

SPRING RESEARCH WEBINAR

2021



AGENDA

- INTRODUCTION
- RECENT PUBLICATIONS
- DATA AVAILABILITY REPORT
- ENERGY PERFORMANCE DATA
- COVID-19 UPDATE : payment holidays by asset class
- COVID-19 UPDATE : payment holidays for SMEs
- Q & A

ON TODAY'S CALL



DR. CHRISTIAN THUN
EUROPEAN DATAWAREHOUSE

✉ christian.thun@eurodw.eu



MARINE MAITRE
EUROPEAN DATAWAREHOUSE

✉ marine.maitre@eurodw.eu



LUDOVIC THEBAULT, PHD
EUROPEAN DATAWAREHOUSE

✉ ludovic.thebault@eurodw.eu



USMAN JAMIL
EUROPEAN DATAWAREHOUSE

✉ usman.jamil@eurodw.eu

RECENT RESEARCH PUBLICATIONS

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

DATA AVAILABILITY REPORT

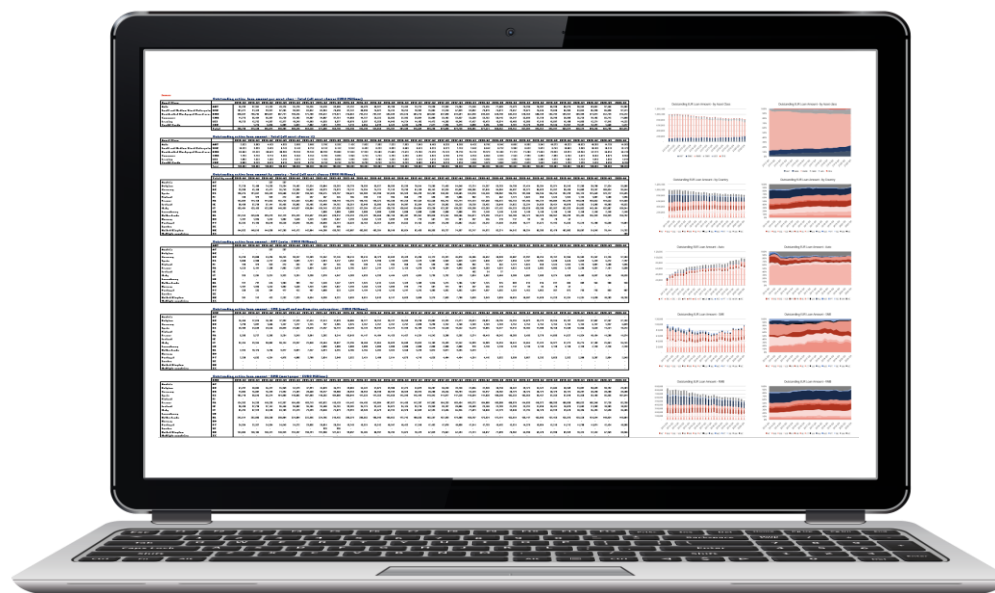
Updated regularly with the latest info

DATA AVAILABILITY REPORT Q4 2020

European DataWarehouse's (EDW) database contains more than seven years of data representing most of Europe's public securitisations.

The EDW Data Availability Report provides quarterly statistics on the outstanding number of active securitisations, loan amounts, number of loans, borrowers, as well as loan level data (LLD) uploads to our database. We also drill down to show the outstanding amounts over time for each of the 1436 securitisations, as well as illustrating deal concentration for some of the main markets we cover.

This excel report features detailed information for all the deals hosted on our platform. As of Q4 2020, the number of active deals in our database totalled 643 vs 655 in Q4 2013 (Exhibit 1).



COVID-19 RESEARCH REPORT SERIES

Regular reports on the impact of COVID-19

EUROPEAN
DATAWAREHOUSE

CONVERTING DATA INTO MARKET TRUST.



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

VENICE – NEW HOT SPOT FOR HOLIDAYS OF A DIFFERENT KIND

Built upon a lagoon 1600 years ago in the Veneto region of Italy, the historical city of Venice is among Europe's top tourist hot spots.

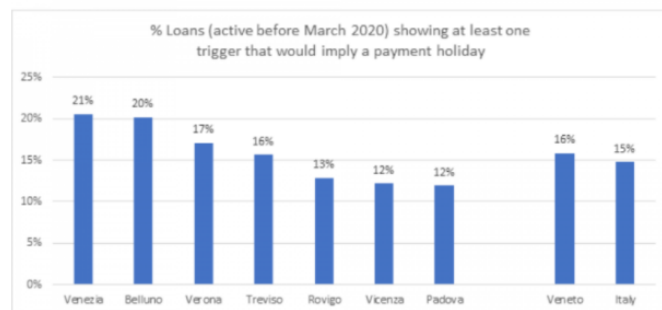
Increasing living costs have over the years, however, led to a decrease in the city's resident population and an increase in the concentration of properties for rent.

Now, with the impact of the pandemic on tourism greatly affecting economic activity in the city, European DataWarehouse research shows that Venice is experiencing an increase in holidays of a different kind.

Compared to other nearby cities in the region, the percentage of payment holidays in Venice is the highest, at 21%. Forty kilometers away in Padova, with its more diversified economy, the proportion of payment holidays is significantly lower at 12%.

These percentages represent the portion of loans that were active before March 2020 and have since triggered one of 3 flags that could imply a payment holiday:

- Extended maturity date
- Increased loan balance
- Decreased expected monthly payment due (>50%)



MONITORING THE IMPACT OF COVID-19: CONSUMER LOAN INSIGHTS

We recently looked into the payment holiday statistics for our consumer loans in our dataset. The results were discussed in our webinar on 15 December 2020. In the blog below, we discuss the insights at greater length.

Osman Jamil and Gianluca Ginelli

As no single field in our database fully captures the existence of payment holidays due to COVID-19, we retained three possible criteria to characterize an "implied" loan modification that could indicate a payment holiday, namely an extended maturity date, an increasing current loan balance and/or a decrease of at least 50% of the loan installment.

