

SUMMER RESEARCH WEBINAR

2021



ON TODAY'S CALL



DR. CHRISTIAN THUN
EUROPEAN DATAWAREHOUSE

✉ christian.thun@eurodw.eu



LUDOVIC THEBAULT, PHD
EUROPEAN DATAWAREHOUSE

✉ ludovic.thebault@eurodw.eu



USMAN JAMIL
EUROPEAN DATAWAREHOUSE

✉ usman.jamil@eurodw.eu

UPCOMING EVENTS – REGISTER VIA WWW.EURODW.EU

Autumn Virtual Workshop Series – for all the latest updates & developments relating to securitisation in your market of interest.



Greece

29 September @ 15:00 CEST



Spain

20 October @ 16:00 CEST



Ireland

10 November @ 16:00 CET



France

6 October @ 16:00 CEST



Italy

27 October @ 16:00 CEST



Germany

17 November @ 16:00 CET



Portugal

13 October @ 16:00 CEST



Netherlands

3 November @ 16:00 CET



United Kingdom

24 November @ 16:00 CET

Webinar:

Reporting for ESG, NPL & Synthetics: The Latest Developments

Featuring insights from Deloitte

Tuesday 21 September @ 16:00 CEST

NEXT RESEARCH UPDATE

NEXT RESEARCH WEBINAR

SAVE THE DATE:

1 DECEMBER 2021 @ 16:00

[REGISTER NOW](#)

EUROPEAN DATAWAREHOUSE REGISTERED AS A SECURITISATION REPOSITORY BY ESMA

Frankfurt, Germany— 25 June 2021

European DataWarehouse (EDW) today announced it has been designated as a Securitisation Repository by the European Securities and Markets Authority (ESMA).

More than three years after the Securitisation Regulation (EU)2017/2402 came into force, and following an extensive application process, the registration of the first Securitisation Repositories closes the final gap in the disclosure framework.

In January 2018, European DataWarehouse announced its intention to become a Securitisation Repository under ESMA, and in September 2020 submitted its application.

The designation is another milestone in EDW's almost 10 years of operation as the only Eurosystem designated Securitisation Repository. It is also in line with EDW's mission to enhance transparency in the securitisation market and demonstrates the company's strong commitment to delivering market-leading regulatory reporting solutions.

In the course of 2021, EDW has worked closely with the reporting entities and provided them with access to a fully RTS-compliant EDITOR platform in a sandbox environment to assist them in meeting the Securitisation Repository requirements and ensure a smooth transition into the new disclosure era.

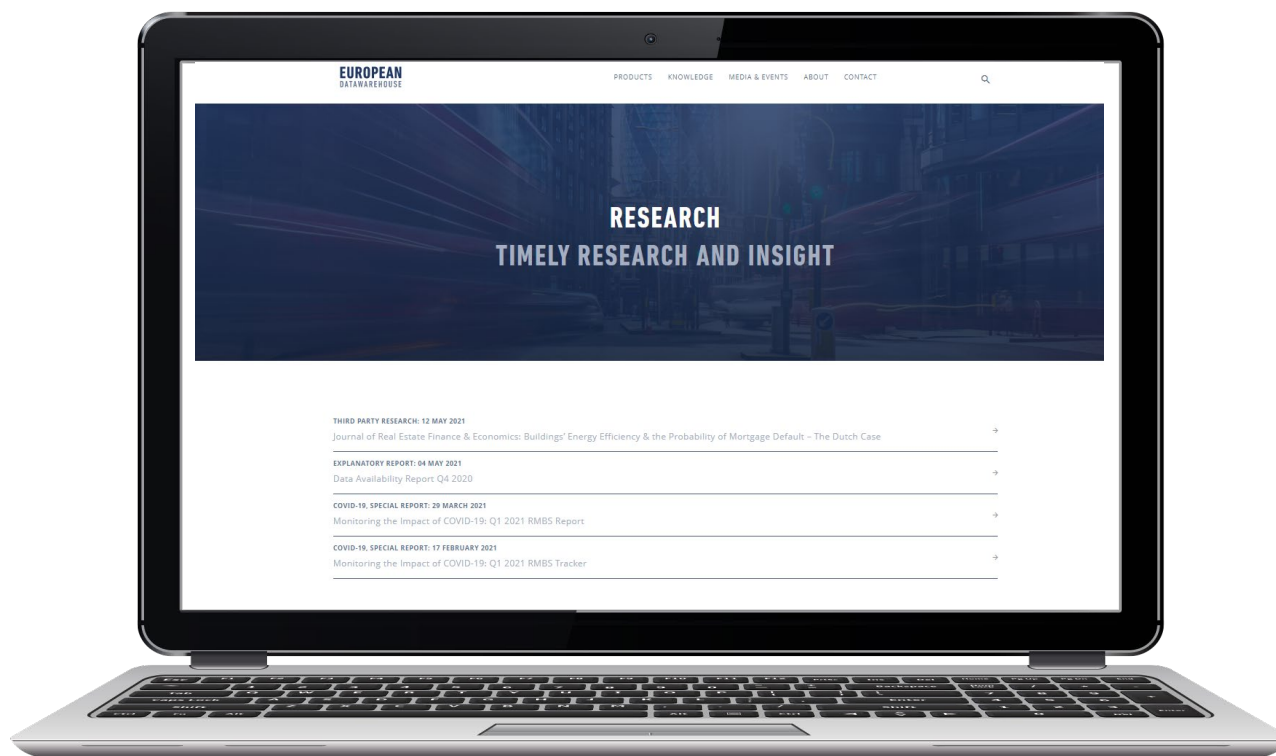
AGENDA

- | | |
|----------------------------------|--------------------|
| • INTRODUCTION | (Christian Thun) |
| • RECENT PUBLICATIONS | (Ludovic Thebault) |
| • COVID-19 UPDATE | (Ludovic Thebault) |
| • MONITORING MORATORIA | (Usman Jamil) |
| • IDENTIFYING MORATORIA | (Ludovic Thebault) |
| • CREDIT RISK AND MORATORIA | (Ludovic Thebault) |
| • IMPACT ON MORTGAGE ORIGINATION | (Usman Jamil) |
| • Q&A | |

RECENT RESEARCH PUBLICATIONS

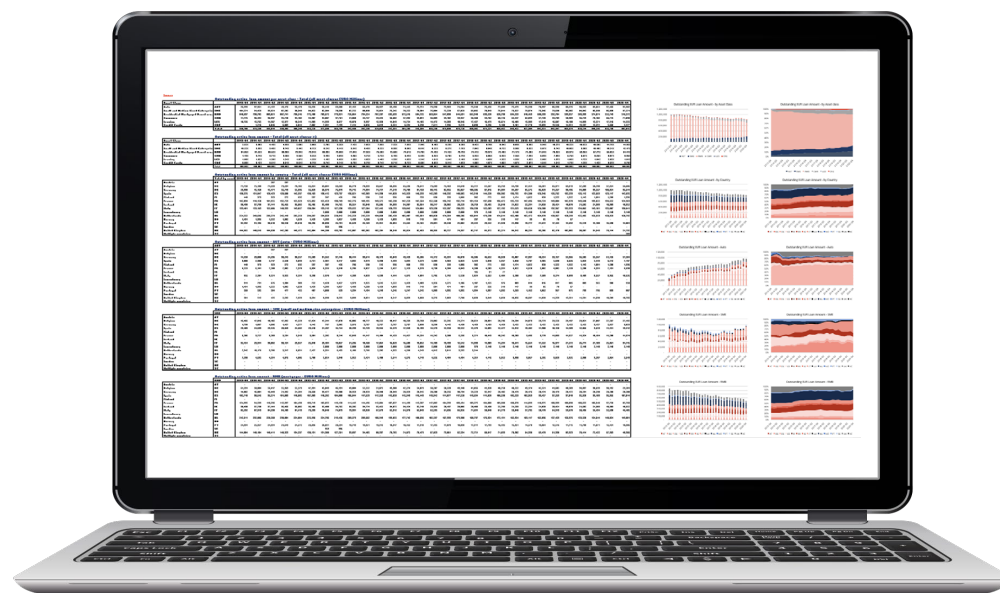
OUR RESEARCH WEBPAGE

Updated regularly with the latest info



DATA AVAILABILITY REPORT NOW AVAILABLE AS PDF

Updated regularly with the latest info



COVID-19 RESEARCH REPORT SERIES

Regular reports on the impact of COVID-19

EUROPEAN
DATAWAREHOUSE

CONVERTING DATA INTO MARKET TRUST.



MONITORING THE IMPACT OF COVID-19: Q1 2021 RMBS REPORT

PLEASE NOTE: The December 2020 results published in this report were calculated with the data available as of mid-February 2021 and these are thus based on an incomplete data set due to the reporting lag¹. Our results are also based on securitisation data, which does not fully represent lenders' assets:

- Securitised loans tend to be of better quality than non-securitised loans.
- Securitisation is not equally important in all countries and to all lenders.
- Large securitisations may disproportionately affect the overall statistics².

To view and download the Excel version of our [RMBS COVID-19 Tracker](#), please click on the link.

From mid-March 2020, most European countries enacted social distancing measures to control the COVID-19 pandemic. Despite the severity of the crisis, mortgage delinquencies generally increased only moderately in Q2 2020, and receded to pre-COVID-19 levels in most markets afterwards.

In such circumstances, loan moratoria/payment holidays, are a fairer indicator of performance than arrear levels.

Given the lack of reporting homogeneity for moratoria/payment holidays, we have therefore

identified three types of loan modifications likely to indicate a payment holiday or moratorium.

We find that periodic loan modifications peaked in March/April/May 2020 and decreased over the summer. From September 2020, loan modifications were trending back towards their pre-pandemic levels.

Additionally, payment holiday observations differ widely across European countries, likely reflecting the varying severity levels of the crisis and the measures implemented to counter its effects. Loan modifications due to COVID-19



¹ See: [Data Timing and Timeliness Report](#)

² See: [Data availability report](#) for details on data availability and deal concentration by market

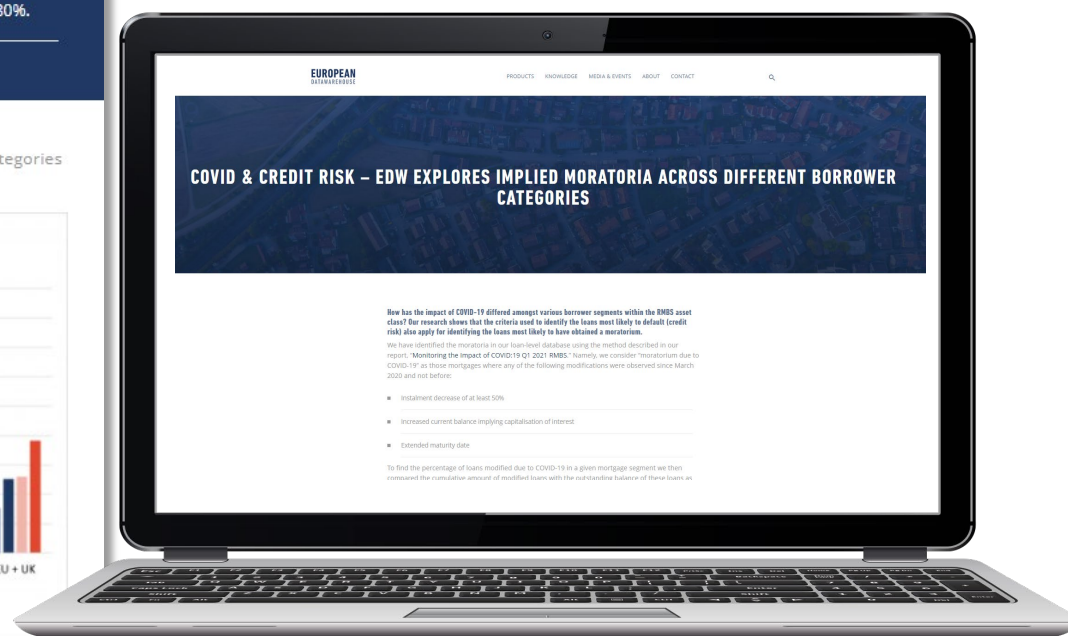
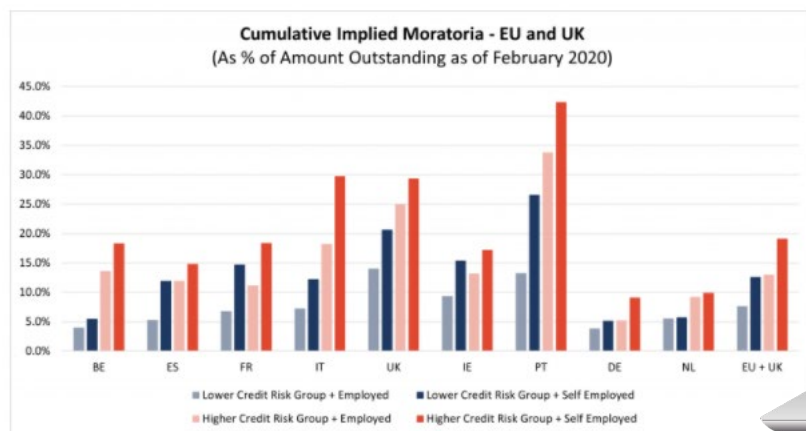
OUR BLOG

Timely focus on a specific topic

Credit risk categories are classified as follows:

