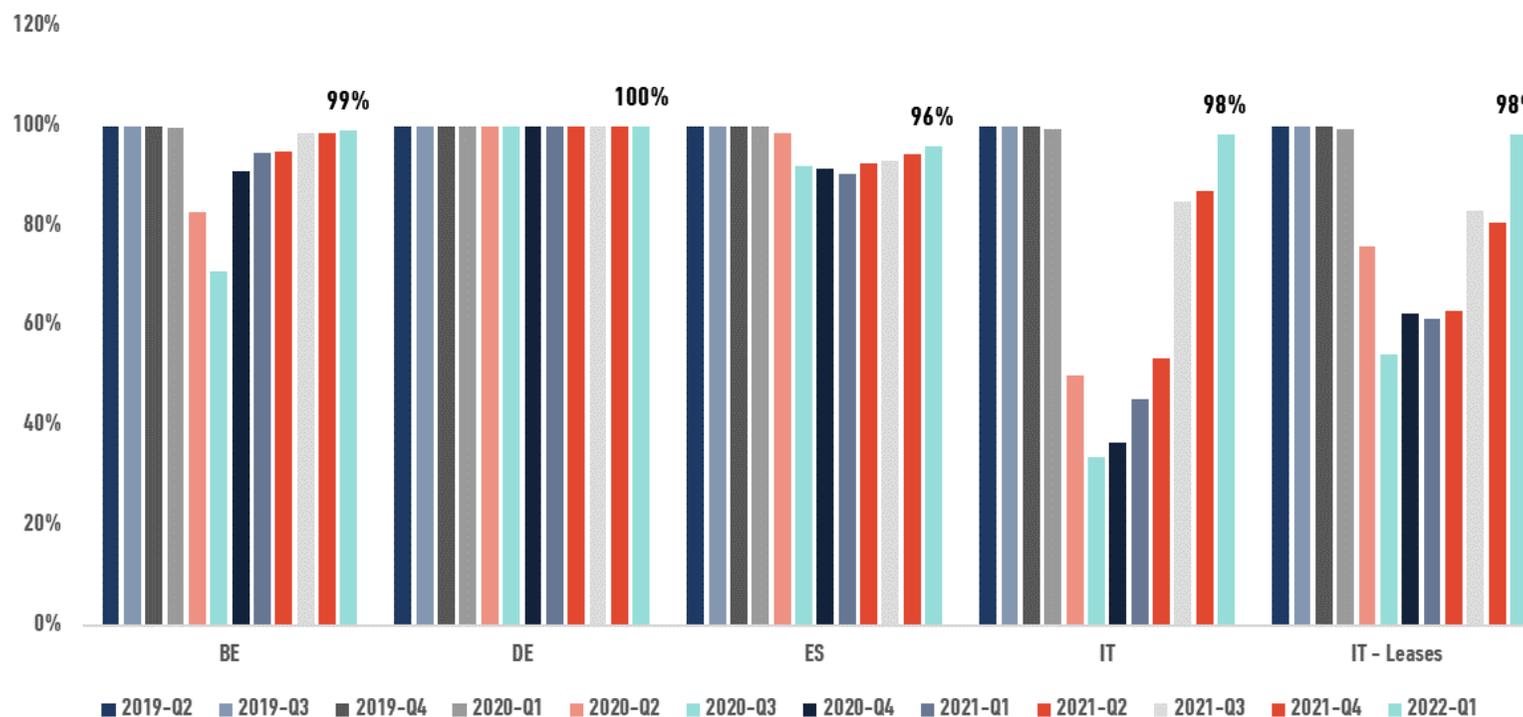


SME LOANS

SME borrowers in all countries appear to have restarted making payments – sharp recovery in Italy

SME Loans that Amortised since the Previous Quarter

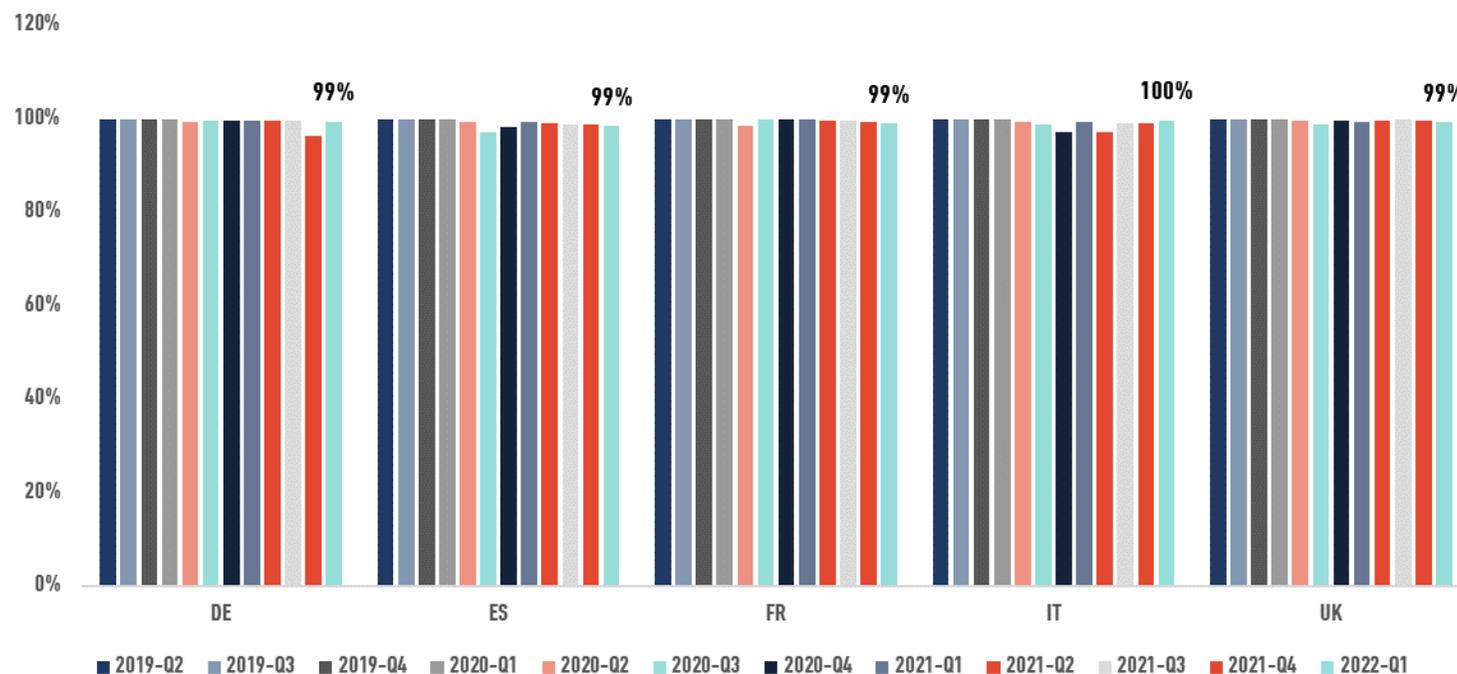
(As % of Outstanding Amount, Considering Mortgages that Amortised Consistently Prior to the Crisis)