- An increased maturity date
- An increasing current loan balance
- A decrease of at least 50% of the loan installment

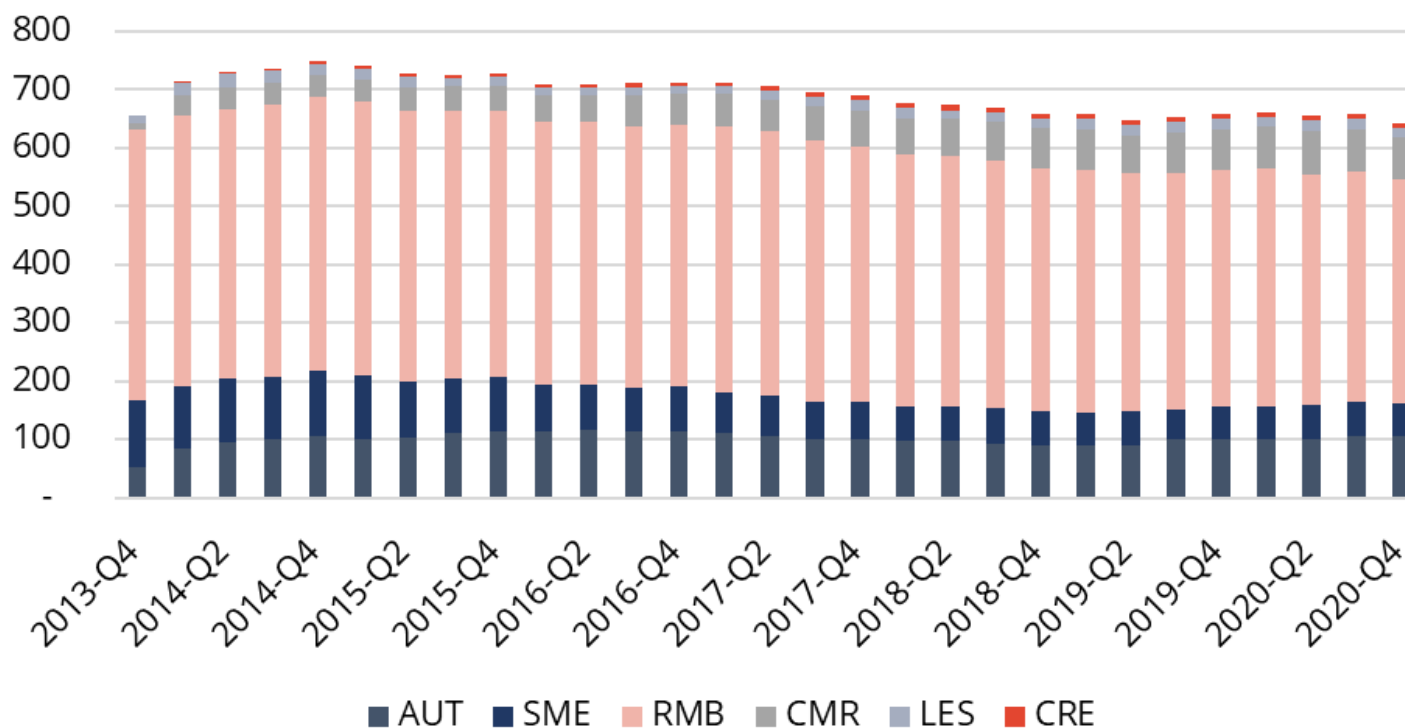
We believe that loans where none of these three events happened prior to the COVID-19 pandemic but one or more of these events have happened since the start of the pandemic (the "any of three" category), are likely to be in payment holiday.