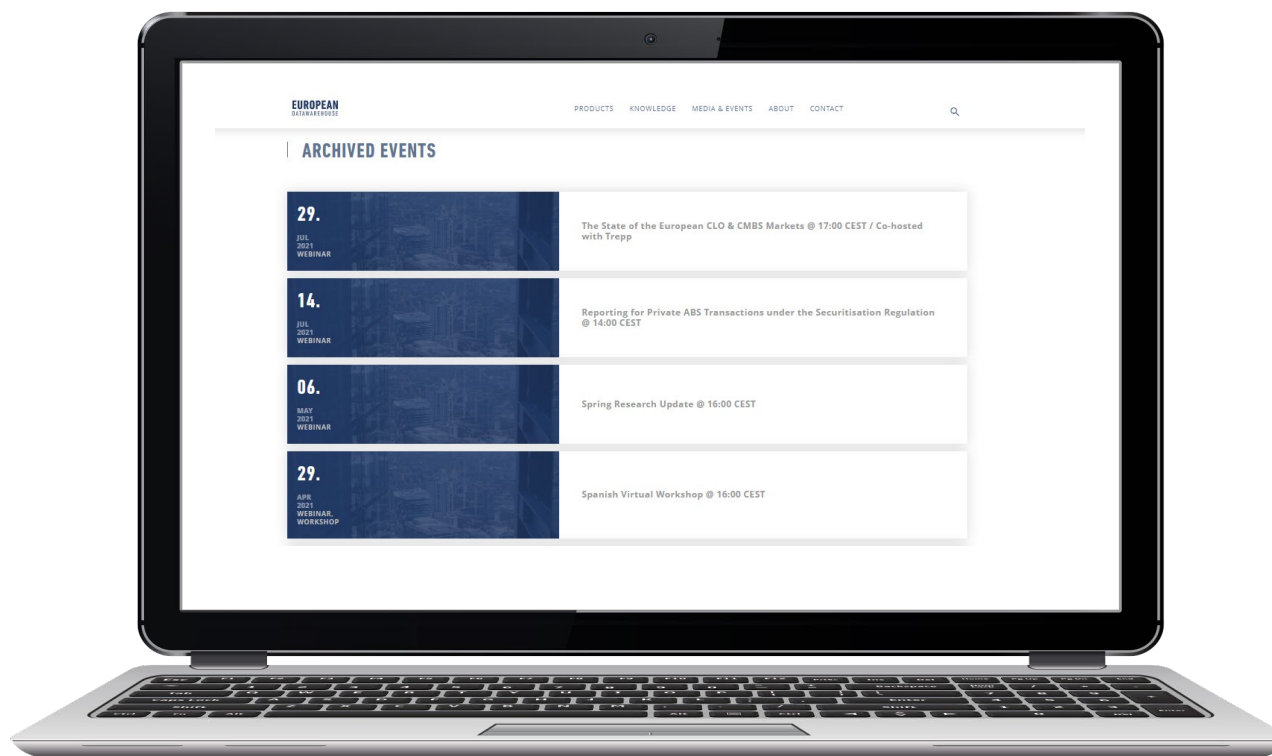
- **"Lower Credit Risk"** loans are those featuring all three of the following characteristics 1) Debt service to income less than 20% and 2) Current debt less than twice the yearly income and 3) CLTV less than 80%.
- **"High Credit Risk"** loans are those featuring all the following characteristics 1) Current debt service to income more than 20% and 2) Debt more than twice the yearly income and 3) CLTV more than 80%.

This chart shows the cumulative % of implied payment holidays, or moratoria, among four categories of mortgages in the EU & UK:



ARCHIVED EVENTS

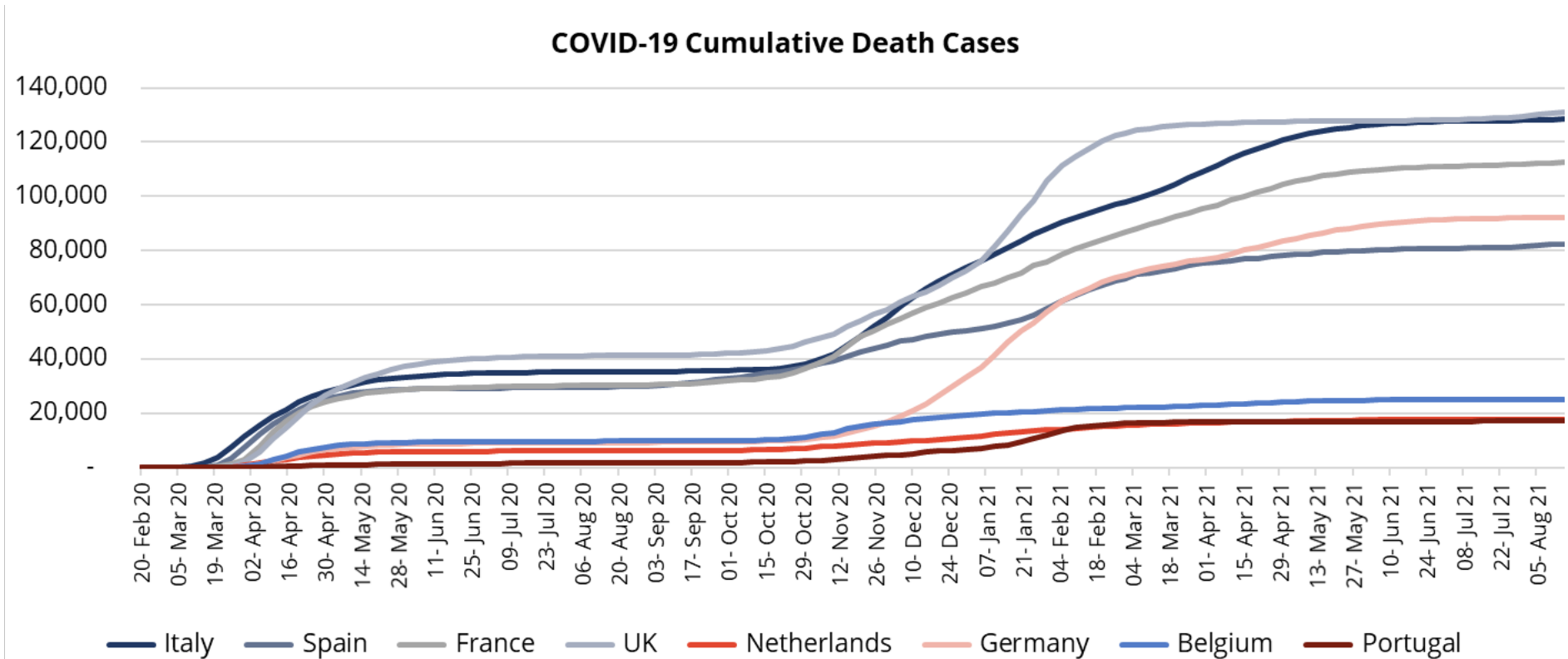
Access previous research update presentation slides



COVID-19 UPDATE

COVID-19 (1)

Casualties are reaching a plateau in European countries



Source: Worldometer

COVID-19 (2)

Belgium, Italy and UK were hit hardest

| | Italy | Spain | France | UK | Nether. | Germany | Belgium | Portugal |
|------------------------------|---------|--------|---------|---------|---------|---------|---------|----------|
| COVID-19 Deaths (15 Aug. 21) | 128,432 | 82,554 | 112,656 | 130,953 | 17,909 | 92,373 | 25,292 | 17,562 |
| Inhabitants (millions) | 60.30 | 47.40 | 67.00 | 66.80 | 17.50 | 83.12 | 11.55 | 10.30 |
| Deaths as % of Population | 0.21% | 0.17% | 0.17% | 0.20% | 0.10% | 0.11% | 0.22% | 0.17% |

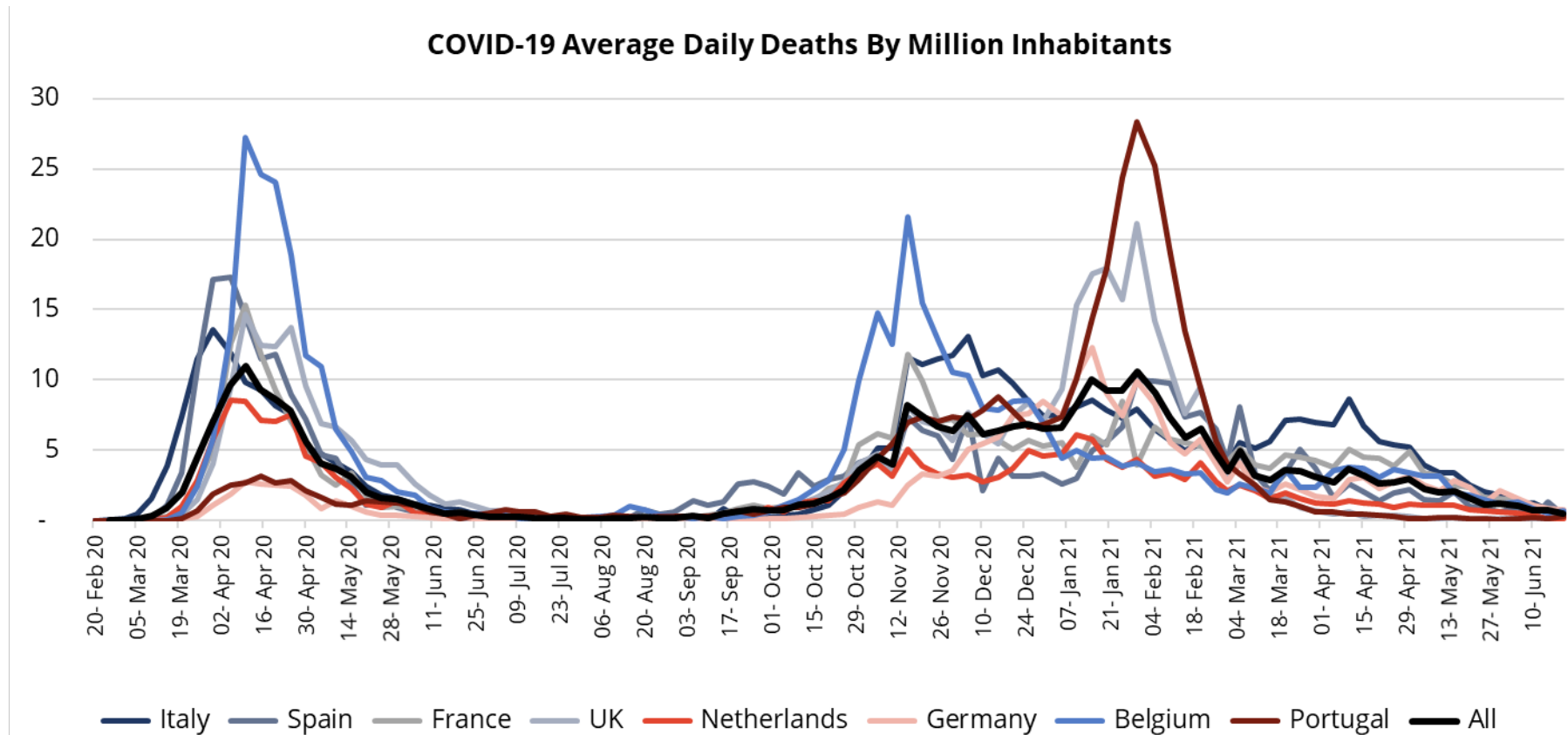
Source: EDW, Worldometer

Looking at deaths as % of population:

1. Belgium, Italy, UK - COVID-19 deaths represent 0.20% - 0.22% of population
2. Spain, France, Portugal - COVID-19 deaths represent 0.17% of population
3. Casualties proportionally lowest in Netherlands and Germany in 0.1% range

COVID-19 (3)

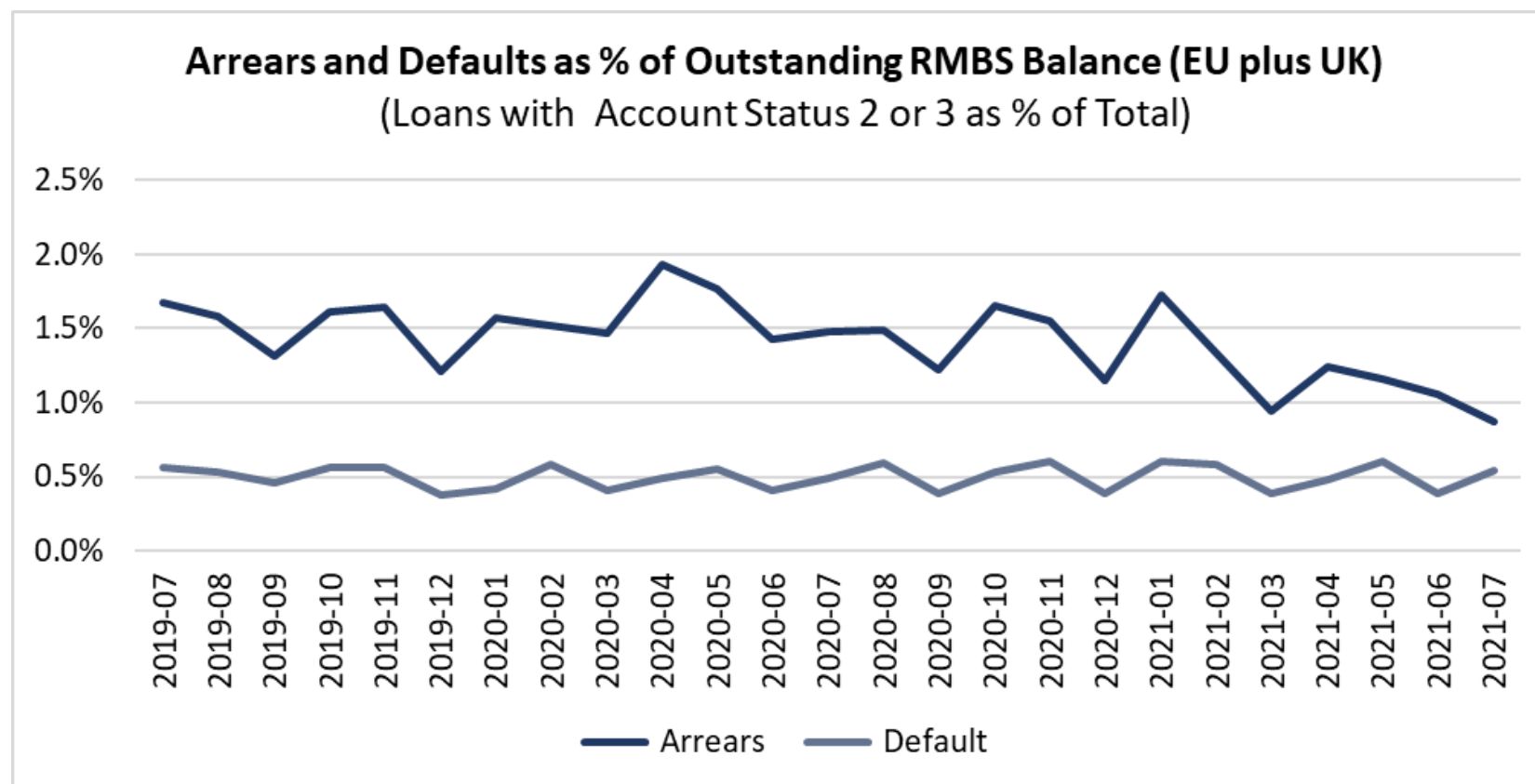
Vaccination strategy is helping casualties trend lower.