AUTO LOANS

The impact on Auto Loans does not seem to have been too strong

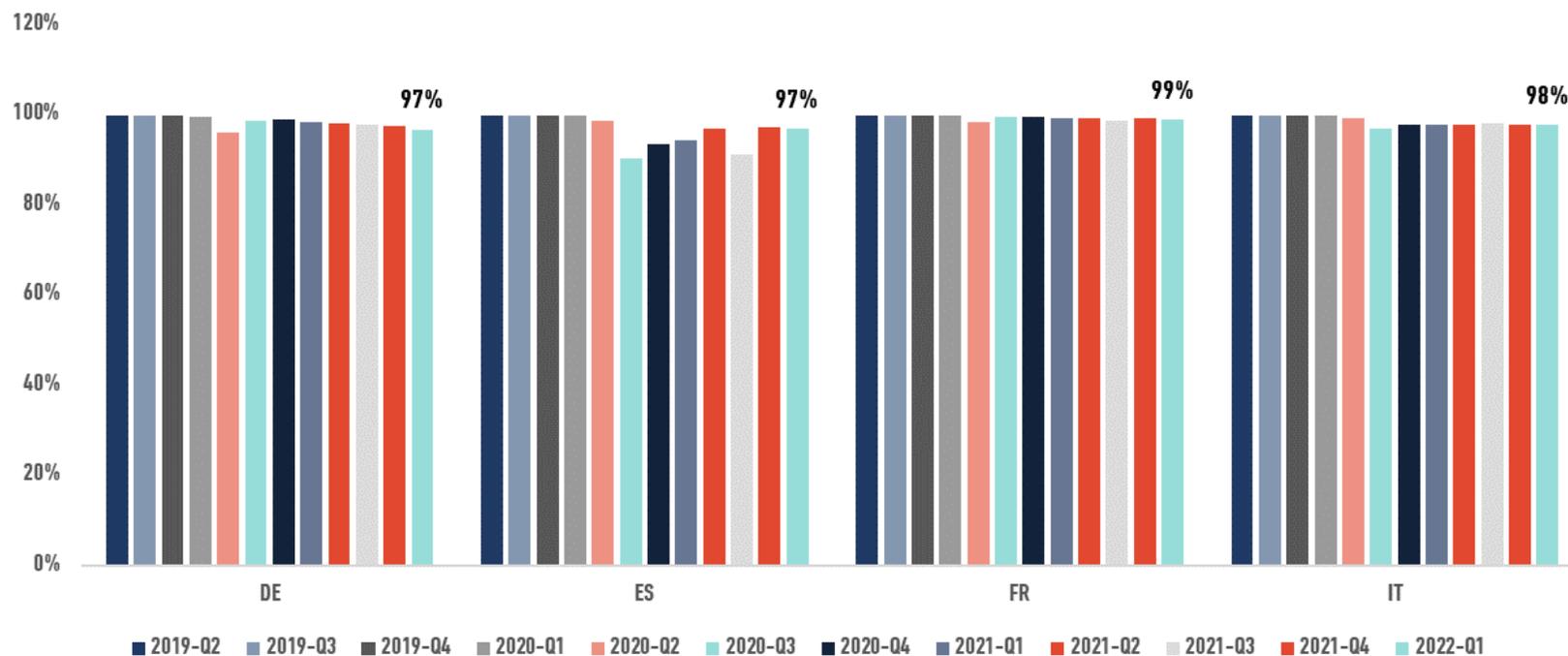
Auto Loans that Amortised since the previous Quarter
(As % of Outstanding Amount, Considering Mortgages that Amortised Consistently Prior to the Crisis)



CONSUMER LOANS

The impact on Consumer Loans also does not seem to have been too strong

Consumer Loans that Amortised since the previous Quarter
(As % of Outstanding Amount, Considering Mortgages that Amortised Consistently Prior to the Crisis)



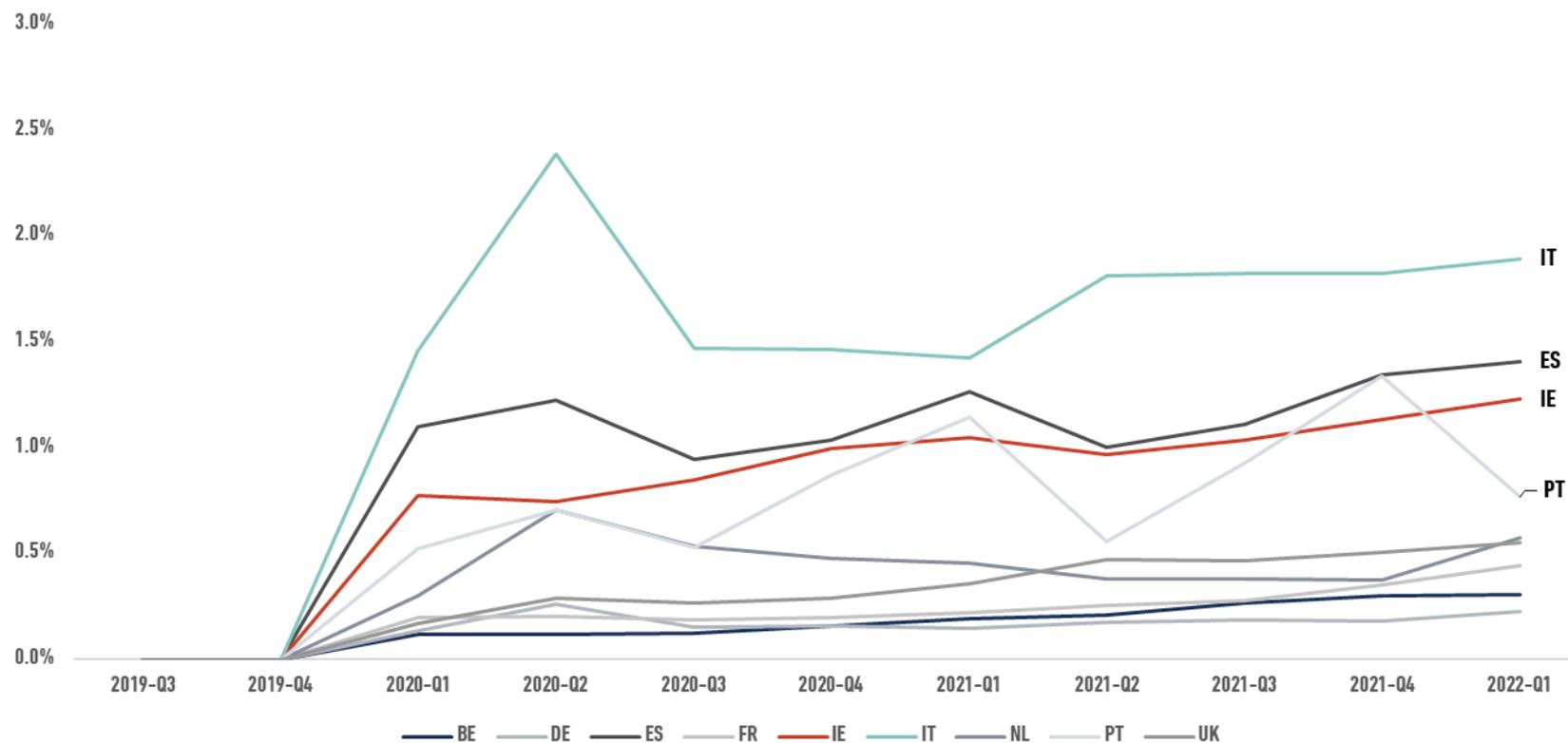
MONITORING ARREARS THROUGH COVID-19

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

RESIDENTIAL MORTGAGES - % IN ARREARS OR DEFAULT

With loans coming out of moratoria, levels of arrears and defaults have remained low

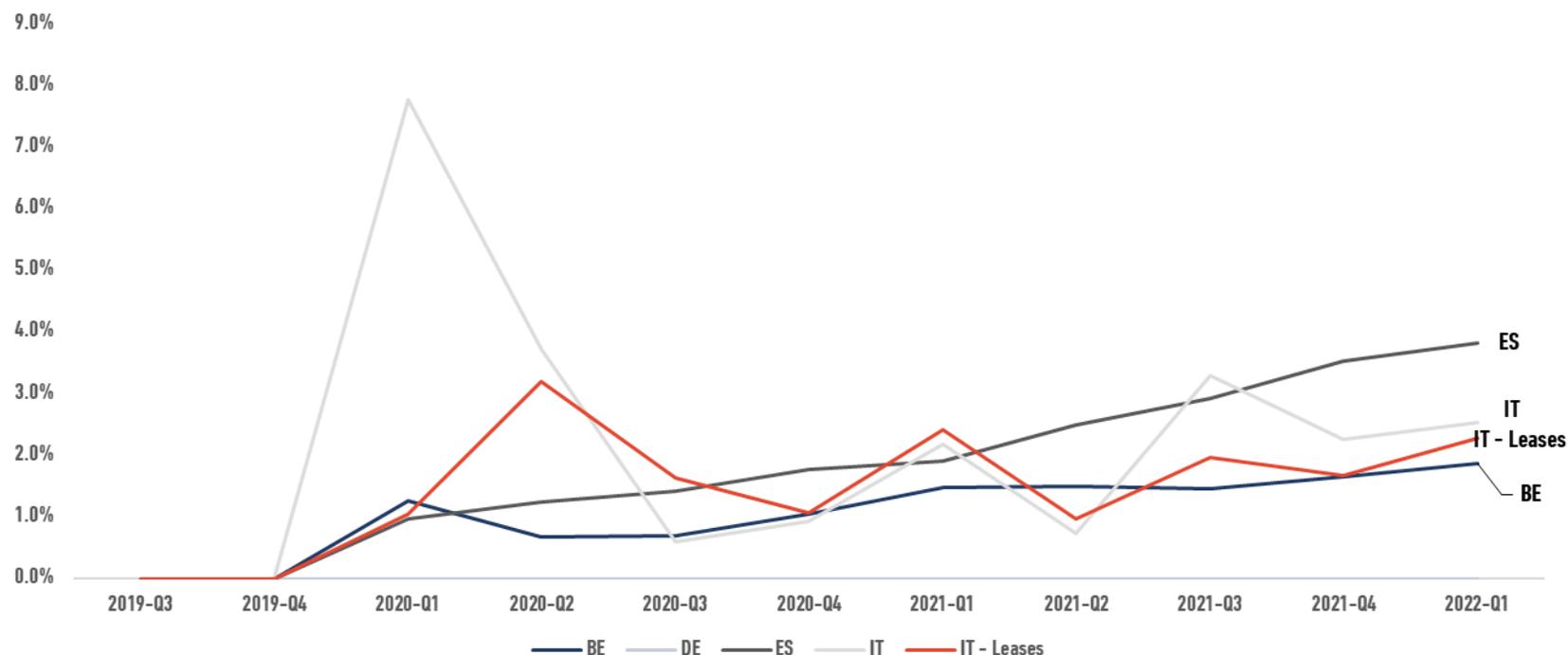
Mortgages that went into Arrears or Default Since 2020-Q1
(As % of Outstanding Amount, Considering Mortgages that Amortised Consistently Prior to the Crisis)