DATA AVAILABILITY REPORT

LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

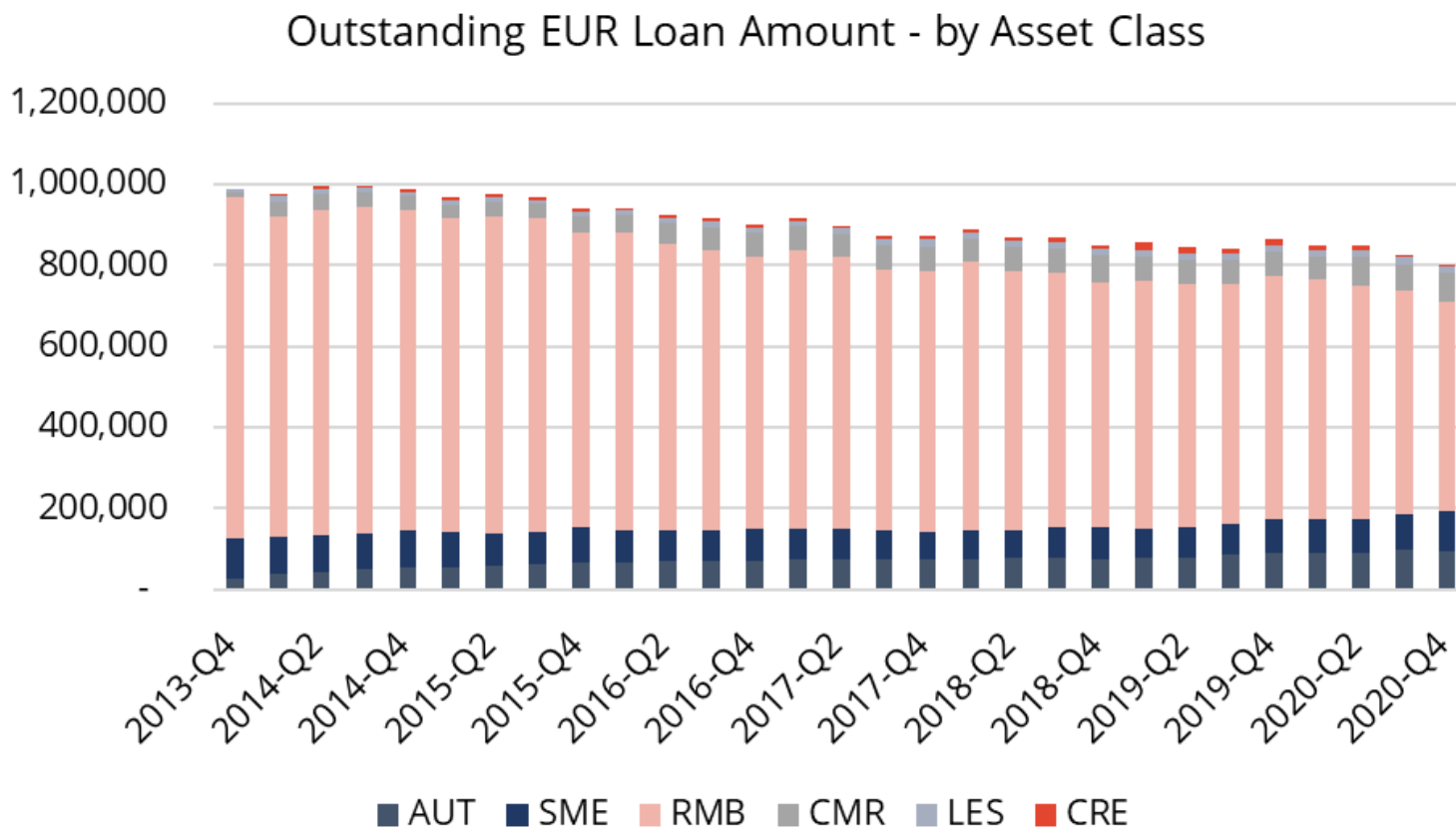
643 ACTIVE DEALS AS OF Q4 2020

Number of Active Deals - by Asset Class



Source: European DataWarehouse

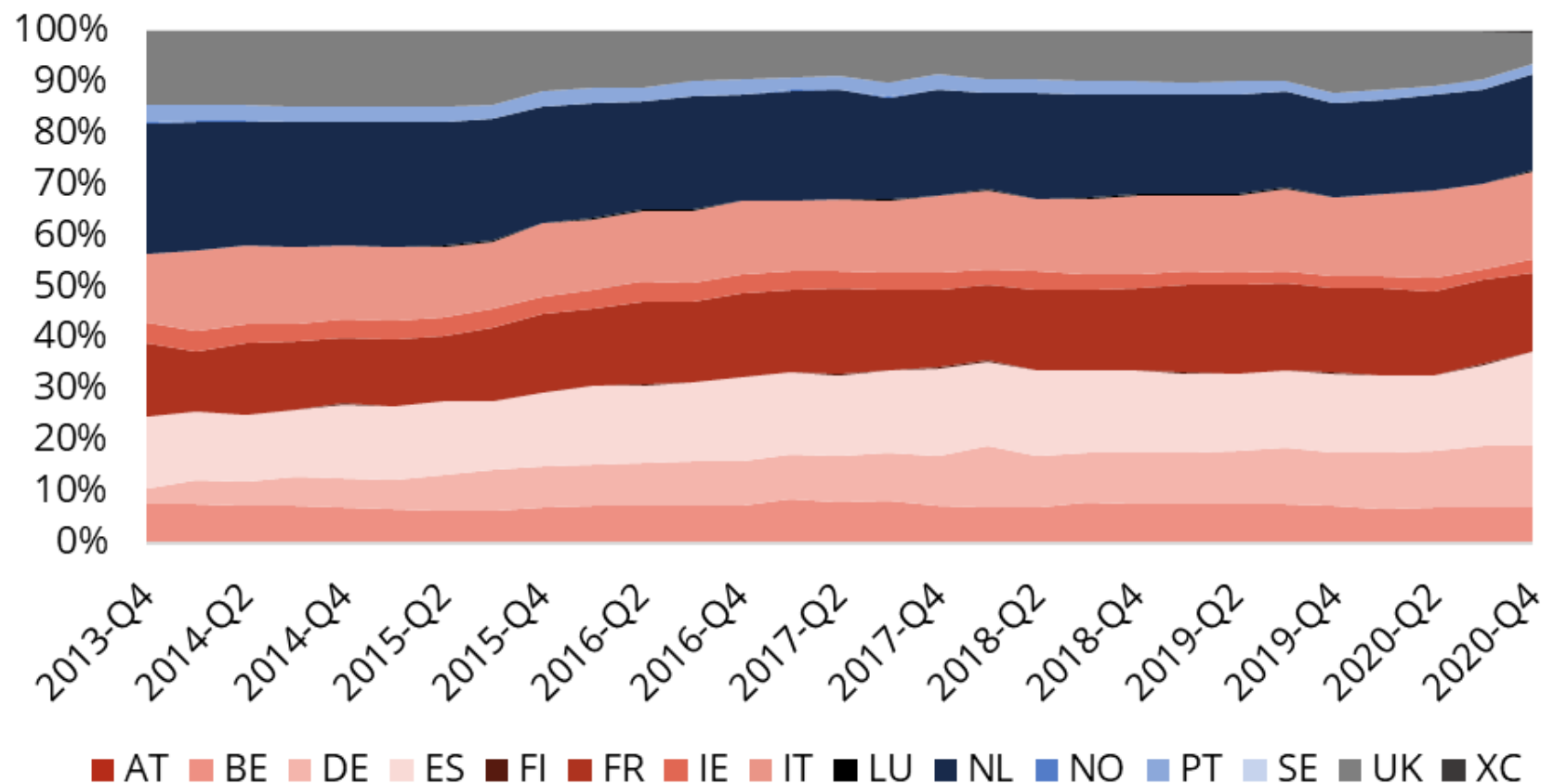
€802 BILLION OUTSTANDING AS OF Q4 2020



Source: European DataWarehouse

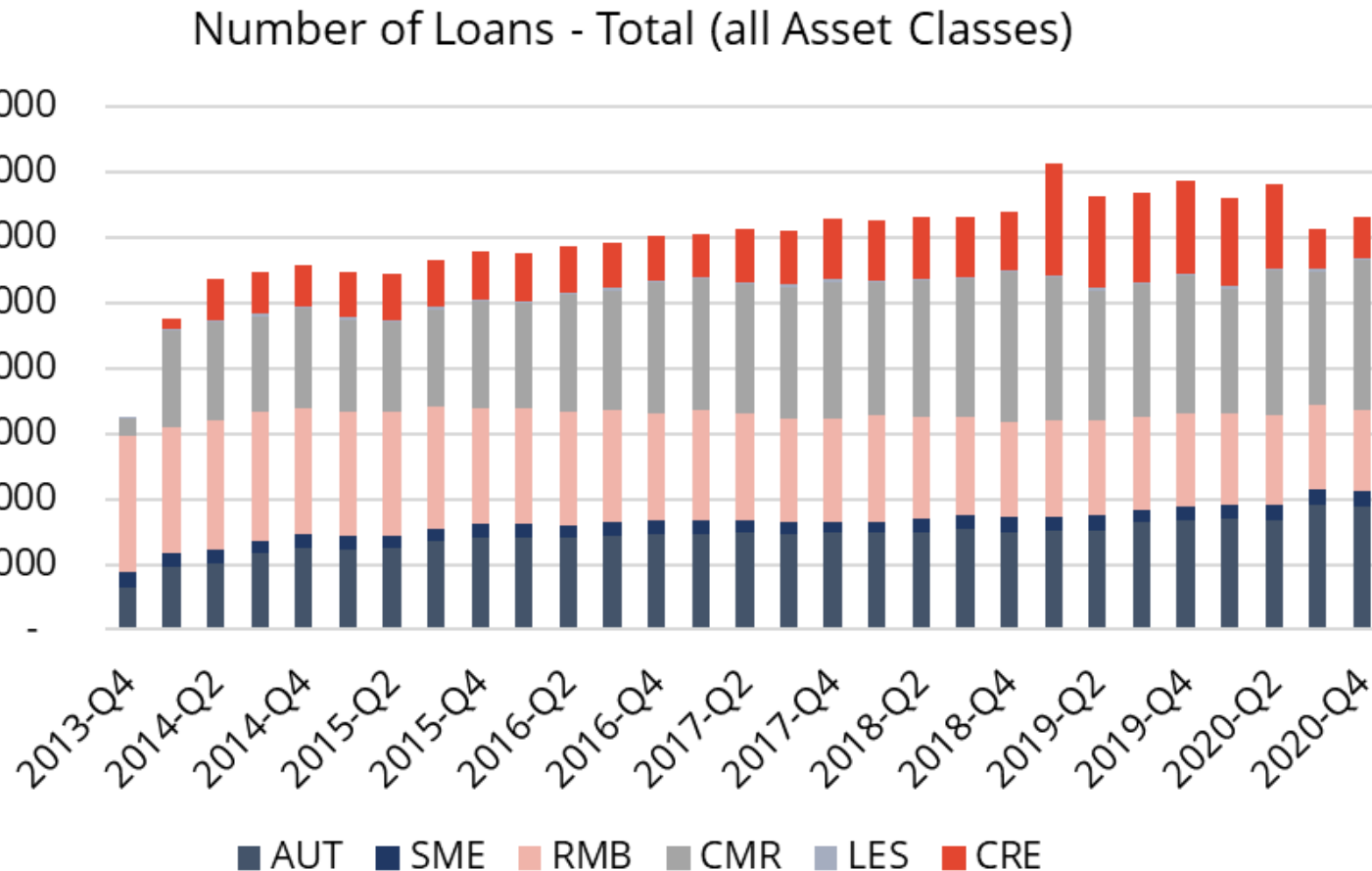
14 EUROPEAN COUNTRIES REPRESENTED