Source: Worldometer

DELINQUENCIES OF DEFAULTS (MORTGAGES)

No wave of delinquencies and defaults so far...



Source: EDW

ECONOMIC SUPPORT FROM GOVERNMENTS

Some countries relied more on income support, others relied more on debt relief

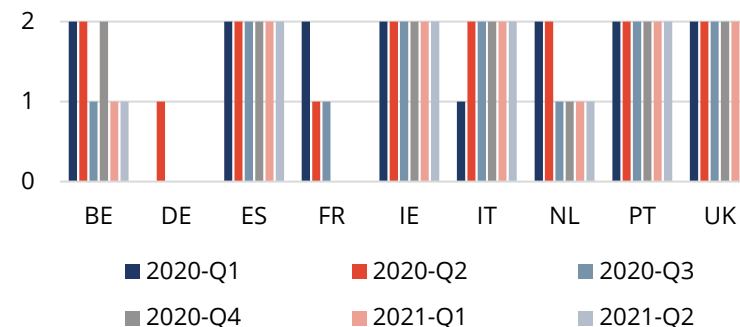
Record if the government is freezing financial obligations for households (eg stopping loan repayments, preventing services like water from stopping, or banning evictions)

0 - no debt/contract relief

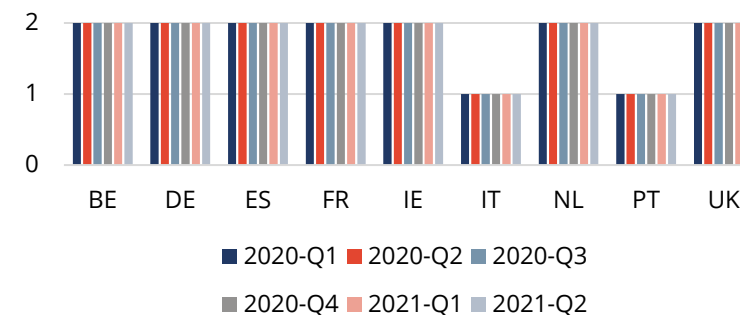
1 - narrow relief, specific to one kind of contract

2 - broad debt/contract relief

Debt Relief



Income Support



Record if the government is providing direct cash payments to people who lose their jobs or cannot work.

Note: only includes payments to firms if explicitly linked to payroll/salaries

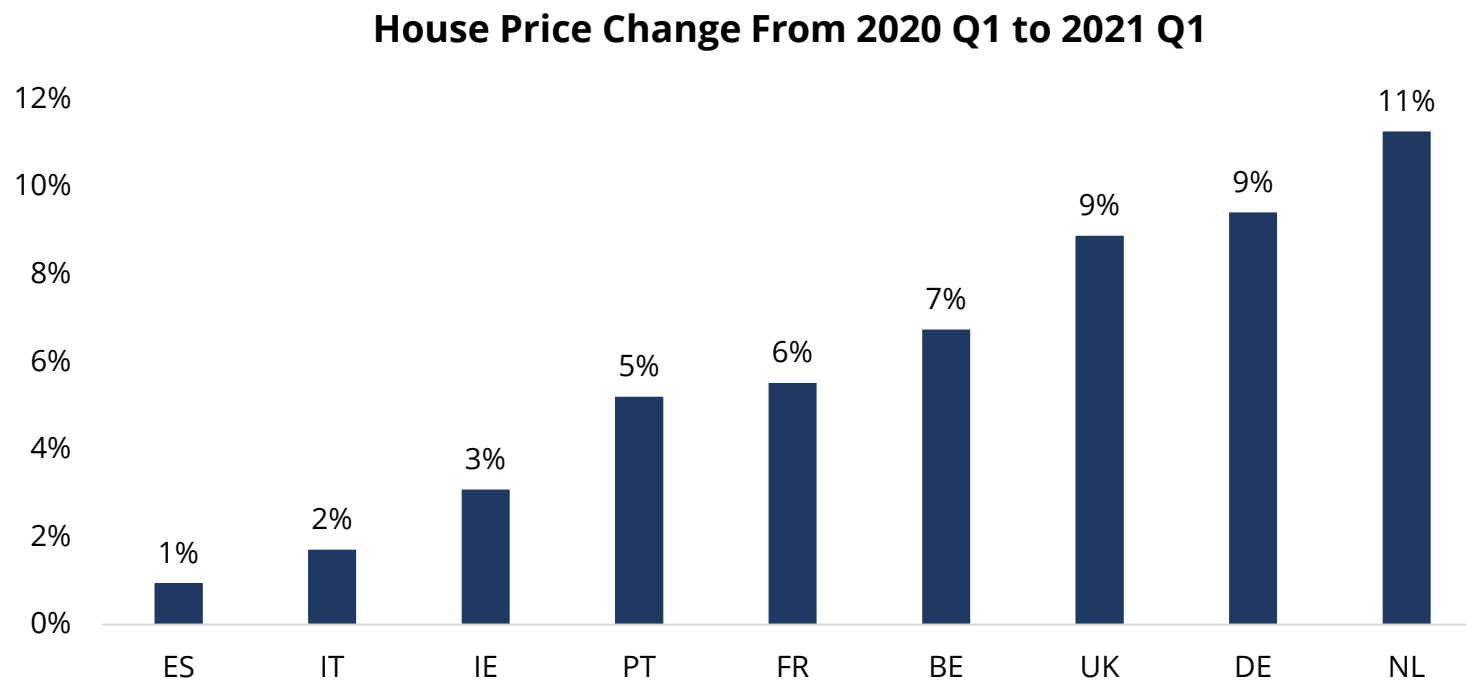
government is replacing less than 50% of lost salary (or if a flat sum, it is less than 50% median salary)

government is replacing 50% or more of lost salary (or if a flat sum, it is greater than 50% median salary)

Source: Economic Support Index. Oxford University

HOUSE PRICE CHANGE BETWEEN 2020 Q1 AND 2021 Q1

Prices increased more in some countries than others



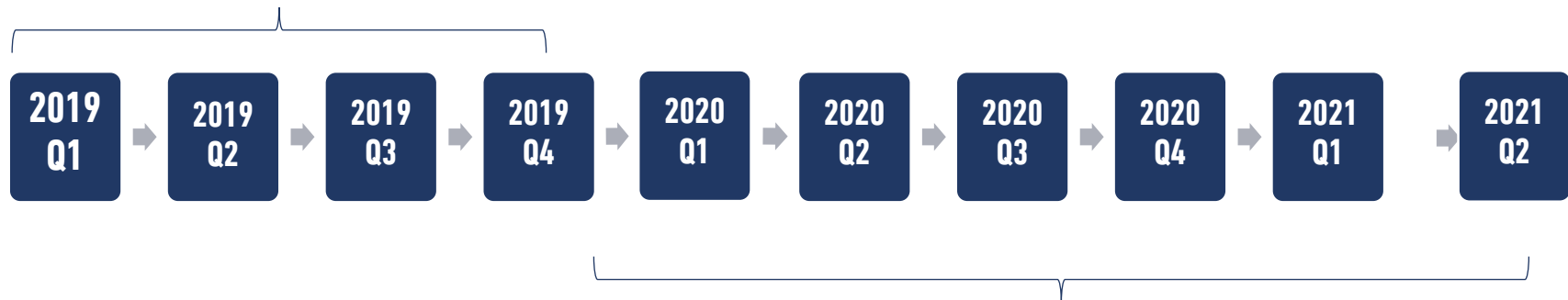
Source: Eurostat (existing dwellings) and ONS UK (average house prices)

MONITORING MORATORIA

METHODOLOGY

We check if the loans that amortised regularly before COVID also amortised after

Select loans whose Current Balance at the end of each quarter is less than the quarter before

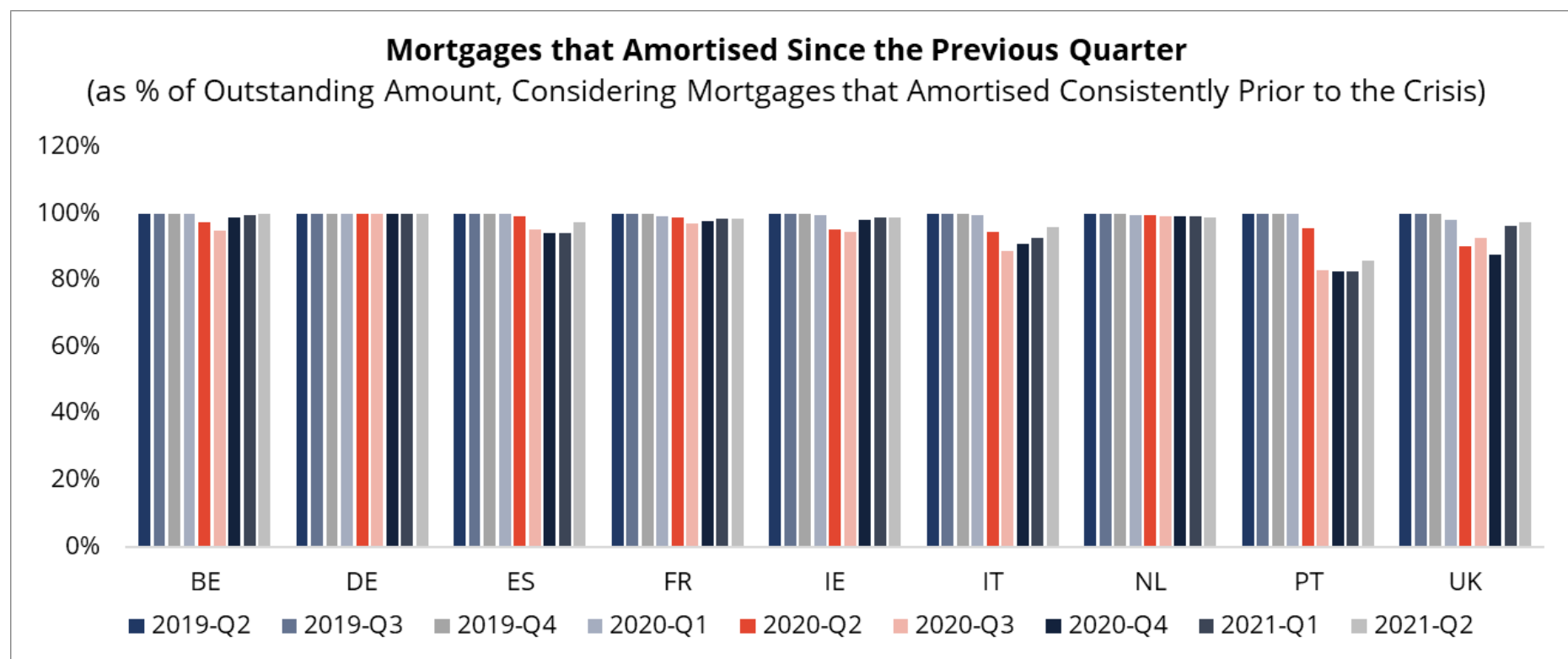


Calculate the portion of selected loans that still had a decrease in balance in each of the following quarters

Note: Only the loans with a positive Current Balnce from 2019 Q1 to 2021 Q2 are used in the analysis