SME LOANS - % IN ARREARS OR DEFAULT

With SME Loans coming out of moratoria, levels of arrears and defaults have remained low

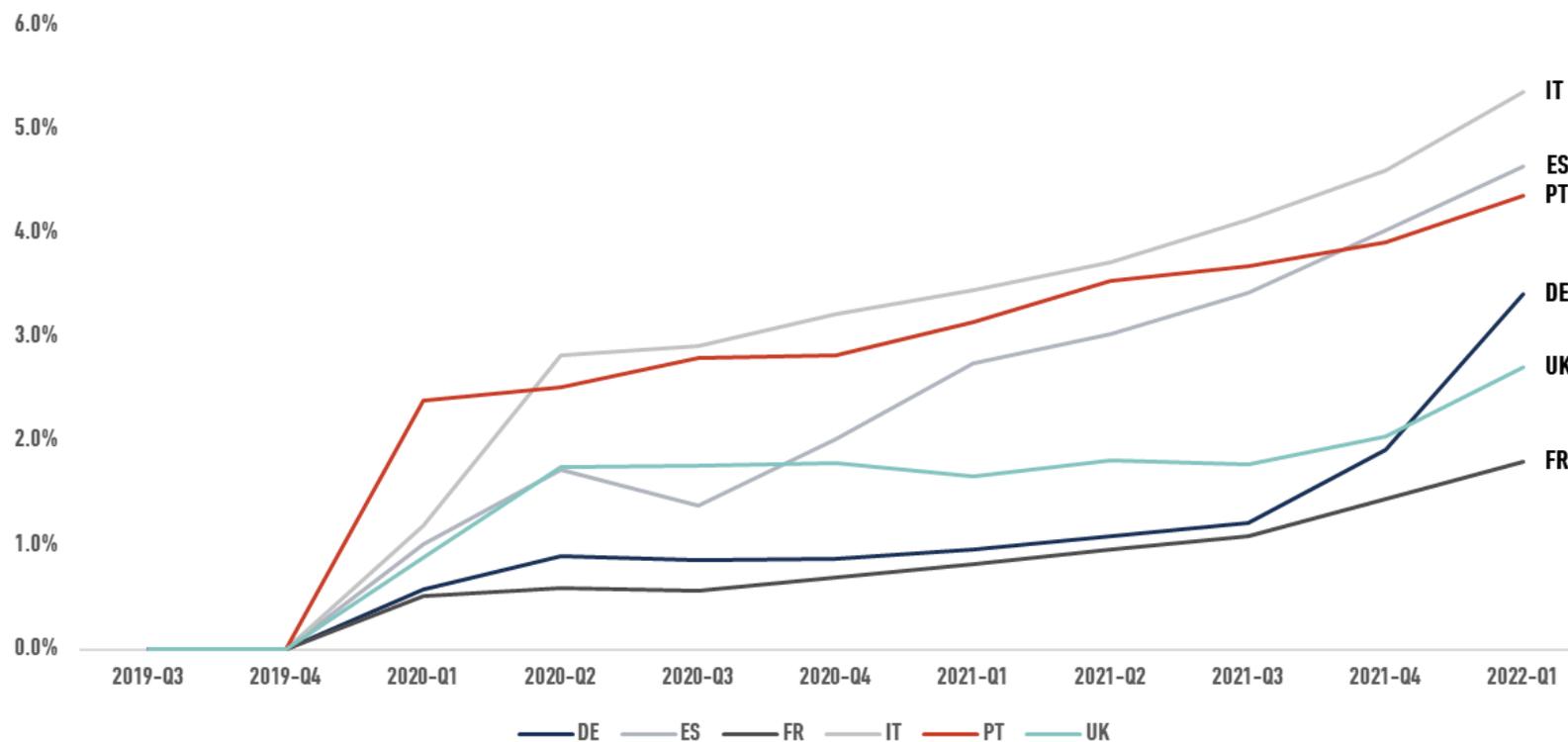
SME Loans that went into Arrears or Default Since 2020-Q1
(As % of Outstanding Amount, Considering SME Loans that Amortised Consistently Prior to the Crisis)



AUTO LOANS - % IN ARREARS OR DEFAULT

Levels of arrears and defaults are slightly higher in Auto Loans

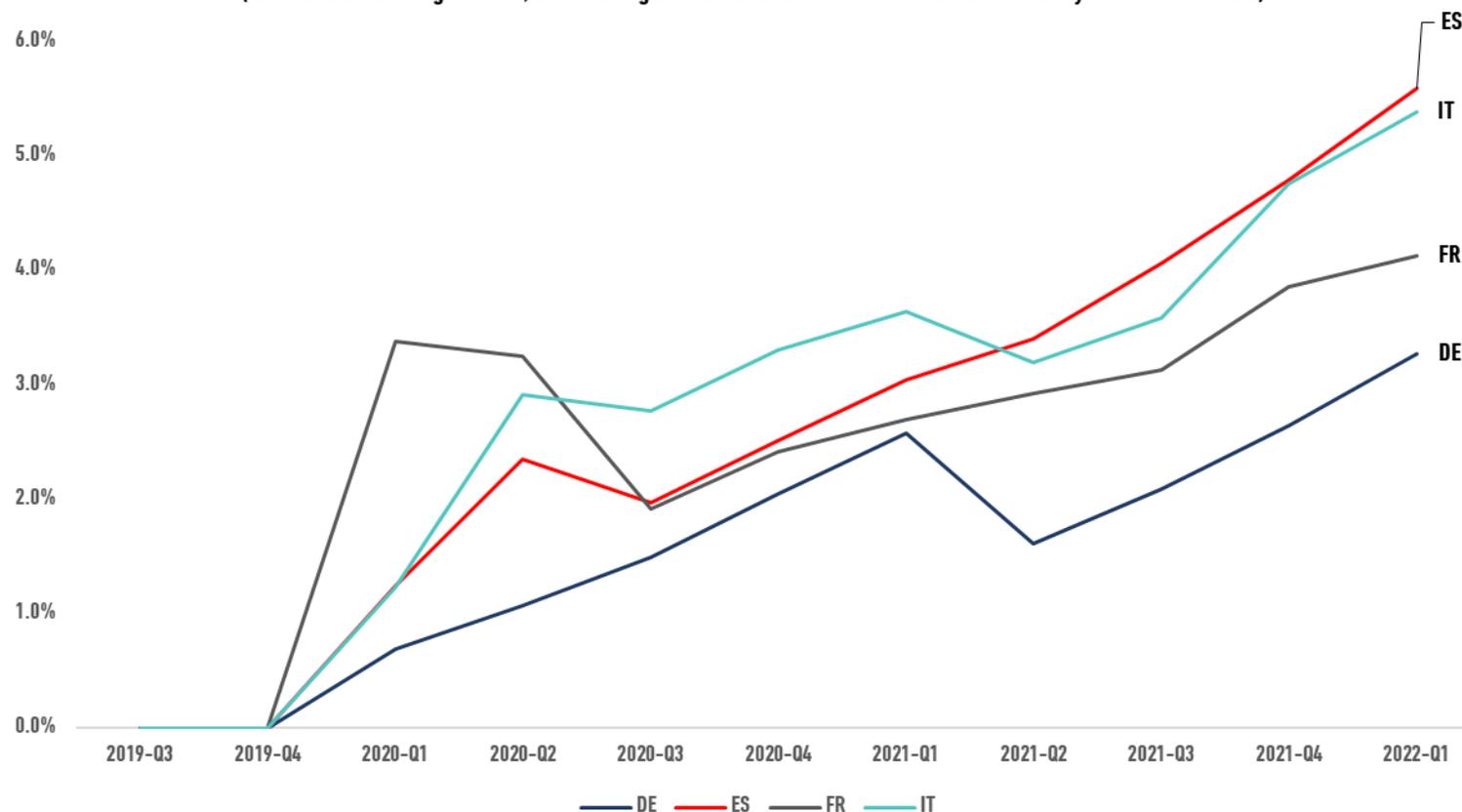
Auto Loans that went into Arrears or Default Since 2020-Q1
(As % of Outstanding Amount, Considering Auto Loans that Amortised Consistently Prior to the Crisis)