Outstanding EUR Loan Amount - by Country



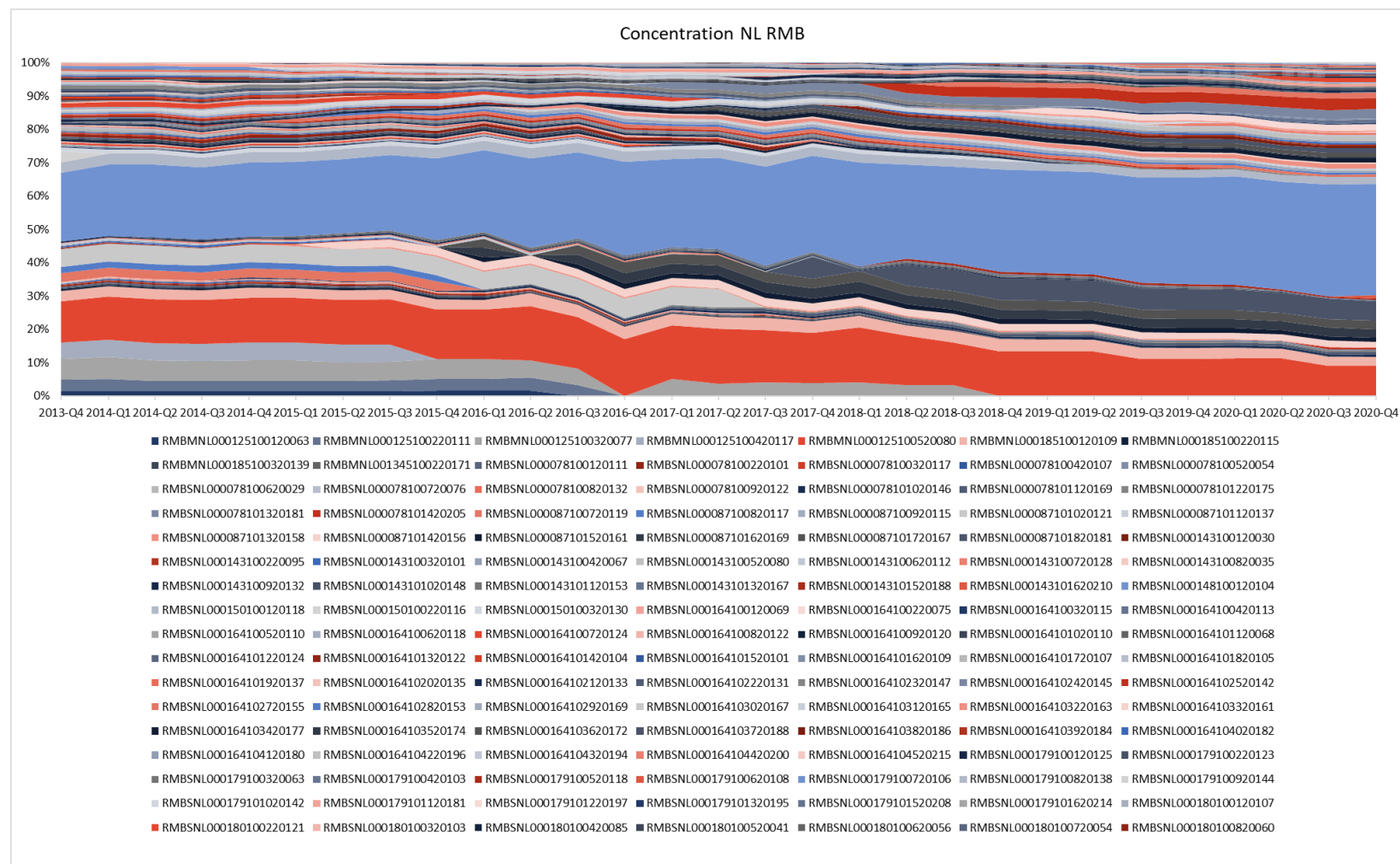
Source: European DataWarehouse

31.5 MILLION ACTIVE LOANS IN Q4 2020



Source: European DataWarehouse

CONCENTRATION



Source: European DataWarehouse

ENERGY PERFORMANCE DATA

MARINE MAITRE, EUROPEAN DATAWAREHOUSE

ADEME – THE FRENCH CENTRALISED EPC REGISTER

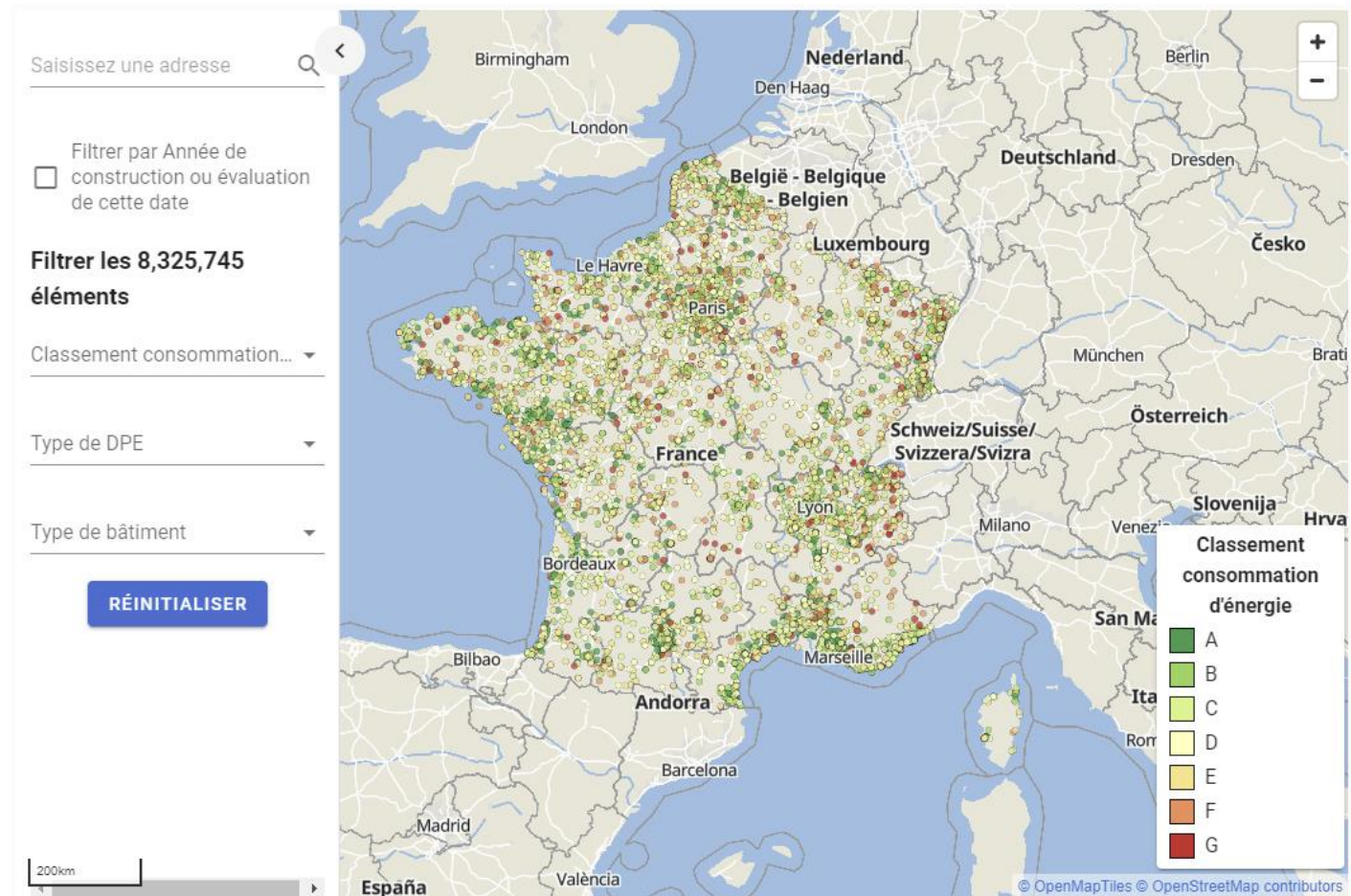
ADEME is the French “Agence de l’Environnement et de la Maîtrise de l’Energie”. ADEME maintains the French EPC database across all regions.

There is a certain number of key elements needed to help the matching exercise between one property to its specific EPC.

Such elements typically include:

- 1) Address information;
- 2) Property type;
- 3) Other.

ADEME data is open access but is complex to manage.