RESIDENTIAL MORTGAGES

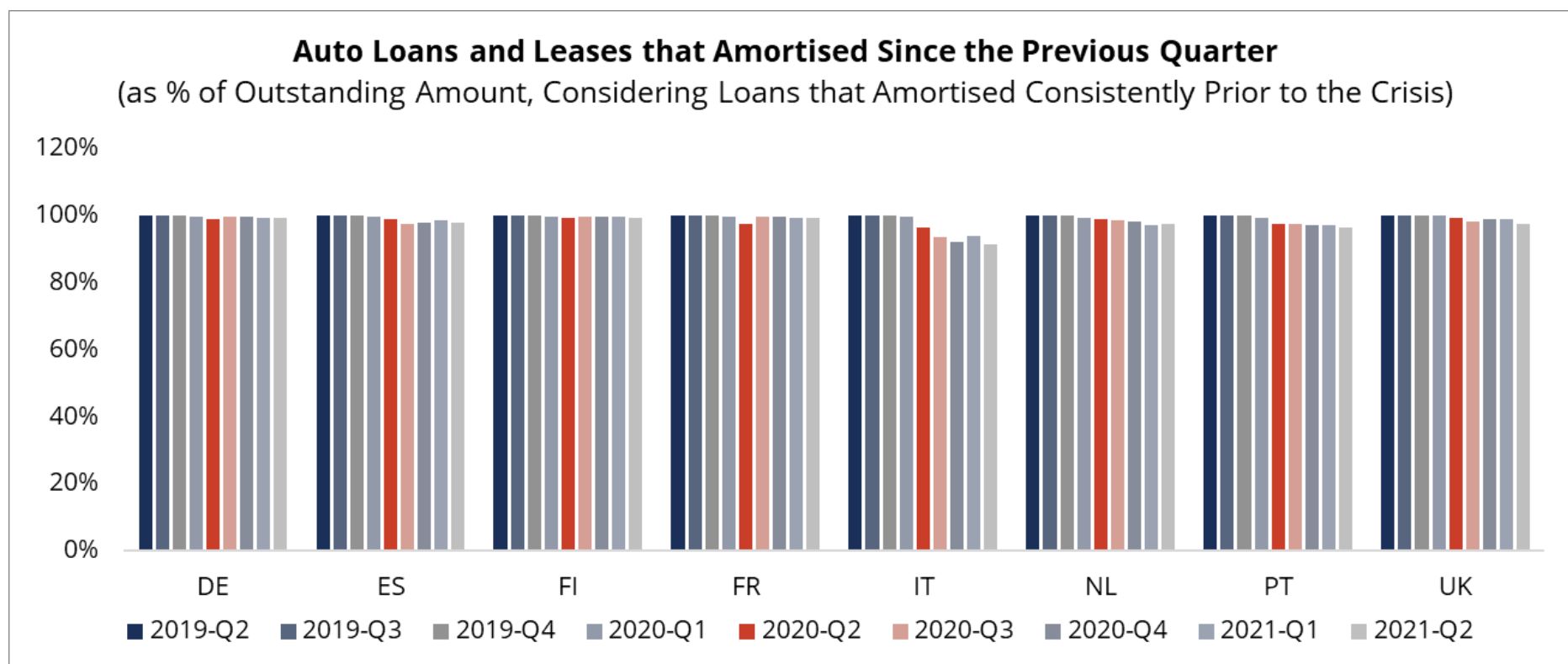
Borrowers in some countries appear to have started paying again



Source: European DataWarehouse calculations

AUTO LOANS

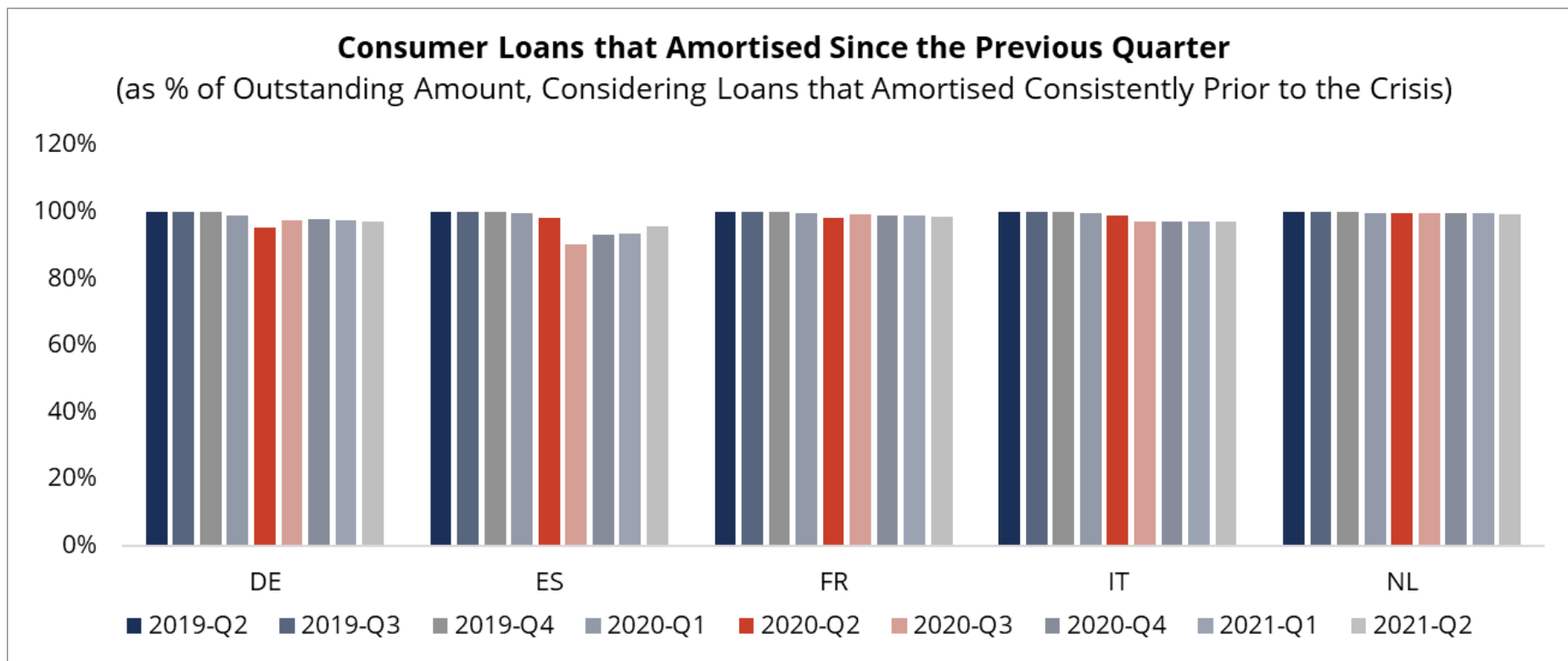
The impact on Auto loans seems to have been limited so far, except in Italy



Source: European DataWarehouse calculations

CONSUMER LOANS

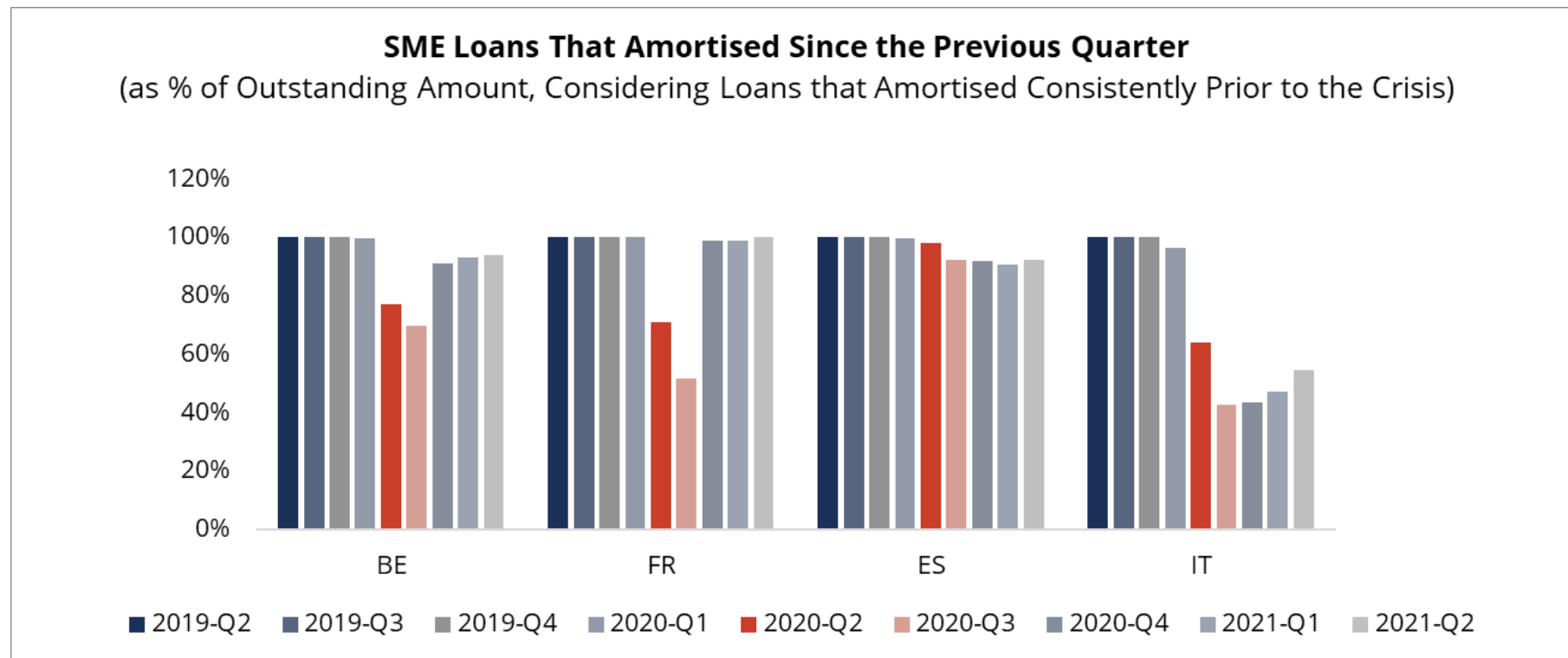
The impact on Consumer loans was also limited



Source: European DataWarehouse calculations

SME LOANS

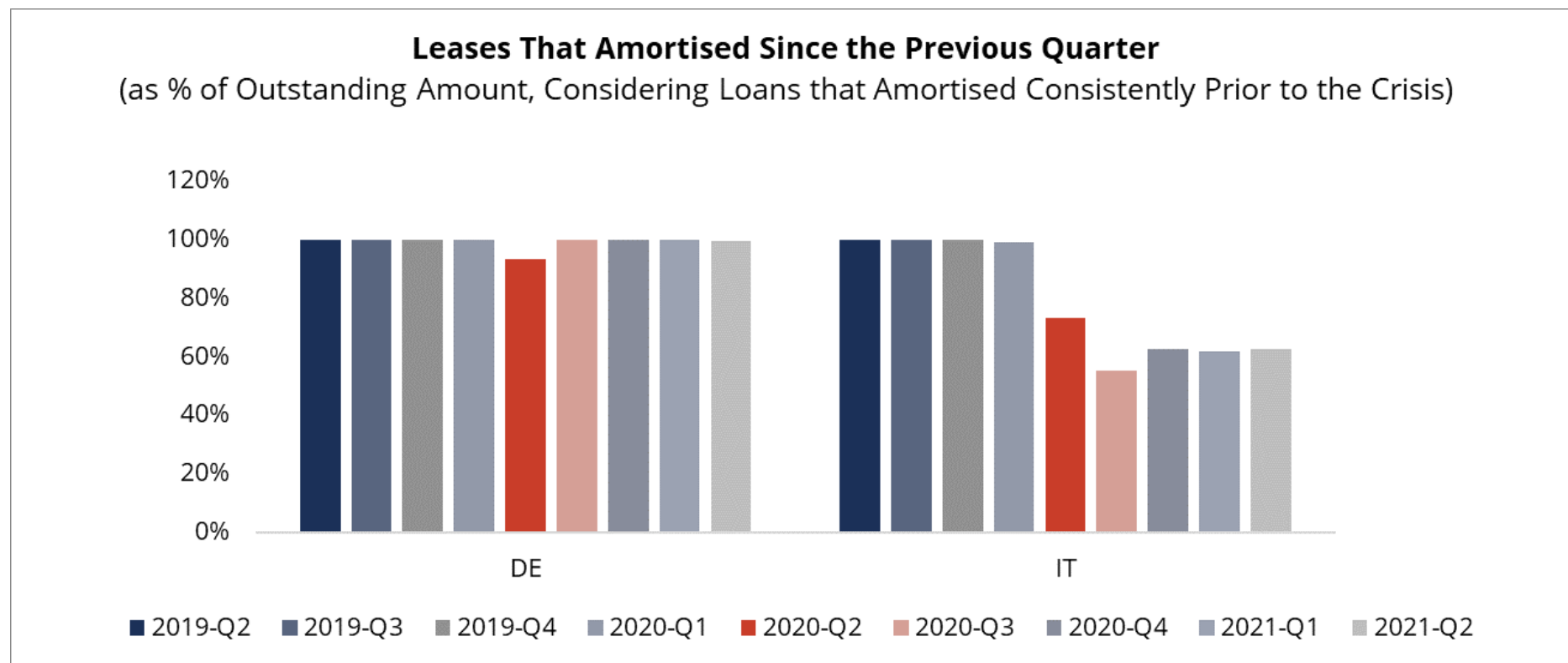
The impact on SME loans is particularly severe in Italy



Source: European DataWarehouse calculations

LEASES

Same observation for leases, clear impact in Italy



Source: European DataWarehouse calculations

IDENTIFYING MORATORIA – SPOTLIGHT ON MORTGAGES

IMPLIED PAYMENT HOLIDAYS (FOR RMBS)

Three criteria to detect loans in payment holiday:

1. Extended maturity date
2. 2a) “loan balance static or increased” or 2b) “loan balance increased” (we tried both)
3. Instalment decreased by at least 50%

The category “Any of 3” identifies all the loans for which:

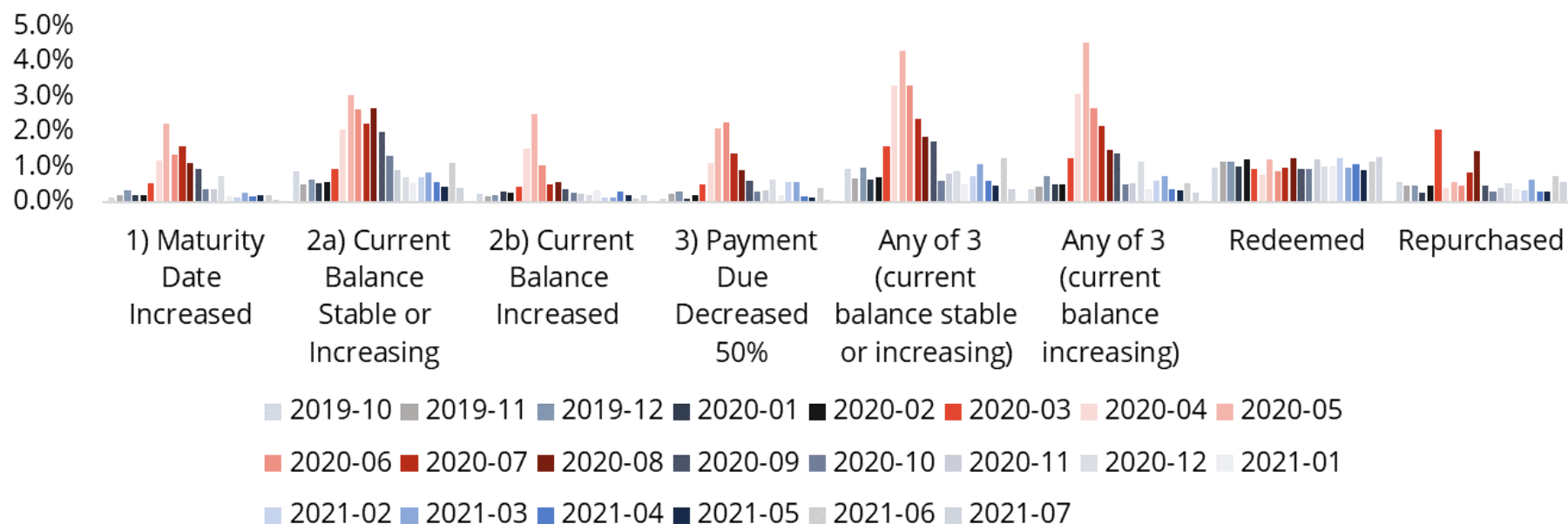
- None of the flags were raised before COVID-19
- At least one of these flags was raised since COVID-19

Note: We have considered first loan modifications, but we know that some loans were modified multiple times. Other types of loan modifications could also be missing.

IMPLIED PAYMENT HOLIDAYS (FOR RMBS)

Loan modifications soared from March 2020 onwards

Periodic Implied Moratoria - EU and UK
(By Type of Modification - As % of Total Outstanding Amount)

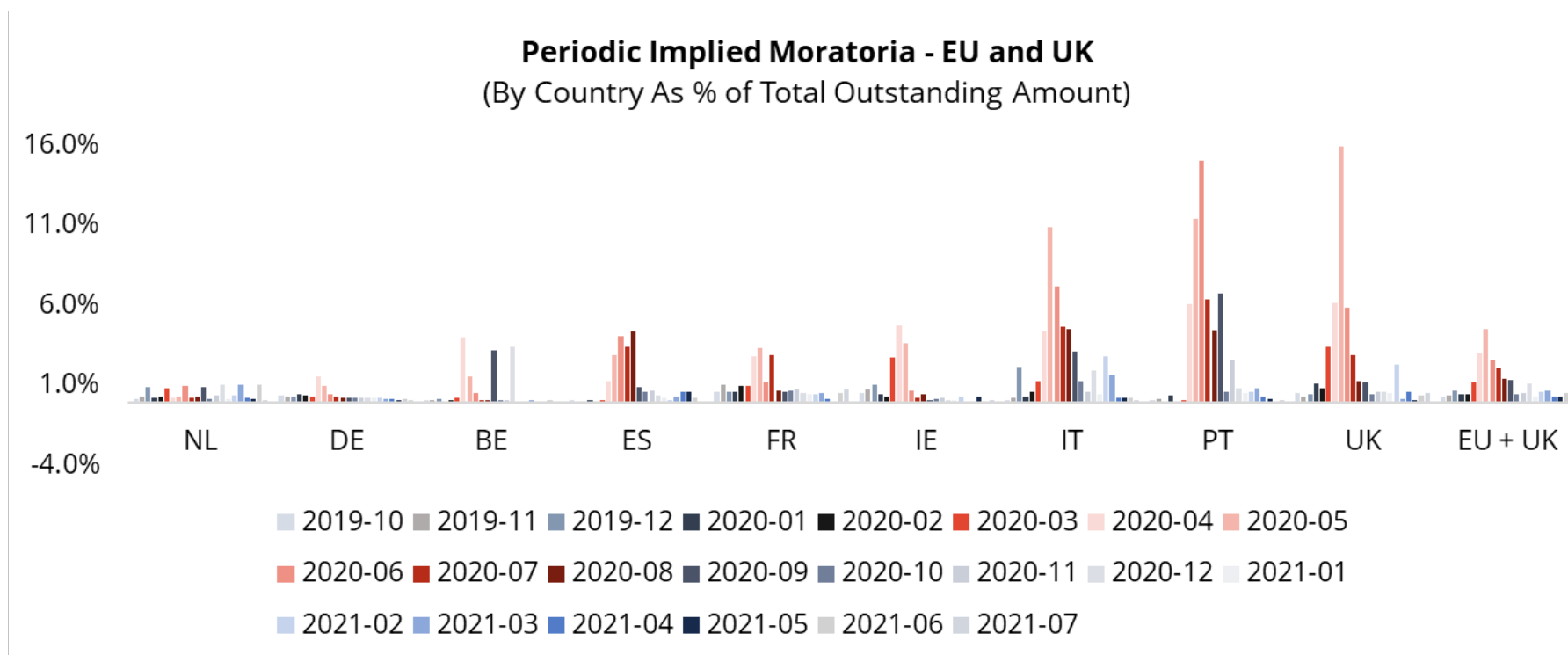


Source: European DataWarehouse calculations

PERIODIC LOAN MODIFICATIONS BY COUNTRY

Loan modifications more prevalent in some countries than others

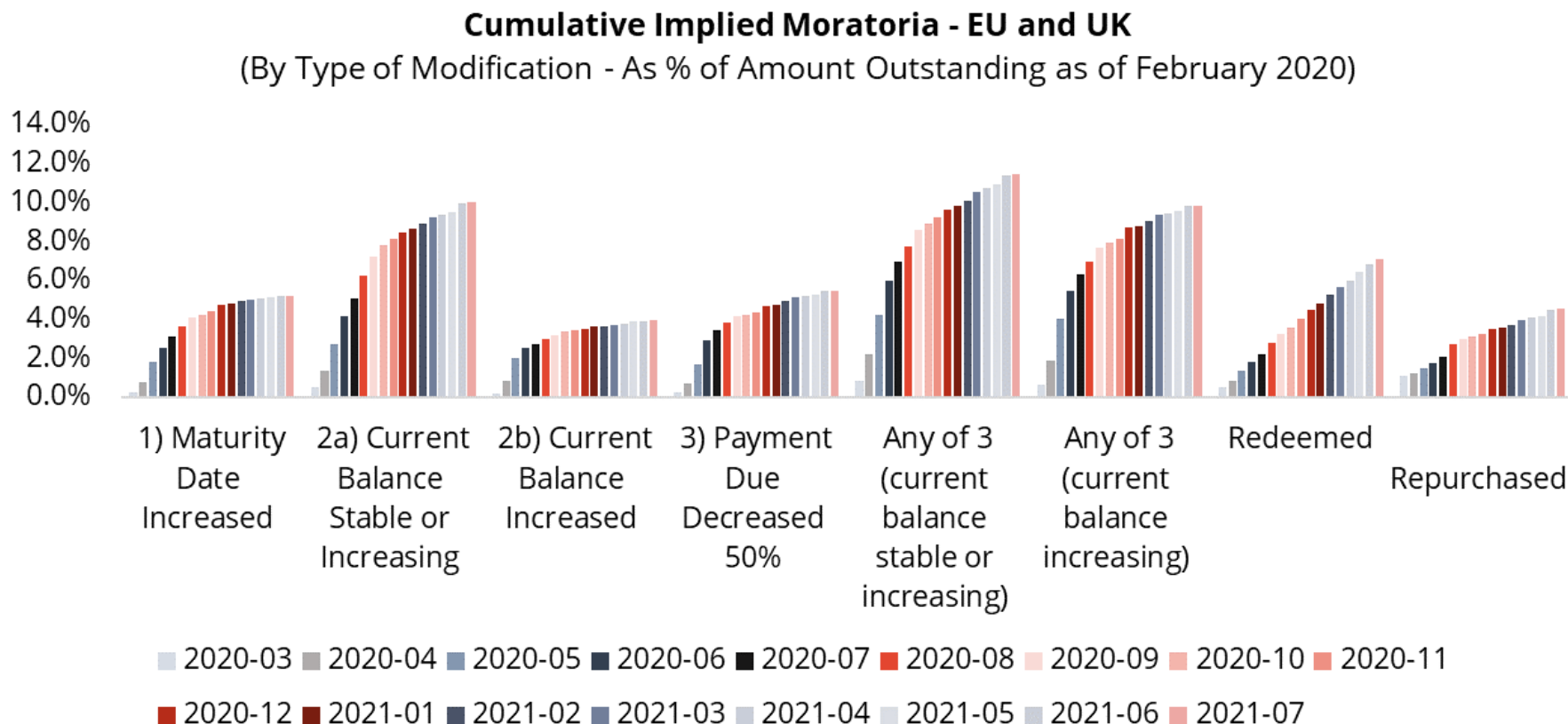
We focus on cases where “Any of Three” were present since COVID and not before.



Source: European DataWarehouse calculations

CUMULATIVE MODIFICATIONS BY MODIFICATION TYPE

Loan modifications more prevalent in some countries than others



Source: European DataWarehouse calculations

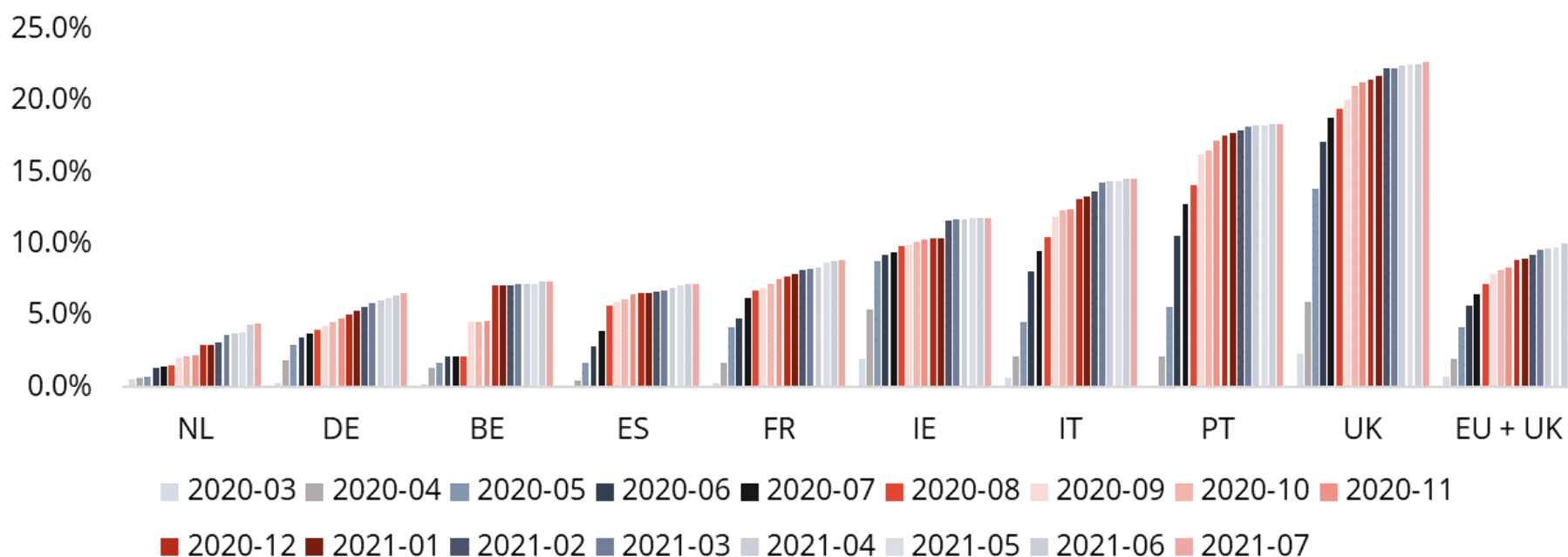
CUMULATIVE MODIFICATIONS BY COUNTRY

Loan modifications more prevalent in some countries than others

We focus on cases any of the three happened since COVID and not before: where 1) loan balance increased or 2) amount due decreased 50% or 3) maturity was extended at least once since COVID