CONSUMER LOANS - % IN ARREARS OR DEFAULT

Levels of arrears and defaults are slightly higher in Consumer Loans as well

Consumer Loans that went into Arrears or Default Since 2020-Q1
(As % of Outstanding Amount, Considering Consumer Loans that Amortised Consistently Prior to the Crisis)

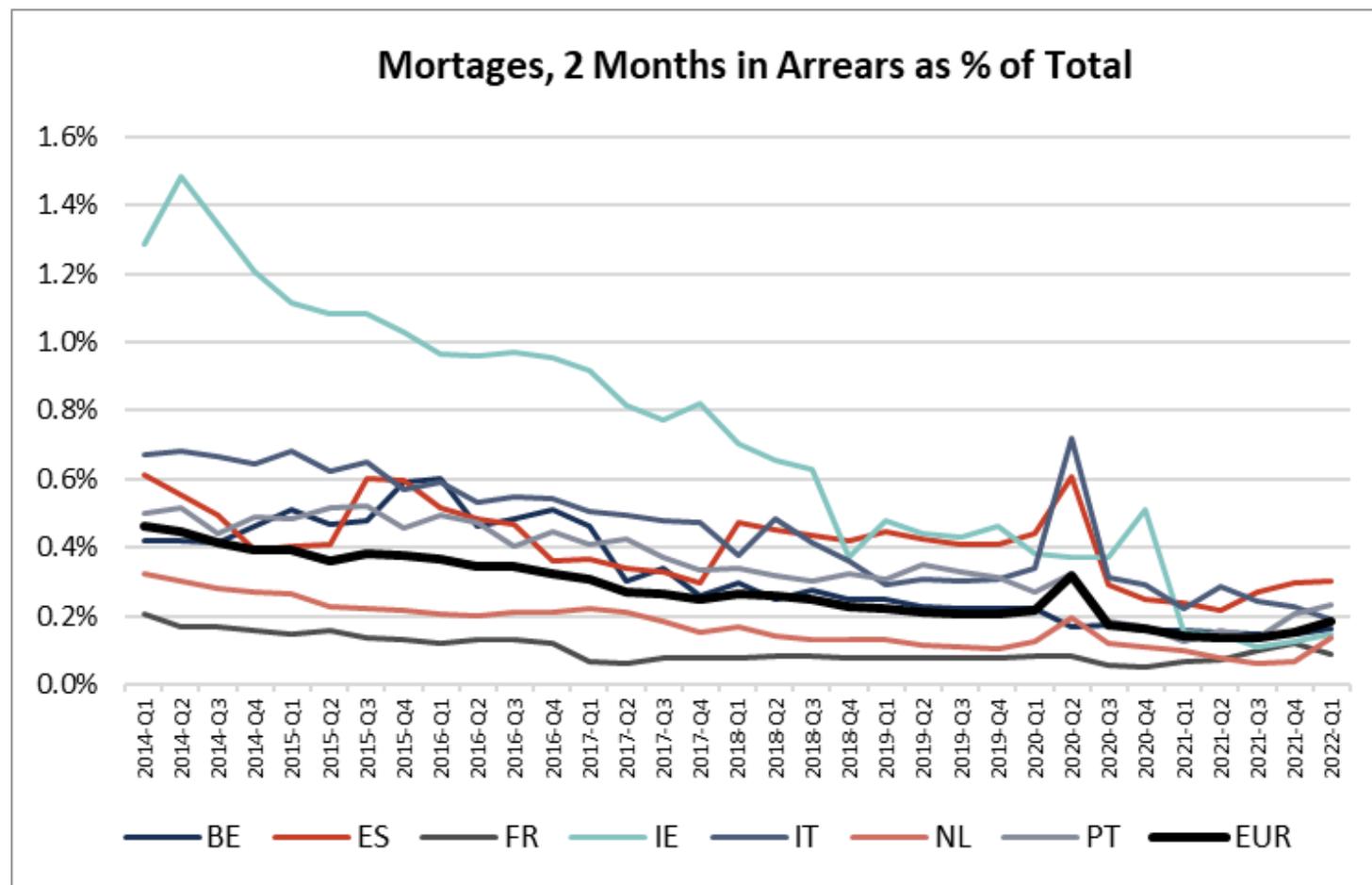


LOAN PERFORMANCE

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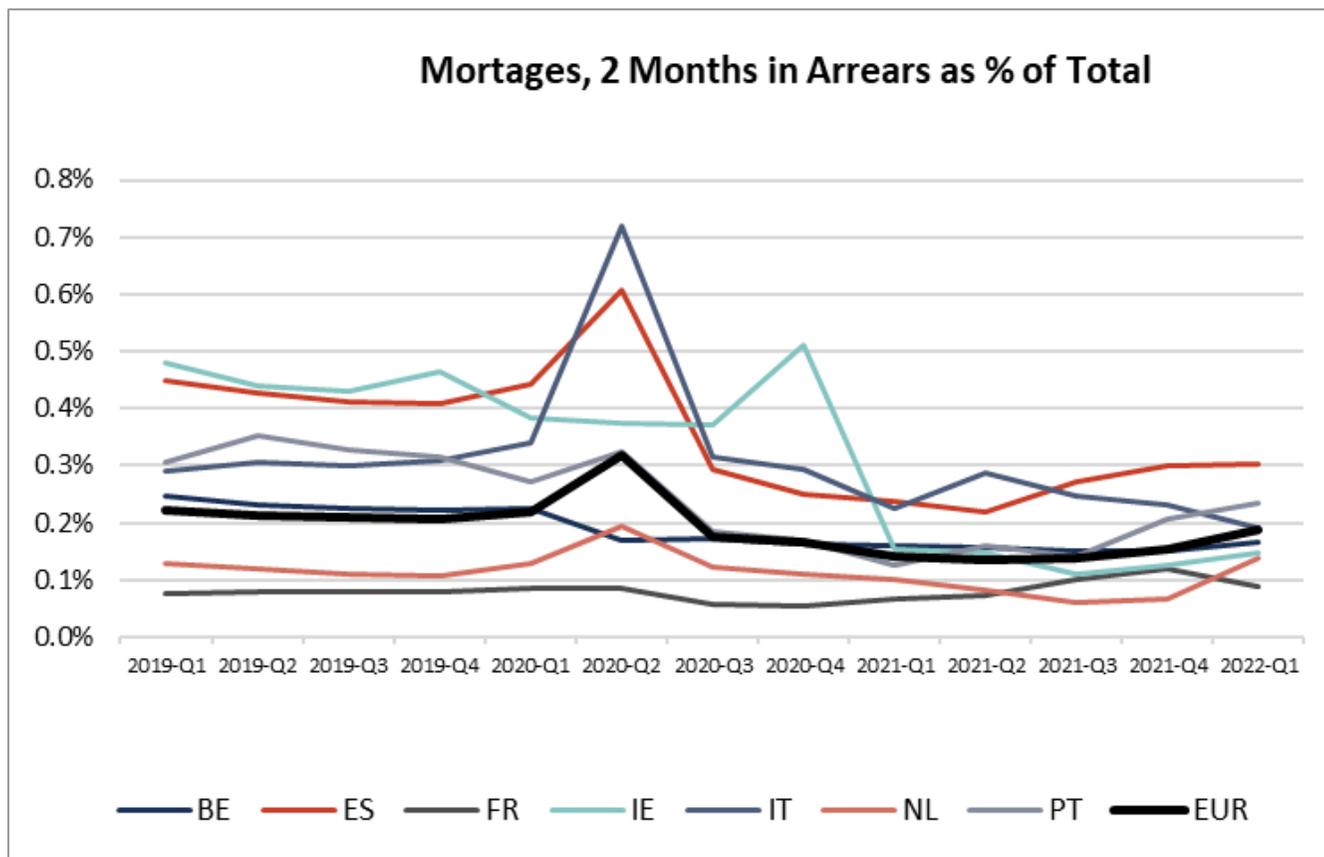
RMBS PERFORMANCE