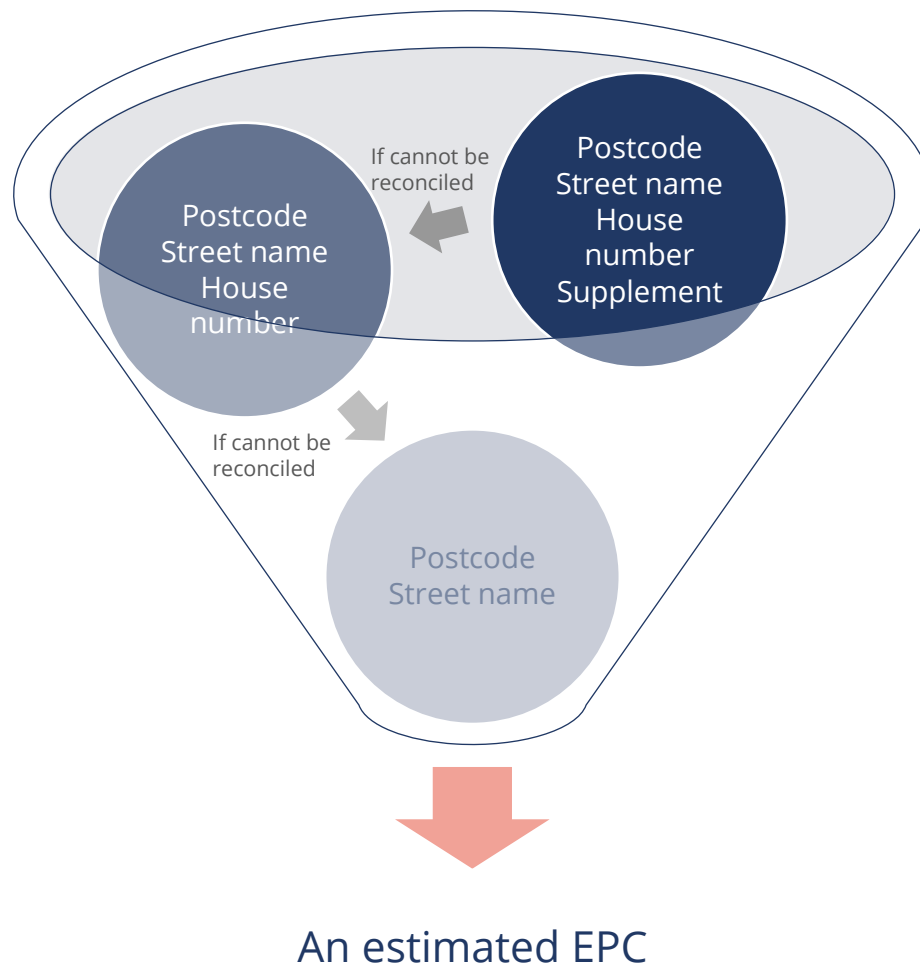
Source: <https://data.ademe.fr/>

OUR ENERGY EFFICIENCY SOLUTION

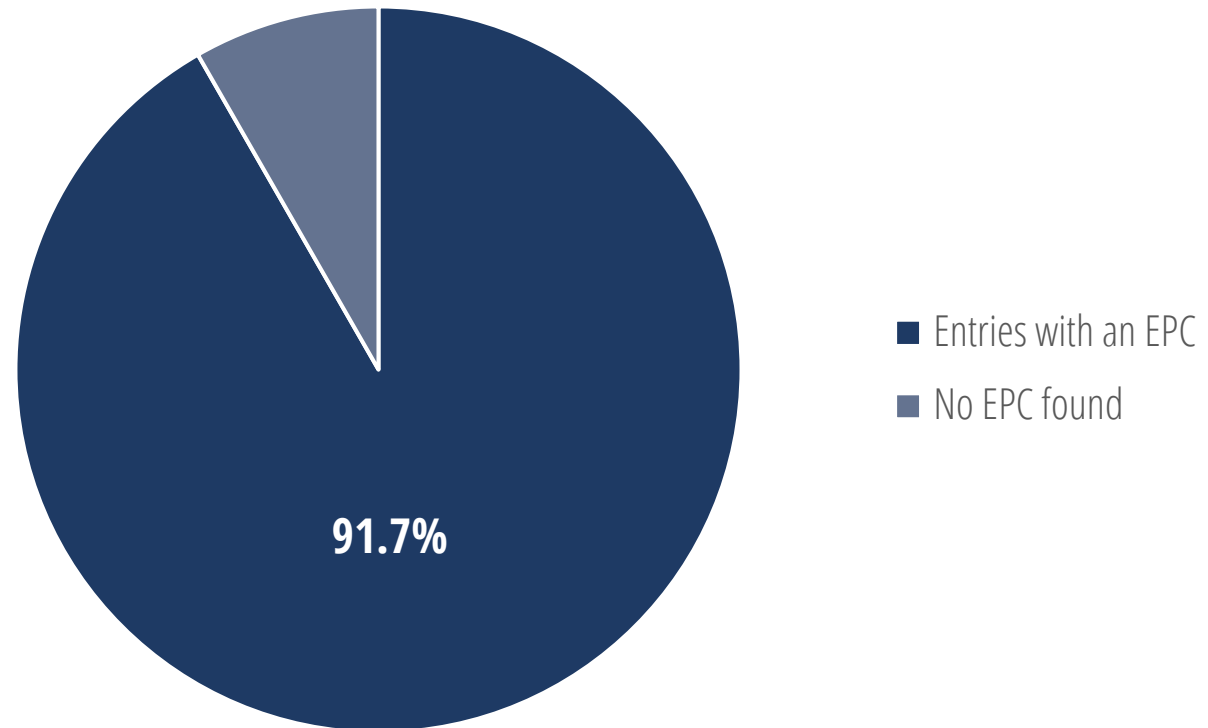


OUR OPTIMAL ALGORITHM

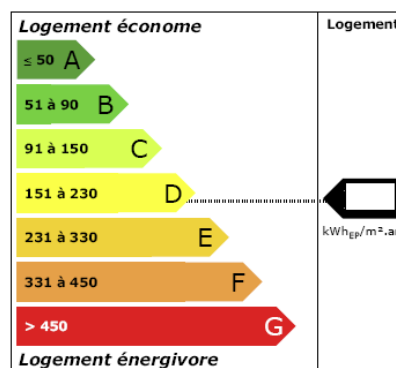
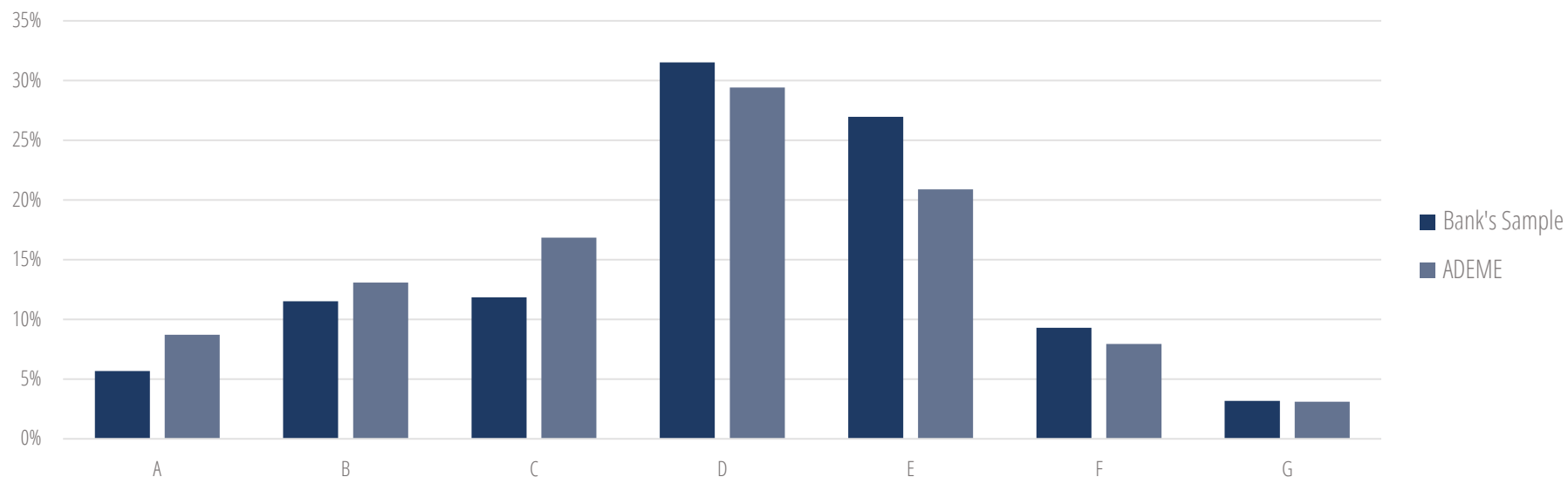
We use as many data points as possible to reach a best estimate



OUR EPC EXTRACTION ON A BANK SAMPLE



EPC RATING DISTRIBUTION : BANK'S SAMPLE VS. FRANCE



EUROPEAN DATAWAREHOUSE ANNOUNCED CLIMATE 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

EUROPEAN DATAWAREHOUSE

PRESS RELEASE

European DataWarehouse Announces Green Initiatives Ahead of the United Nations Climate Change Conference

FRANKFURT, GERMANY – 27 November 2019 – European DataWarehouse today announced its commitment to the environment and corporate climate responsibility. Beginning today, the firm will plant a new tree for every deal created on its platform, including active deals that have already been uploaded.

Dr. Christian Thun, CEO of European DataWarehouse noted, "In the absence of technological advancements to remove CO₂ from the atmosphere, reforestation is the most effective and affordable way to offset our carbon footprint. The decision to plant a tree for every deal created is an easy step our firm can take to help combat climate change."

This announcement comes as leaders and environmentalists prepare to meet at the 2019 United Nations Climate Change Conference (COP 25) in Madrid, Spain.

As part of this initiative, European DataWarehouse plans to plant more than 2000 trees in the next three years. To further demonstrate its commitment to the environment, European DataWarehouse plans to expand its already green practices. Current programs include a company e-bike leasing scheme, public transport tickets, green printing practices, and travel policies that support train use over air travel.

Notably, European DataWarehouse is also part of the Energy Efficiency Data Protocol and Portal EeDaPP, an initiative which aims to create a standardised energy efficient data protocol and portal for European mortgages. The market-led protocol will enable the large-scale recording of data relating to energy efficient mortgage assets (loan-by-loan), via a standardized reporting template.

European DataWarehouse was established in 2012. Since its inception, ED has collected loan-level data and relevant documentation for more than 1,400 ABS transactions.