Cumulative Implied Moratoria - EU and UK

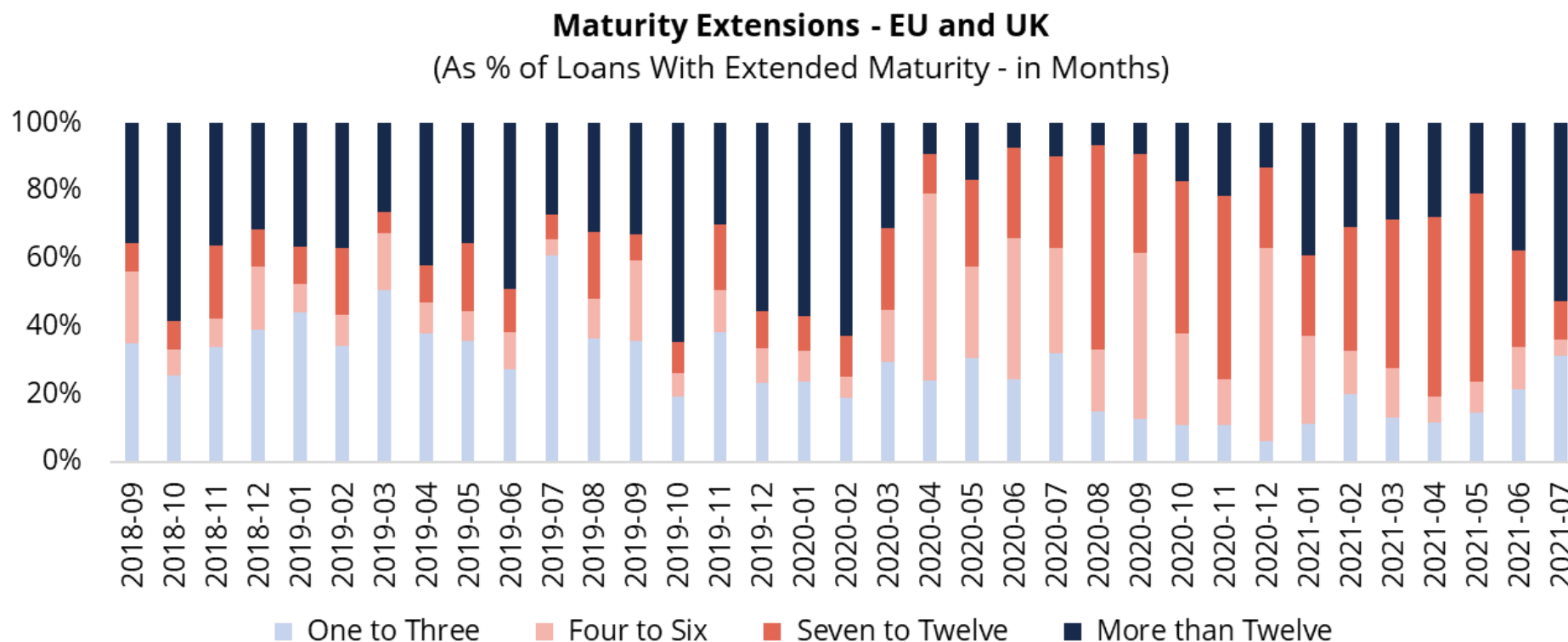
(By Country - As % of Amount Outstanding as of February 2020)



Source: European DataWarehouse calculations

MATURITY EXTENSIONS

Most maturity extensions in 4-12 month range since COVID-19



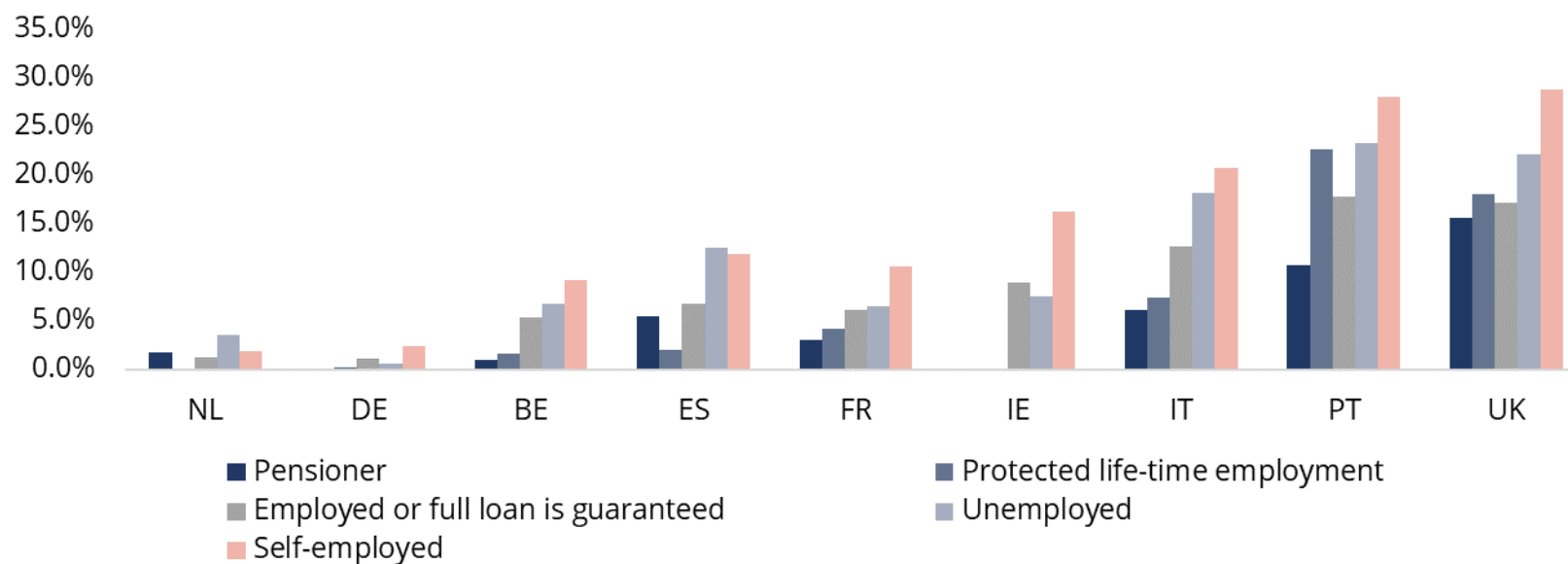
Source: European DataWarehouse calculations

CREDIT RISK AND MORATORIA

MORATORIA AND EMPLOYMENT STATUS

The self-employed needed moratoria more often than others

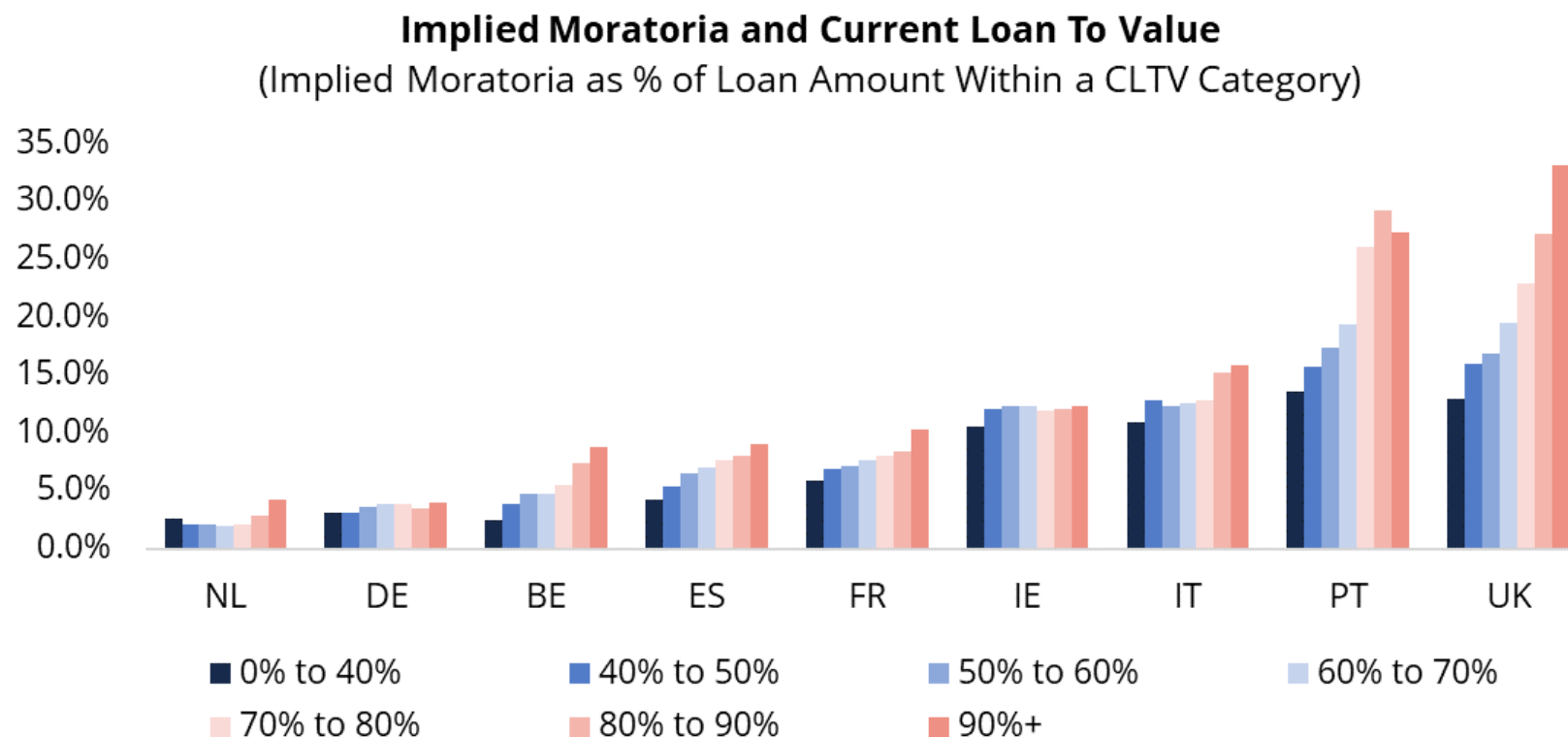
Implied Moratoria and Employment Type - EU and UK
(Moratoria as % of Loan Amount For an Employment Category)



Source: European DataWarehouse calculations

MORATORIA AND CURRENT LOAN TO VALUE

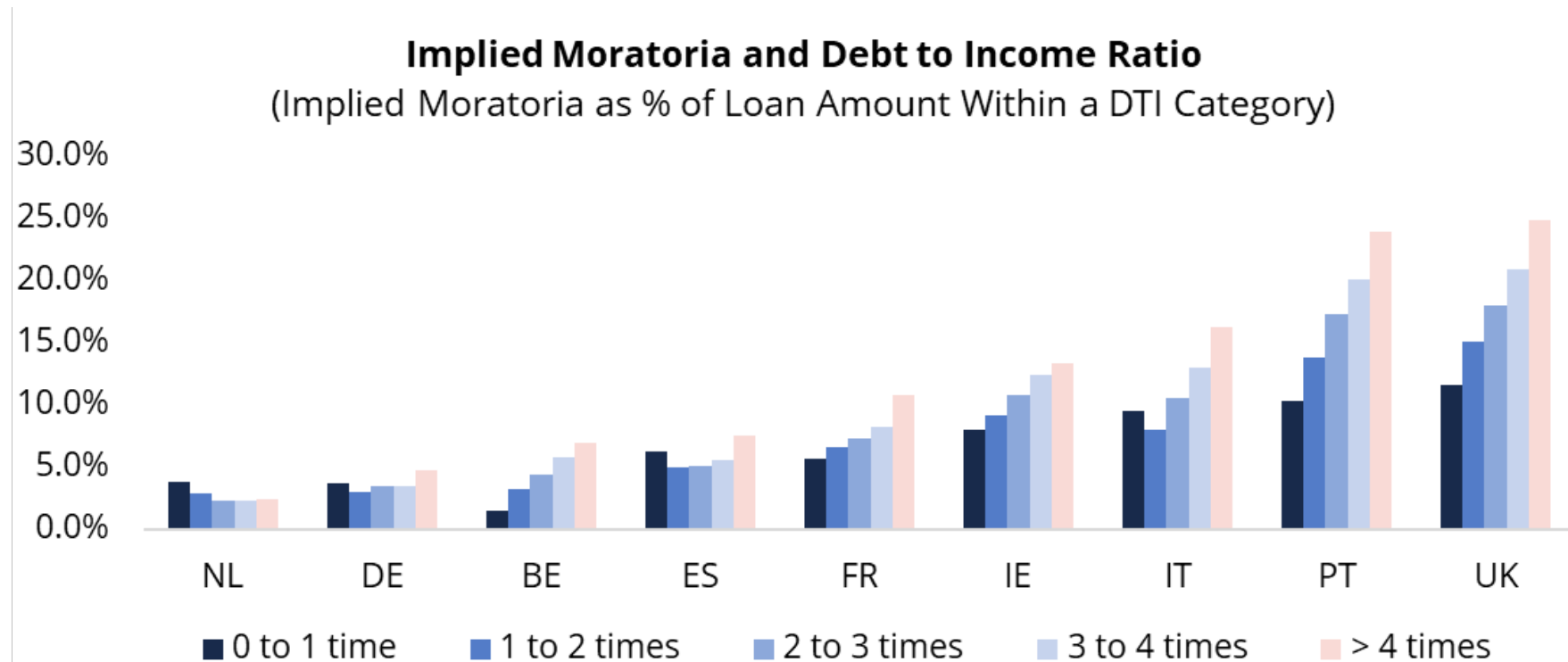
In most markets a higher CLVT = greater likelihood of moratorium