Mortgages “2 months in arrears”/ total outstanding (ECB data only)



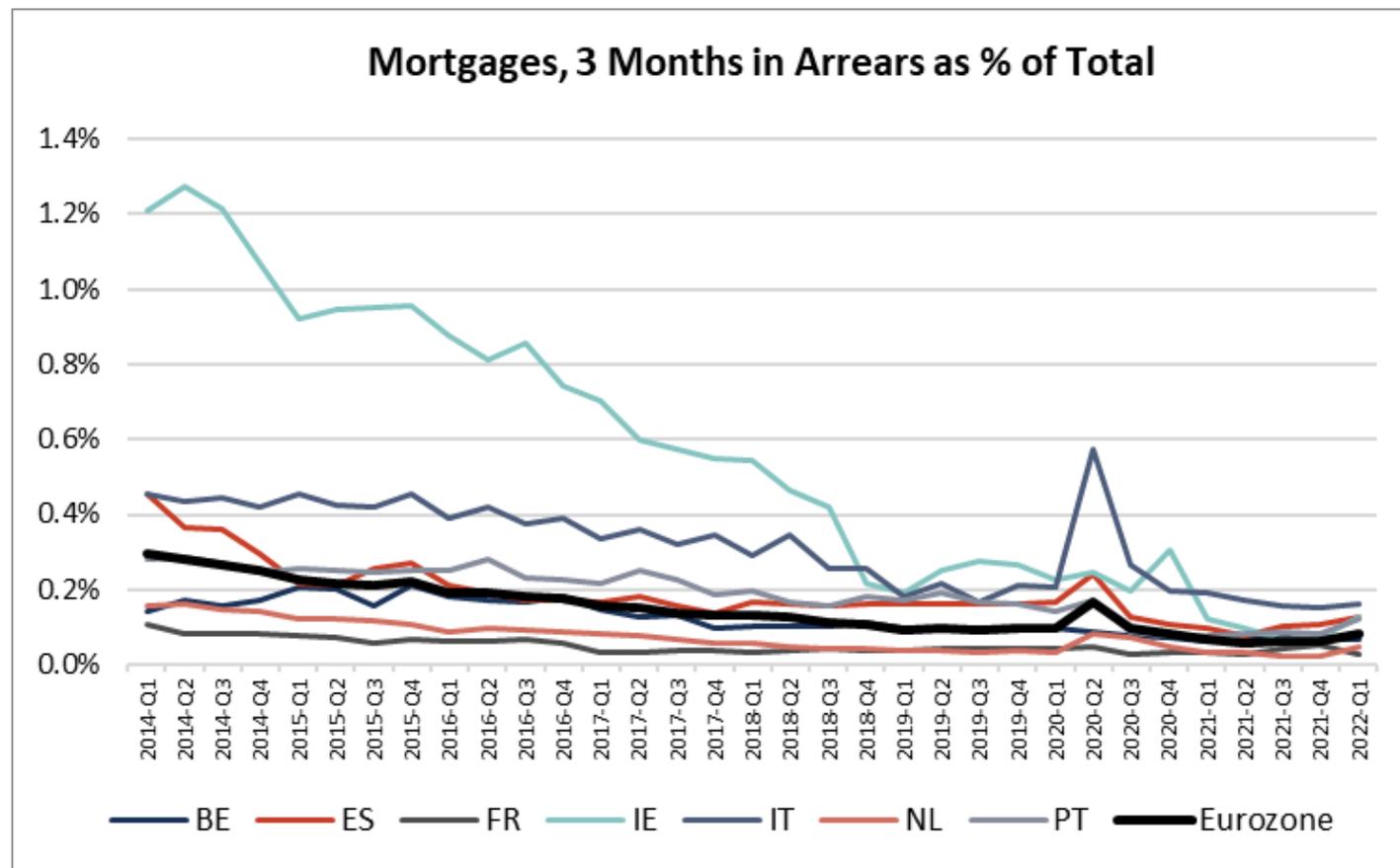
RMBS PERFORMANCE

Mortgages “2 months in arrears”/ total outstanding (ECB data only)



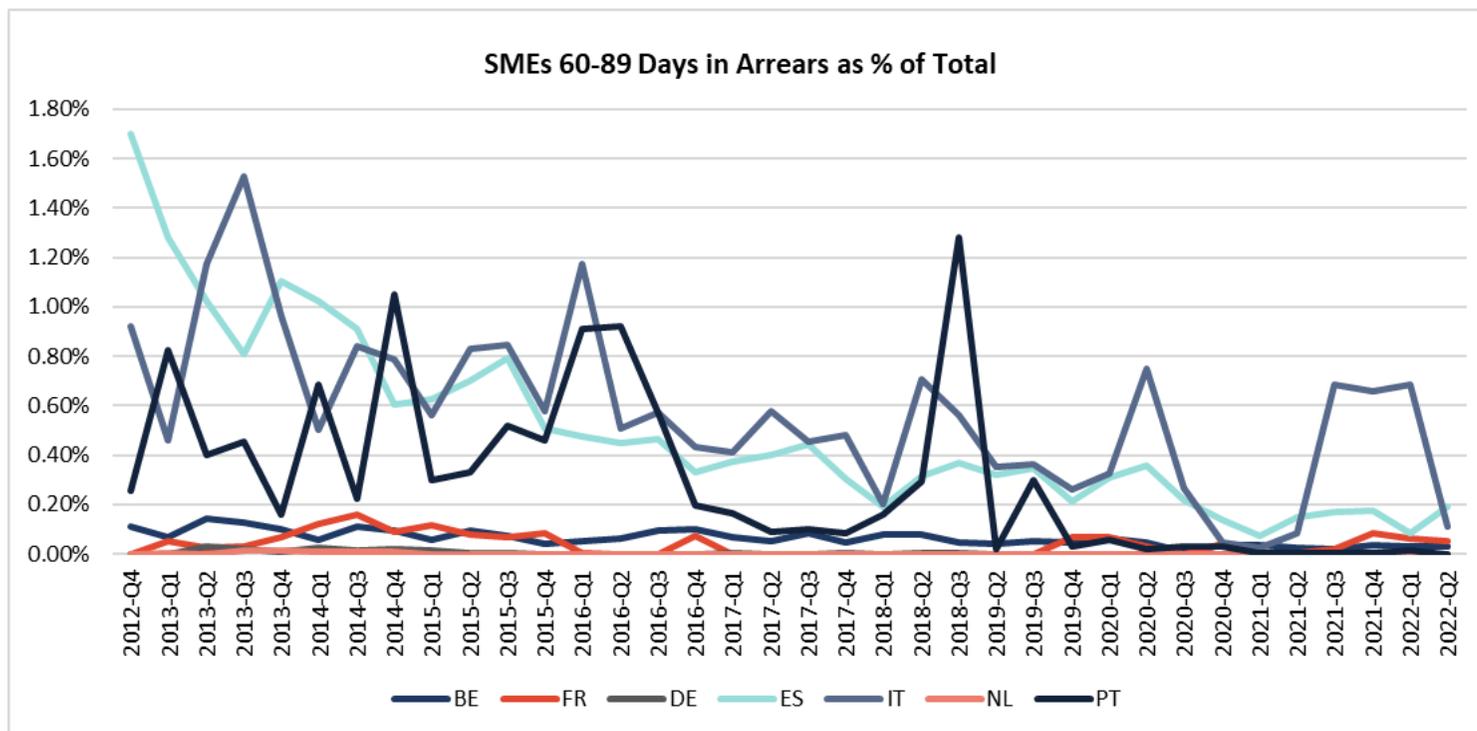
RMBS PERFORMANCE

Mortgages “3 months in arrears or more”/ total outstanding (ECB data only)



SME PERFORMANCE (ECB + ESMA DATA)

Total amount outstanding by country



ENERGY PERFORMANCE DATA AVAILABILITY

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

ENERGY PERFORMANCE CERTIFICATES ARE REQUIRED UNDER ESMA REGIME

ESMA templates for loan level data contain relevant fields for energy performance

Fields RREC10 and RREC11 for underlying loans in Residential Mortgage-Backed Securities (RMBS):

RREC10	Energy Performance Certificate Value	The energy performance certificate value of the collateral at the time of origination: A (EPCA) B (EPCB) C (EPCC) D (EPCD) E (EPCE) F (EPCF) G (EPCG) Other (OTHR)
RREC11	Energy Performance Certificate Provider Name	Enter the full legal name of the energy performance certificate provider. The name entered must match the name associated with the LEI in the Global Legal Entity Foundation (GLEIF) database.