About European DataWarehouse GmbH

COVID-19 PAYMENT HOLIDAYS BY ASSET CLASS

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

IMPLIED PAYMENT HOLIDAYS

Three criteria to detect loans in payment holiday

1. **Extension of Maturity Date**
2. **Increase in Loan Balance**
3. **Decrease in Loan Payments by at least 50%**

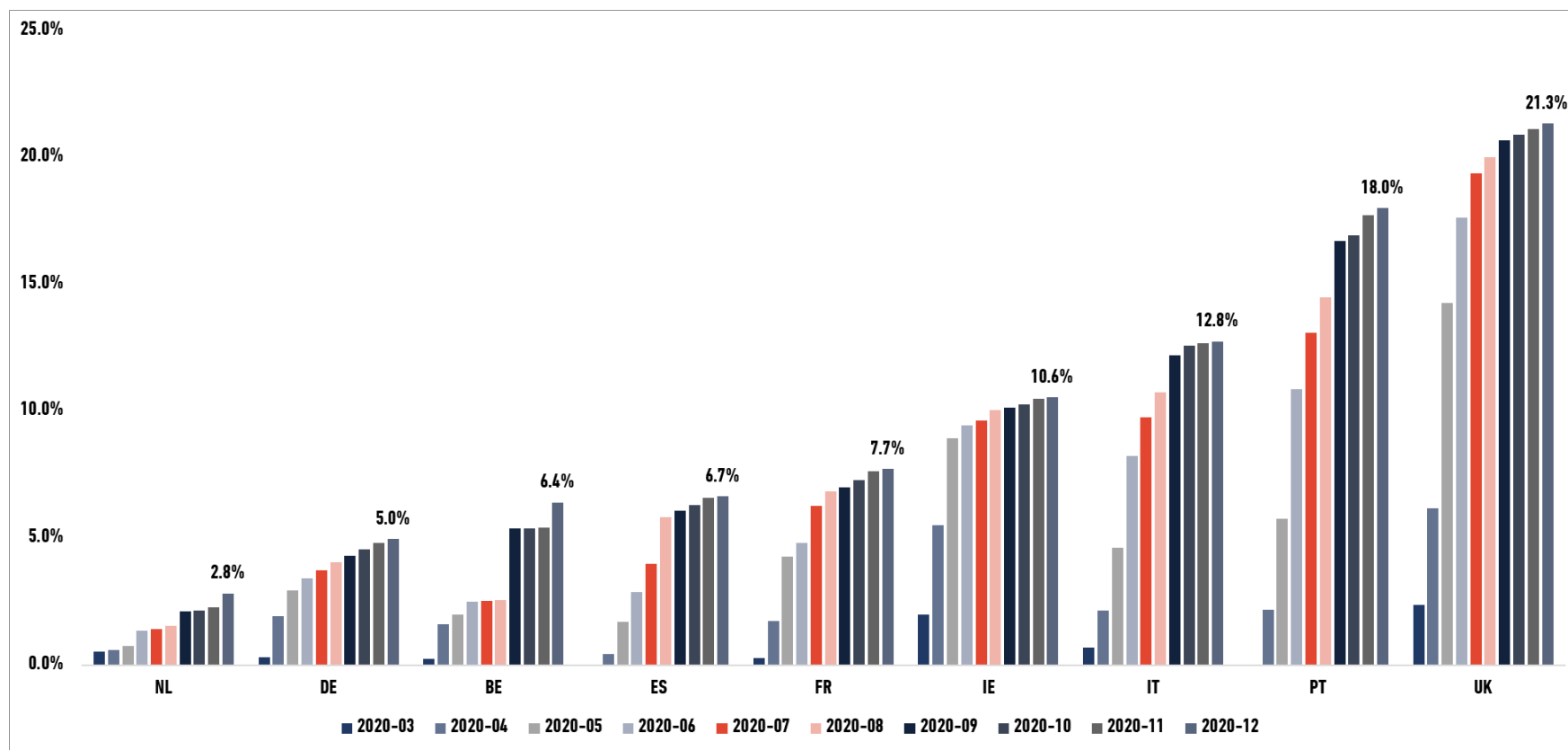
A loan was assumed to have a Payment Holiday if:

- **None of the 3 flags were raised before COVID-19**
- **At least one of these flags was raised since COVID-19**

Note: Only the first loan modification was considered.

CUMULATIVE MODIFICATIONS BY COUNTRY (MORTGAGES)