Source: European DataWarehouse calculations

MORATORIA AND DEBT TO INCOME

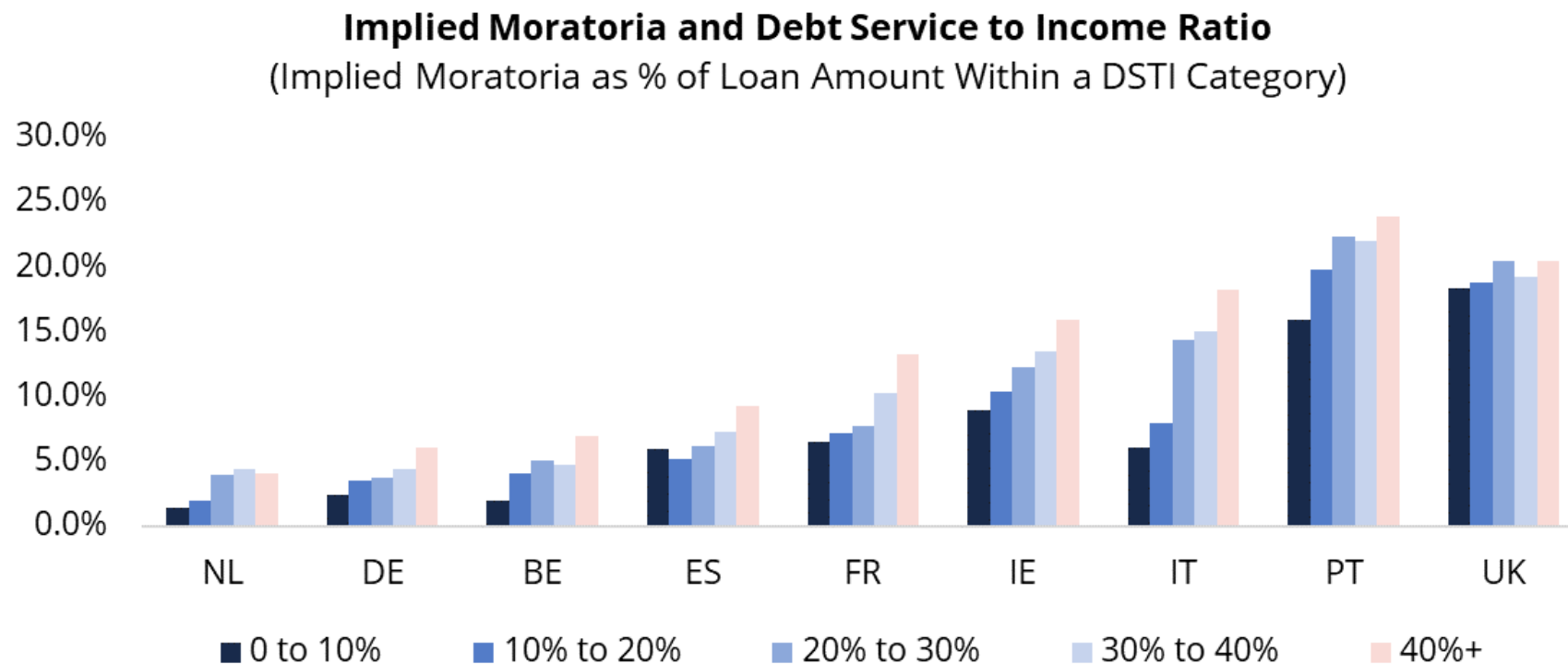
In most markets a higher DTI = greater likelihood of moratorium



Source: European DataWarehouse calculations

MORATORIA AND DEBT SERVICE TO INCOME

In most markets a higher DSTI = greater likelihood of moratorium

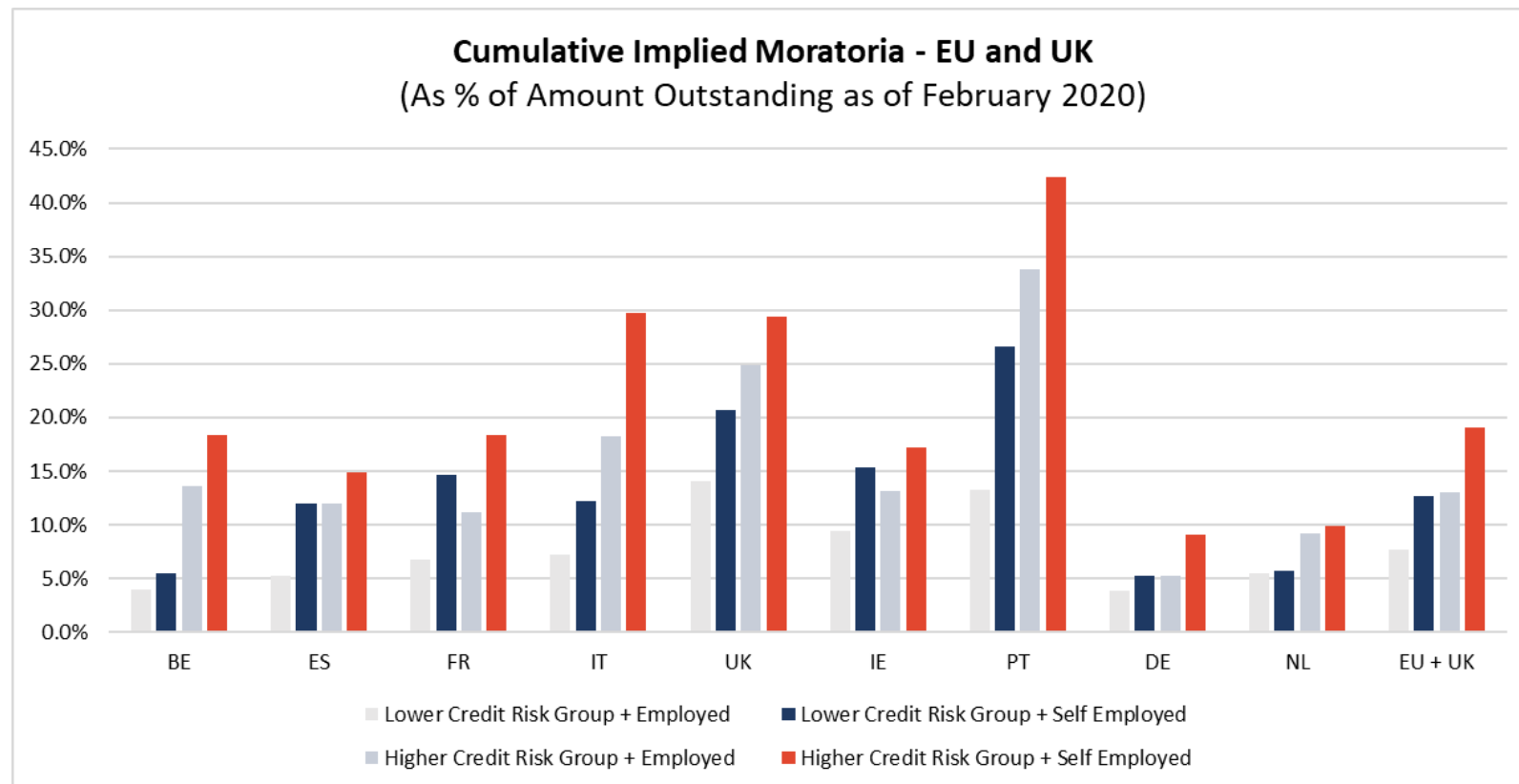


Source: European DataWarehouse calculations

MORATORIA AND CREDIT RISK

“Lower Credit Risk” loans feature: 1) Debt service to income less than 20% and 2) Current debt less than twice the yearly income and 3) CLTV less than 80%.

“Higher Credit Risk” loans feature: 1) Current debt service to income more than 20% and 2) Debt more than twice the yearly income and 3) CLTV more than 80%.



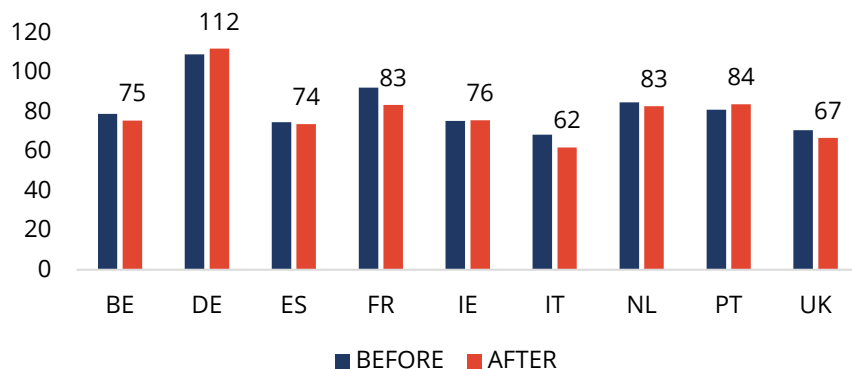
Source: European DataWarehouse calculations

IMPACT ON MORTGAGE ORIGINATION

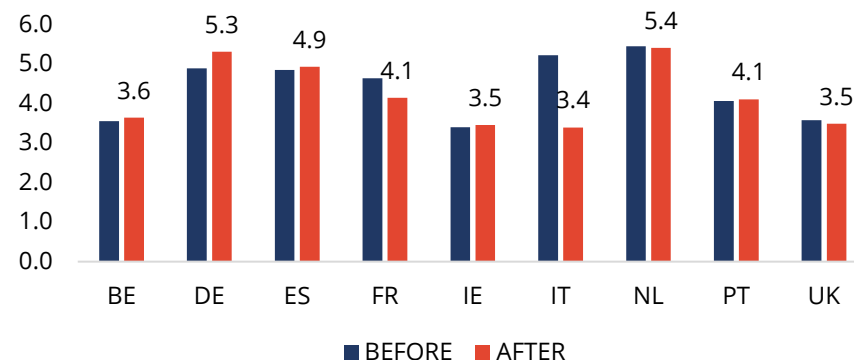
LOANS ORIGINATED 18 MONTHS BEFORE VS 18 MONTHS AFTER COVID 19

Most Credit risk characteristics show a decrease in risk except maybe Spain

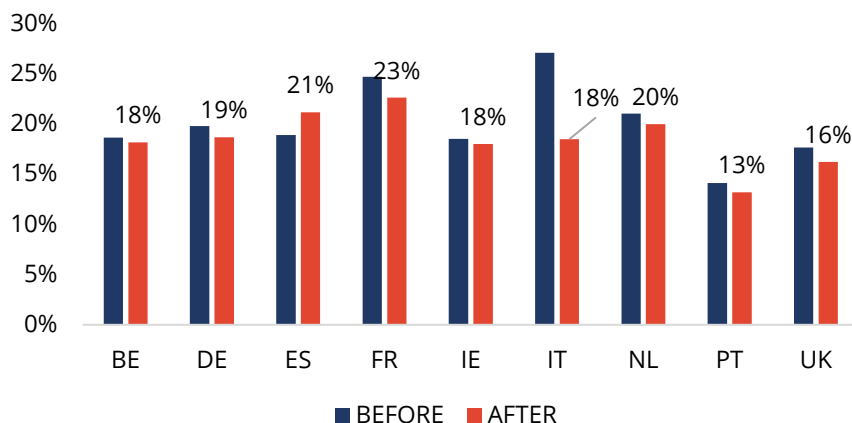
Original Loan To Value



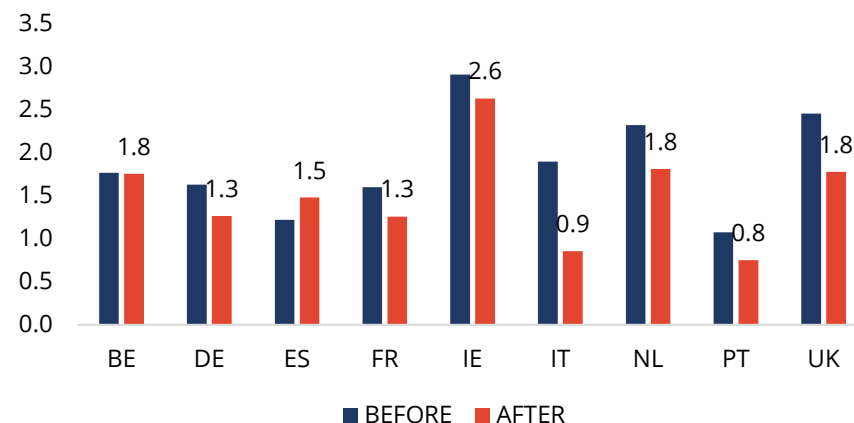
Debt To Income Multiple



Debt Service To Income Ratio



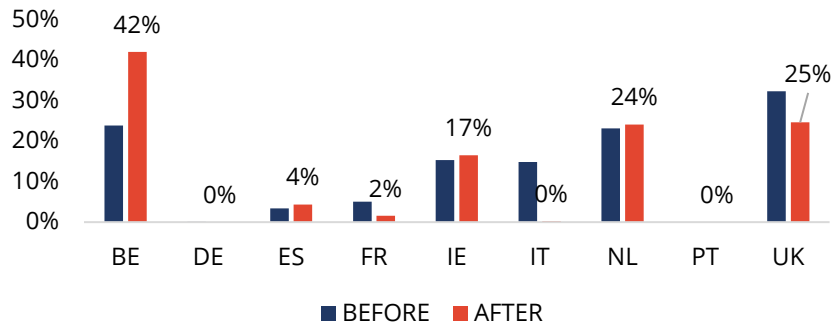
Interest Rates (%)