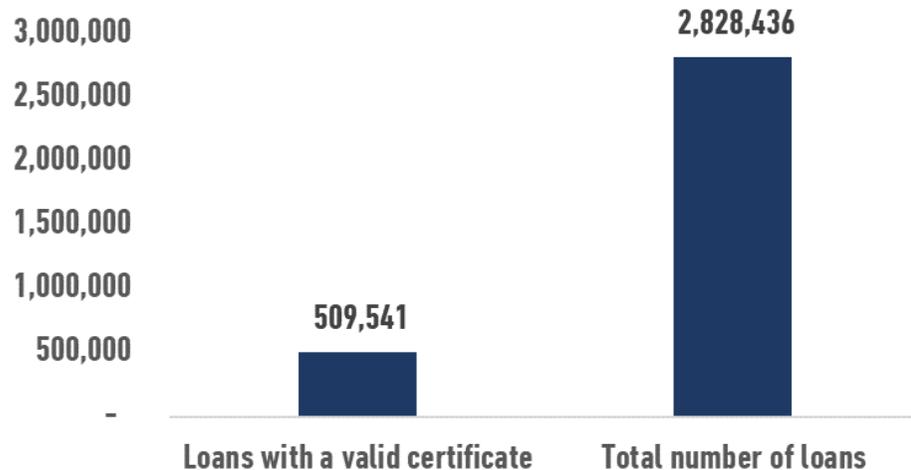
Fields AUTL57 and AUTL58 for underlying loans in AUTO ABS:

AUTL57	Energy Performance Certificate Value	Other (OTHR) The energy performance certificate value of the collateral at the time of origination: A (EPCA) B (EPCB) C (EPCC) D (EPCD) E (EPCE) F (EPCF) G (EPCG) Other (OTHR)
AUTL58	Energy Performance Certificate Provider Name	Enter the full legal name of the energy performance certificate provider. The name entered must match the name associated with the LEI in the Global Legal Entity Foundation (GLEIF) database.

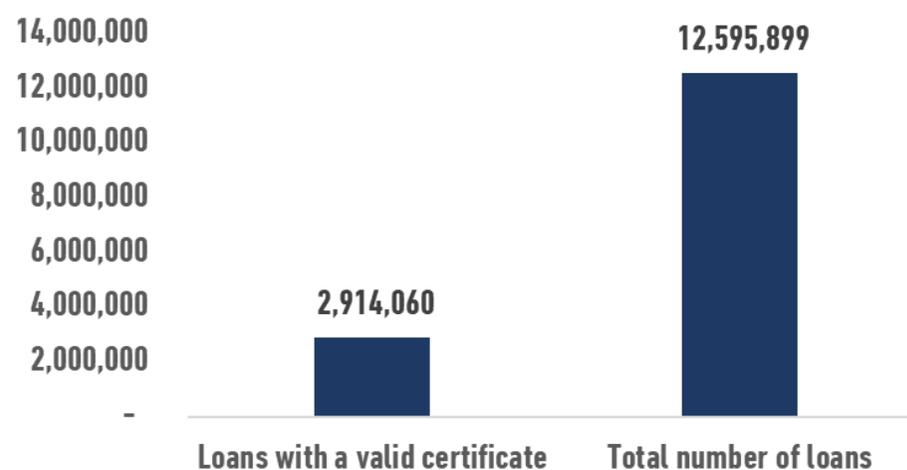
ENERGY PERFORMANCE CERTIFICATES – HOW MUCH DATA IS AVAILABLE?

Still early days and most originators are struggling to provide this data

MORTGAGES



AUTO LOANS



RESULTS OF LINKEDIN POLLS IN THE PAST

The votes received have always been spread out across all available options

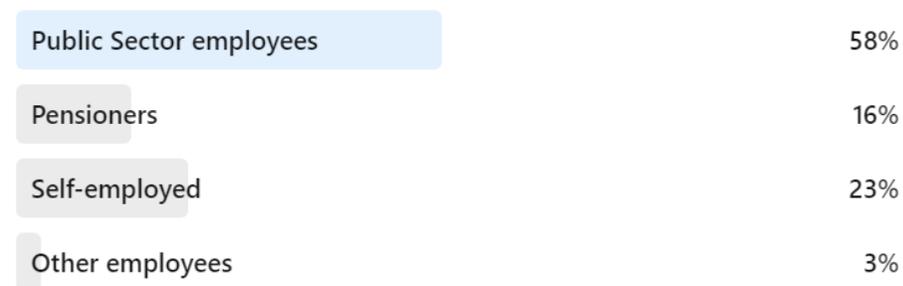
What type of cars hold most of their value 2+ years after purchase?

You can see how people vote. [Learn more](#)



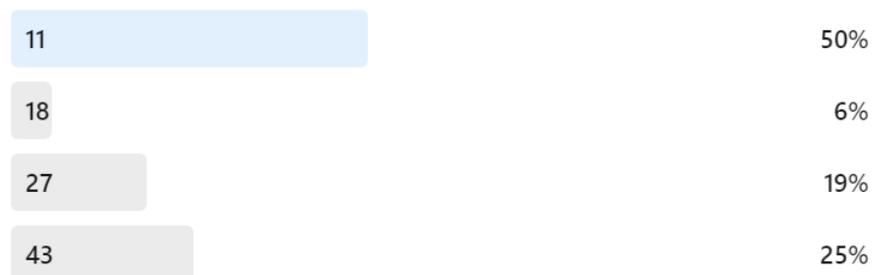
Which type of Mortgage Borrowers in Netherlands have the most Energy Efficient houses?

You can see how people vote. [Learn more](#)



Can you guess how many of these 98 Securitisations already report valid energy efficiency ratings for cars in their loan level data?

You can see how people vote. [Learn more](#)

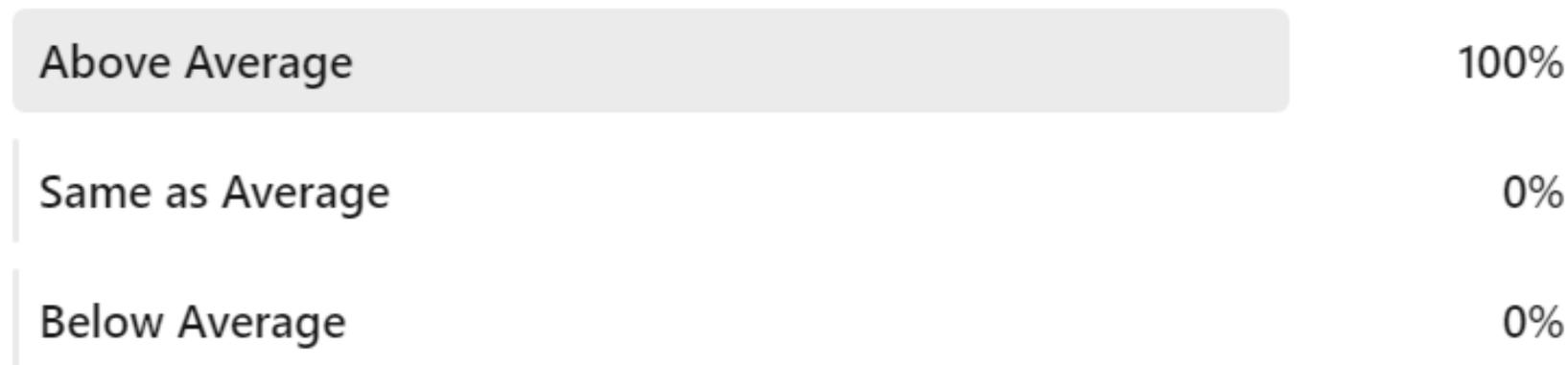


RESULTS OF OUR LAST LINKEDIN POLL

This time the votes were unanimous...

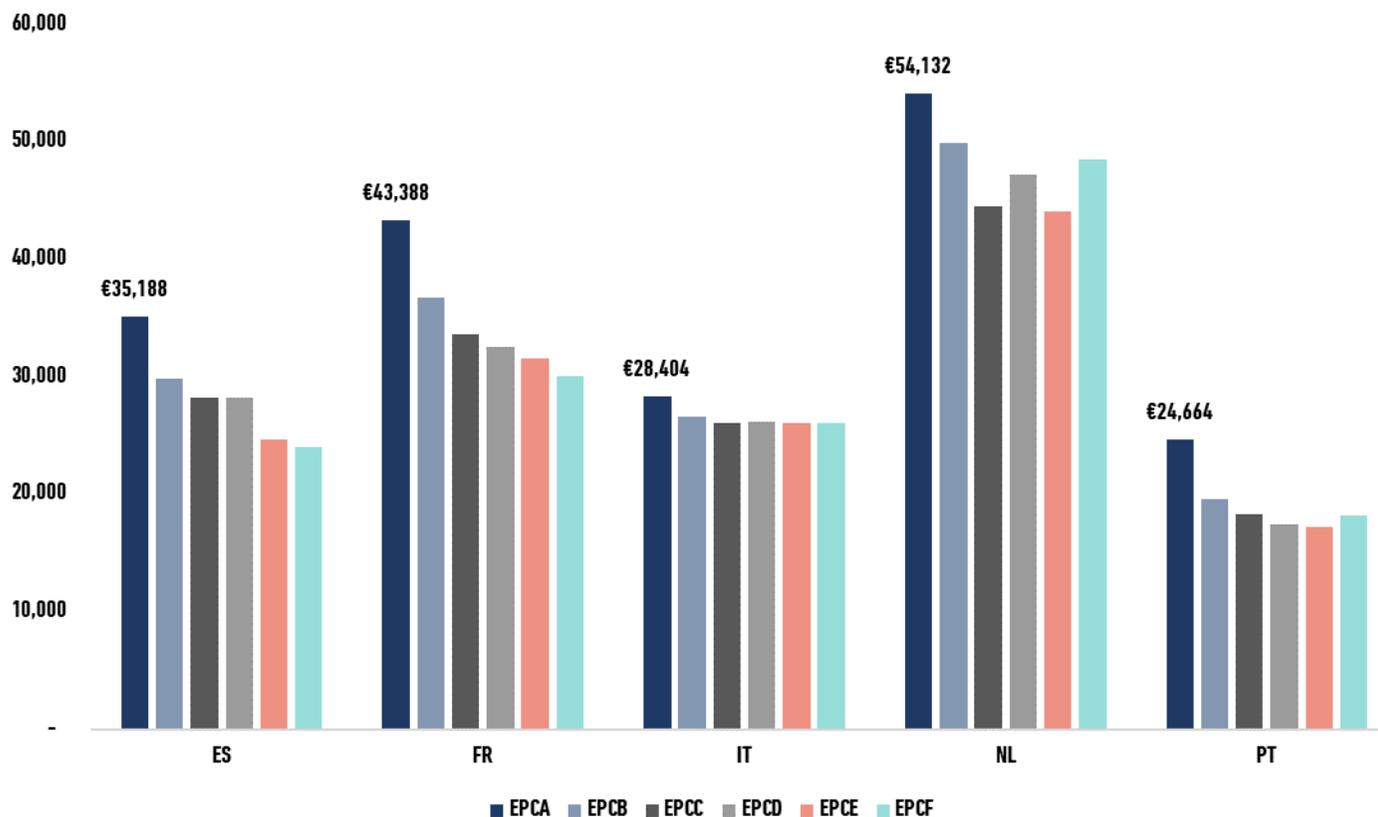
Borrowers who take a loan for a property with high Energy Efficiency have incomes that are:

You can see how people vote. [Learn more](#)



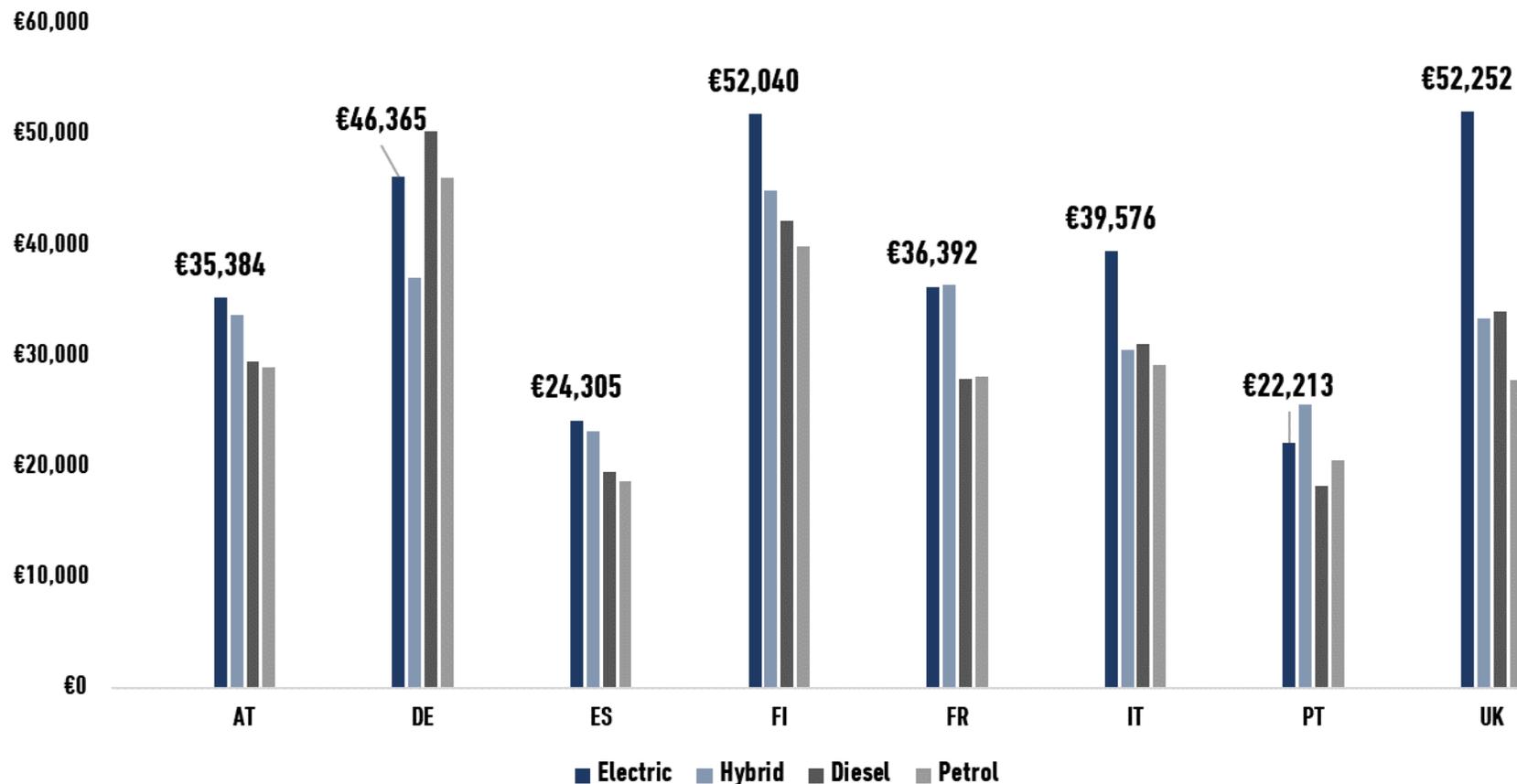
ANNUAL INCOME OF BORROWERS BY COUNTRY & EPC OF MORTGAGED PROPERTY

Borrowers with Energy Efficient properties tend to have the highest average Incomes