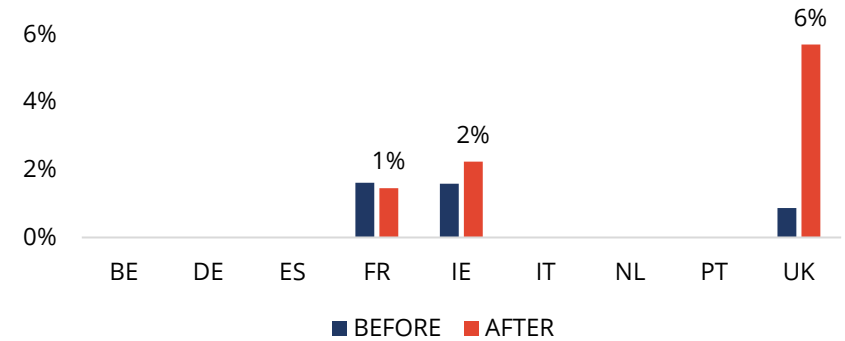
LOANS ORIGINATED 18 MONTHS BEFORE VS 18 MONTHS AFTER COVID 19

Loan Purpose – UK and Ireland saw an increase in the portion of loans for consolidating debt and releasing equity

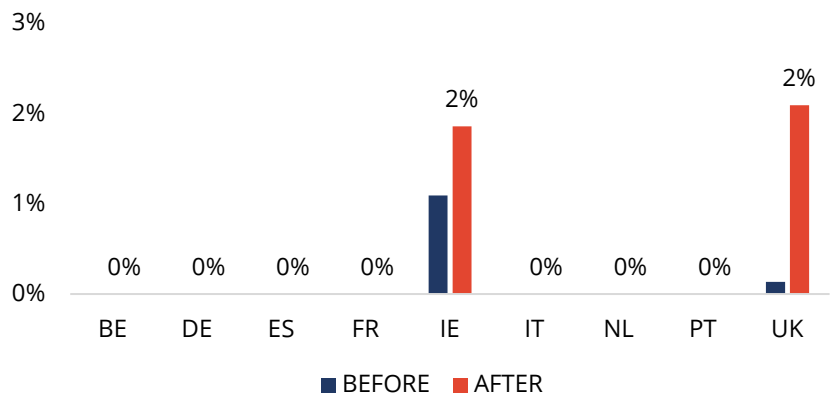
Re Mortgage



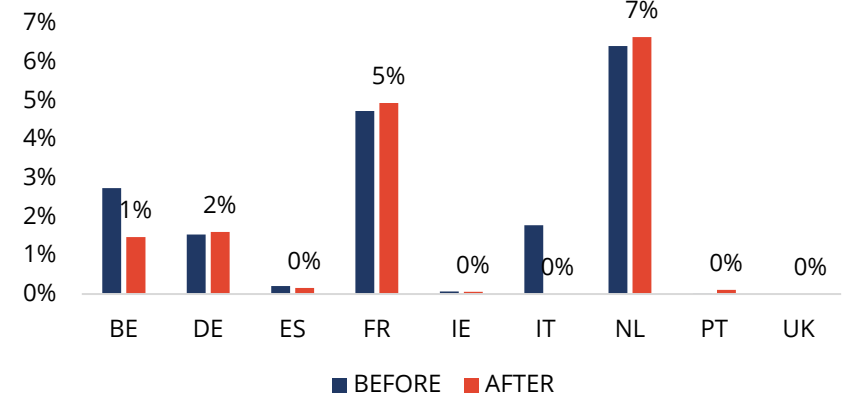
Re Mortgage With Equity Release



Debt Consolidation



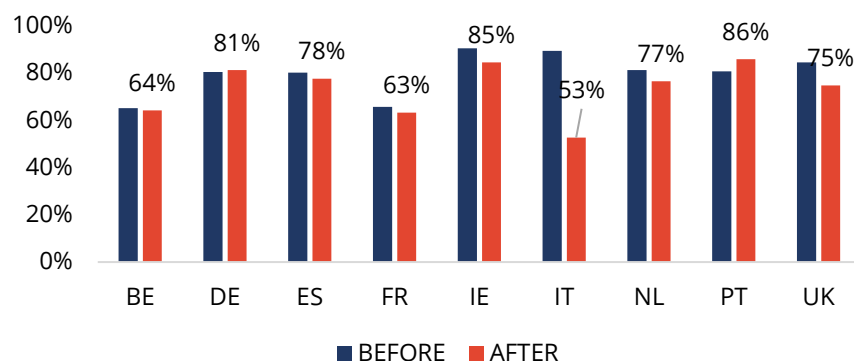
Renovation



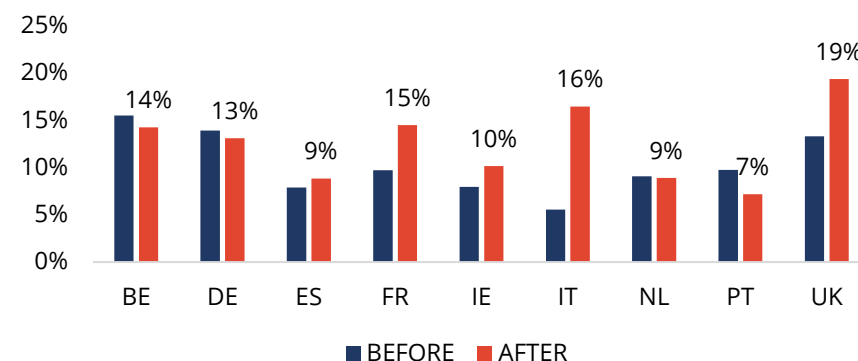
LOANS ORIGINATED 18 MONTHS BEFORE VS 18 MONTHS AFTER COVID 19

EMPLOYMENT STATUS – self-employed borrowers were issued proportionally more loans than before in some countries

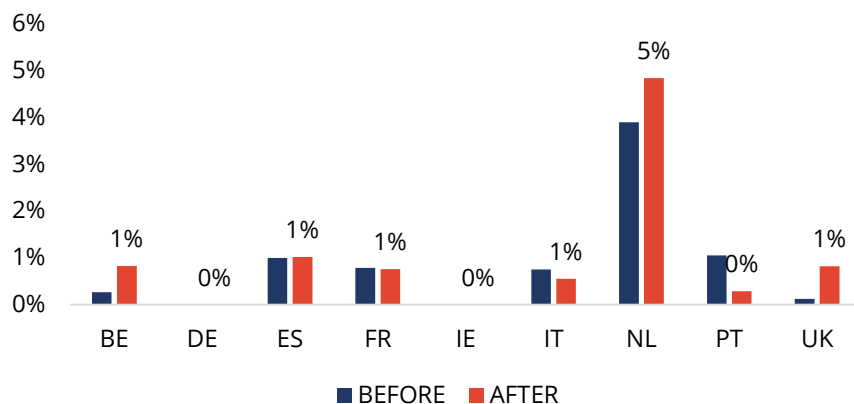
Employed or Full Loan Guaranteed



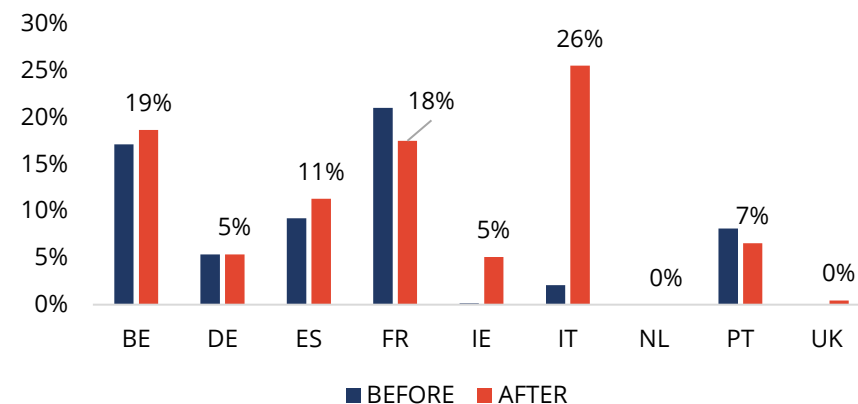
Self Employed



Pensioner



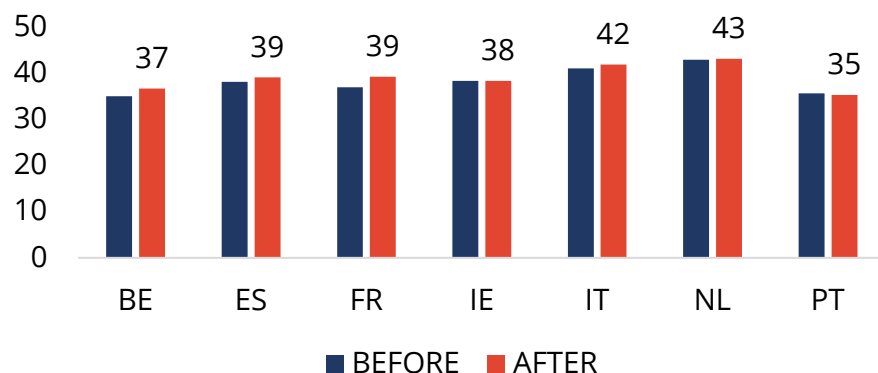
Protected Life Time Employment



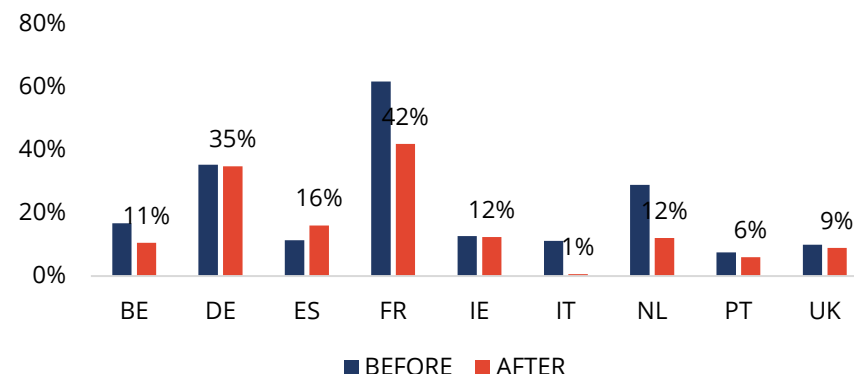
LOANS ORIGINATED 18 MONTHS BEFORE VS 18 MONTHS AFTER COVID 19

No sign of deterioration in Loan Origination standards so far

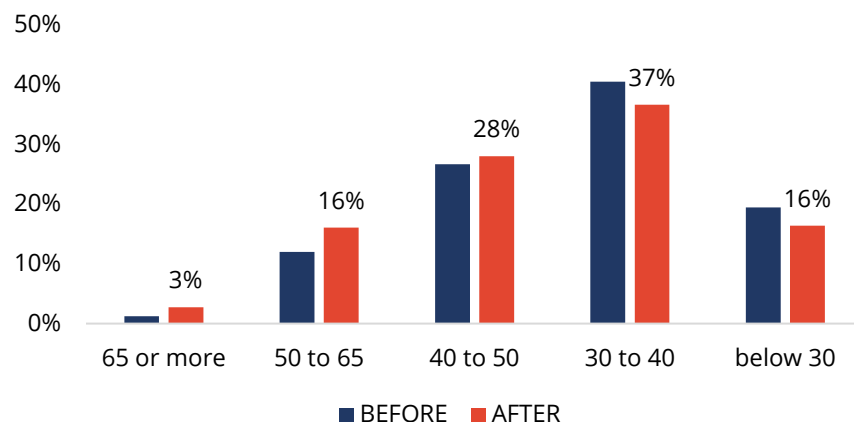
Average Age Of Borrower At Loan Origination



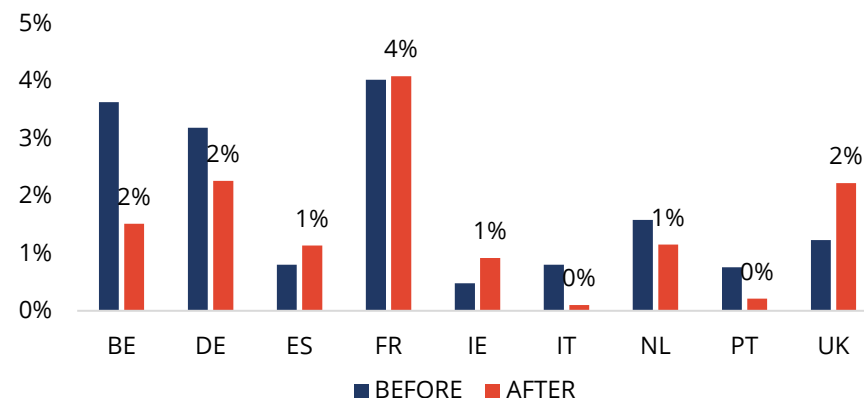
OLTV > 80, DTI > 2, DSTI > 20%



Borrower's Age (EU)



SELF-EMPLOYED, OLTV > 80, DTI > 2, DSTI > 20%





Q&A

EUROPEAN DATAWAREHOUSE'S ENVIRONMENTAL INITIATIVES

EDW will plant more than 2000 trees over the next three years

In light of the current discussion on climate change, European DataWarehouse has decided to support a 3-year-initiative to plant 750 trees per year, sequestering up to 50 metric tons of CO2 annually.



KLIMASCHUTZ - PARTNER



THANK YOU//CONTACT US

EUROPEAN DATAWAREHOUSE GMBH

Walther-von-Cronberg-Platz 2

60594 Frankfurt am Main

 **www.eurodw.eu**

 **enquiries@eurodw.eu**

 **+49 (0) 69 50986 9017**

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.