ANNUAL INCOME OF BORROWERS BY COUNTRY AND CAR ENGINE TYPE

Borrowers choosing to buy electric cars often have the highest incomes

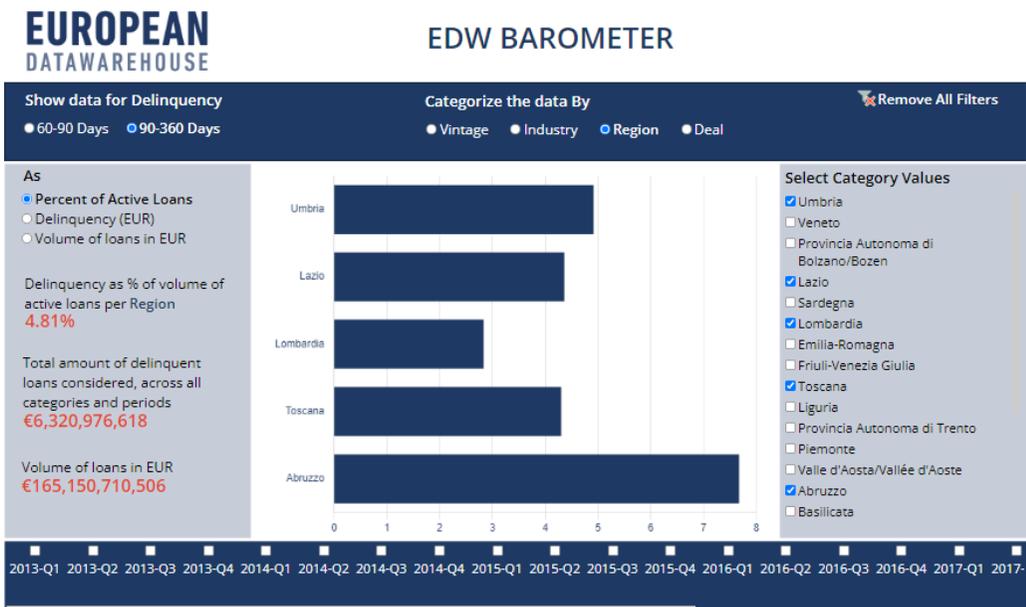


EURODW.EU PUBLICATIONS

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

A NEW WAY OF VISUALISING EDW DATASET WITH KEY PARAMETERS

Beta version of the EDW Italian ABS SME index over the years



RESEARCH SECTION

Our own publications, plus third party research <https://eurodw.eu/knowledge/research/>

THIRD PARTY RESEARCH: 05 MAY 2022
Moody's Investors Service: ESMA rules will raise data quality, but additional fields would aid credit analysis (originally published 7 May 2020)

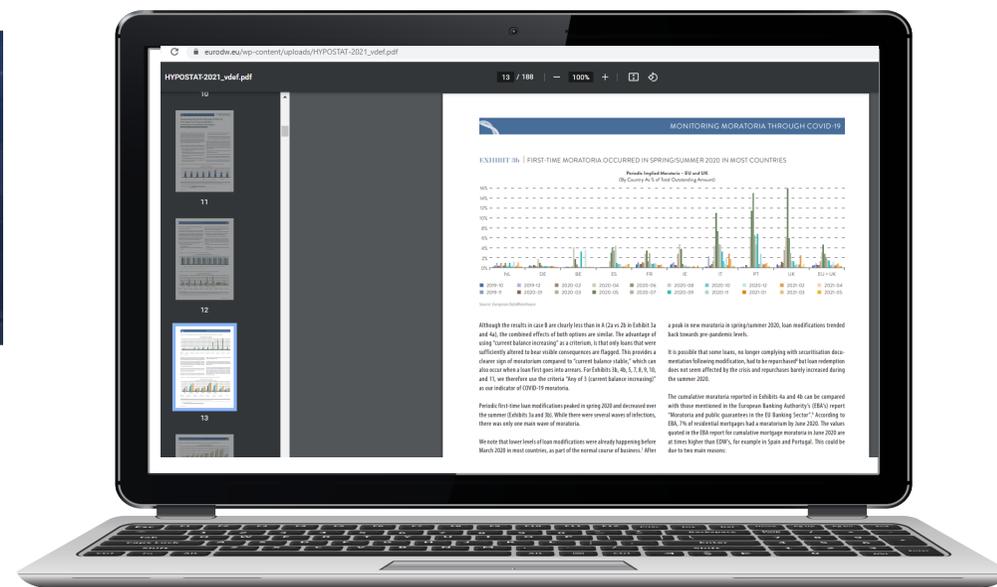
SPECIAL REPORT, THIRD PARTY RESEARCH: 25 FEBRUARY 2022
AFME Report: ESG securitisation issuance increases 273% from 2020 to 2021

SPECIAL REPORT, THIRD PARTY RESEARCH: 17 NOVEMBER 2021
Hypostat 2021 – From the EMF-ECBC (European Mortgage Federation – European Covered Bond Council)

THIRD PARTY RESEARCH: 07 OCTOBER 2021
Journal of Financial Econometrics: Forecasting Loan Default in Europe with Machine Learning

THIRD PARTY RESEARCH: 12 MAY 2021
Journal of Real Estate Finance & Economics: Buildings' Energy Efficiency & the Probability of Mortgage Default – The Dutch Case

EXPLANATORY REPORT: 04 MAY 2021
Data Availability Report Q4 2020



BLOG

Concise up to date publications <https://eurodw.eu/knowledge/magazine/>



LATEST BLOGS

<p>COMPANY BULLETIN 25.05.2022 Everything you need to know about EDW's Data Quality Scoring</p>	<p>COMPANY BULLETIN 12.05.2022 'Reporting for reporting's sake': Bank of America Commentary highlights use case for EDW solutions</p>	<p>ALLGEMEIN 11.04.2022 European DataWarehouse submits suggestions for the revision of the Energy Performance for Buildings Directive</p>
<p>DATA IN USE 21.03.2022 Giuditta - EDW's EPC Matching Solution Achieves Promising Results</p>	<p>ESG 09.03.2022 ESMAS Sustainable Finance Roadmap and the significance of Energy Performance Certificate Data</p>	<p>DATA IN USE 02.02.2022 RMBS Amortisation Rates Show Signs of Return to Pre-COVID Levels</p>



WEBINARS

The slides and recordings of our webinars <https://eurodw.eu/news-events-and-multimedia/events/>

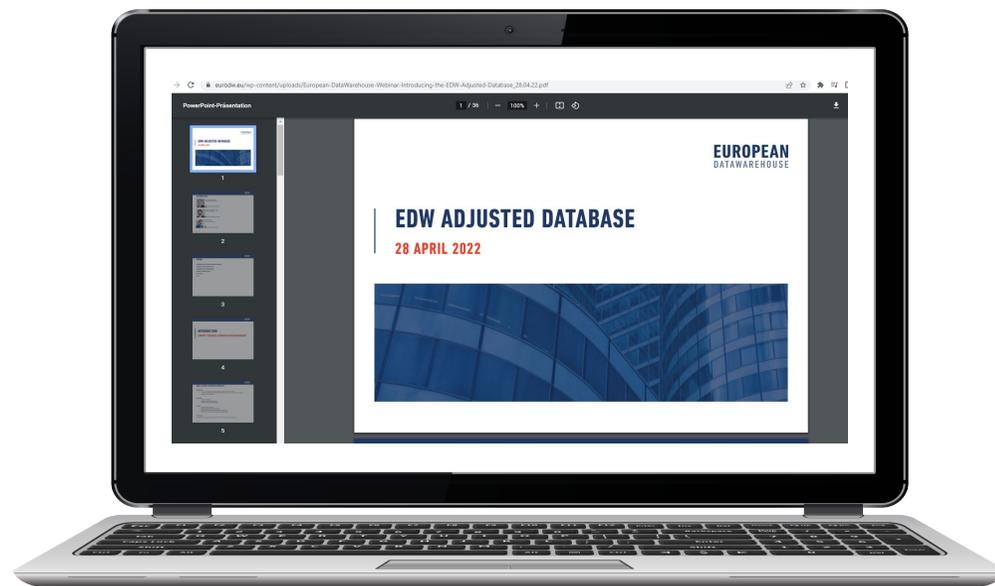


UPCOMING EVENTS

- 22.**
JUN 2022
 Spring Research Update Webinar @ 16:00 CEST
- 12.**
JUL 2022
EVENT
 Shaping the Future of NPL Reporting @ 16:00 CEST

ARCHIVED EVENTS

- 08.**
JUN 2022
 EDW 2022 Spring Workshop Series - UK Market Webinar @ 16:00 CEST



MODELLING PREPAYMENTS OF INSTITUTIONAL LOANS

JOHANNES HEUEL, UNIVERSITY OF HAMBURG



Q&A

THANK YOU//CONTACT US

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