LOAN MODIFICATIONS ARE MORE PREVALENT IN SOME COUNTRIES THAN OTHERS

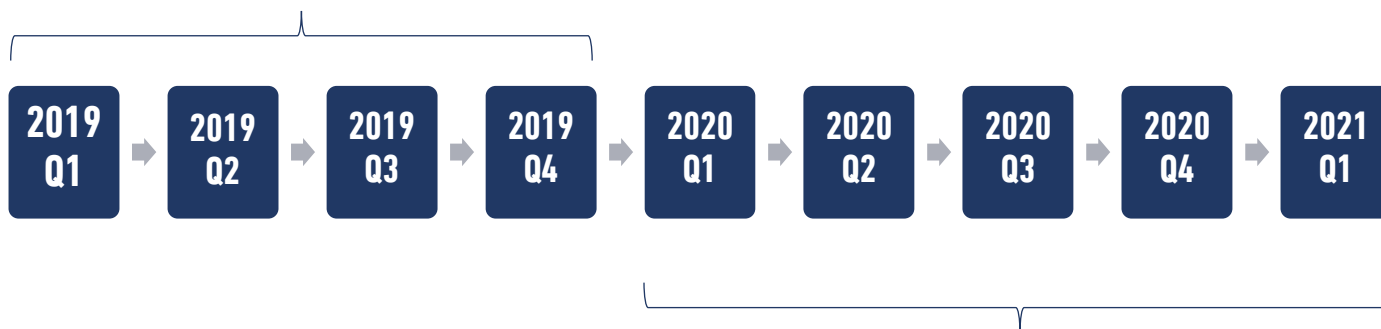


Source: European DataWarehouse calculations

ESTIMATE CURRENT LEVELS OF PAYMENT HOLIDAY

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

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

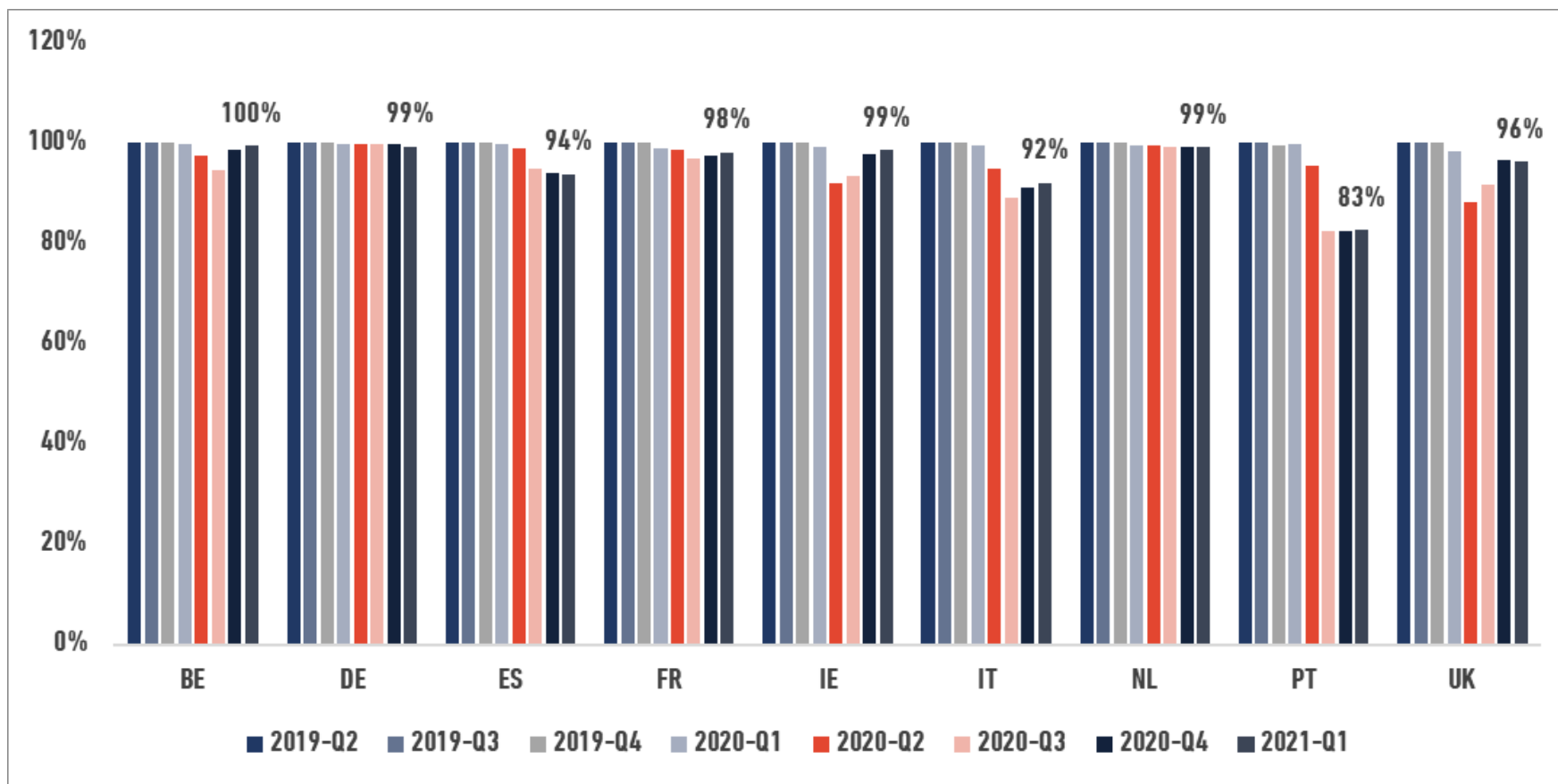


Calculate the portion of selected loans that still had a decrease in balance in each of the following quarters

Note: Only the loans with a positive Current Balance in each quarter from 2019 Q1 to 2020 Q4 are used in the analysis

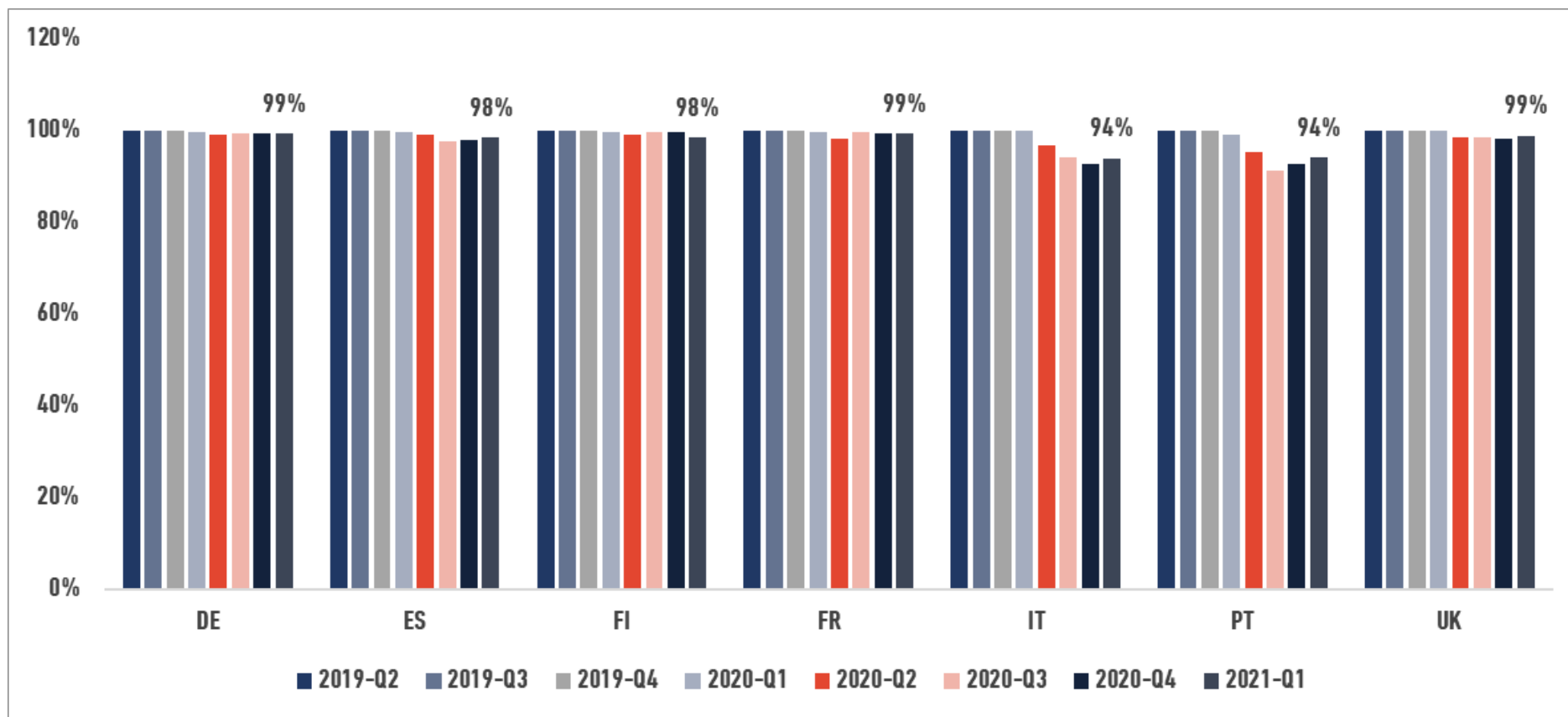
RESIDENTIAL MORTGAGES

Borrowers in some countries seem to have started paying again



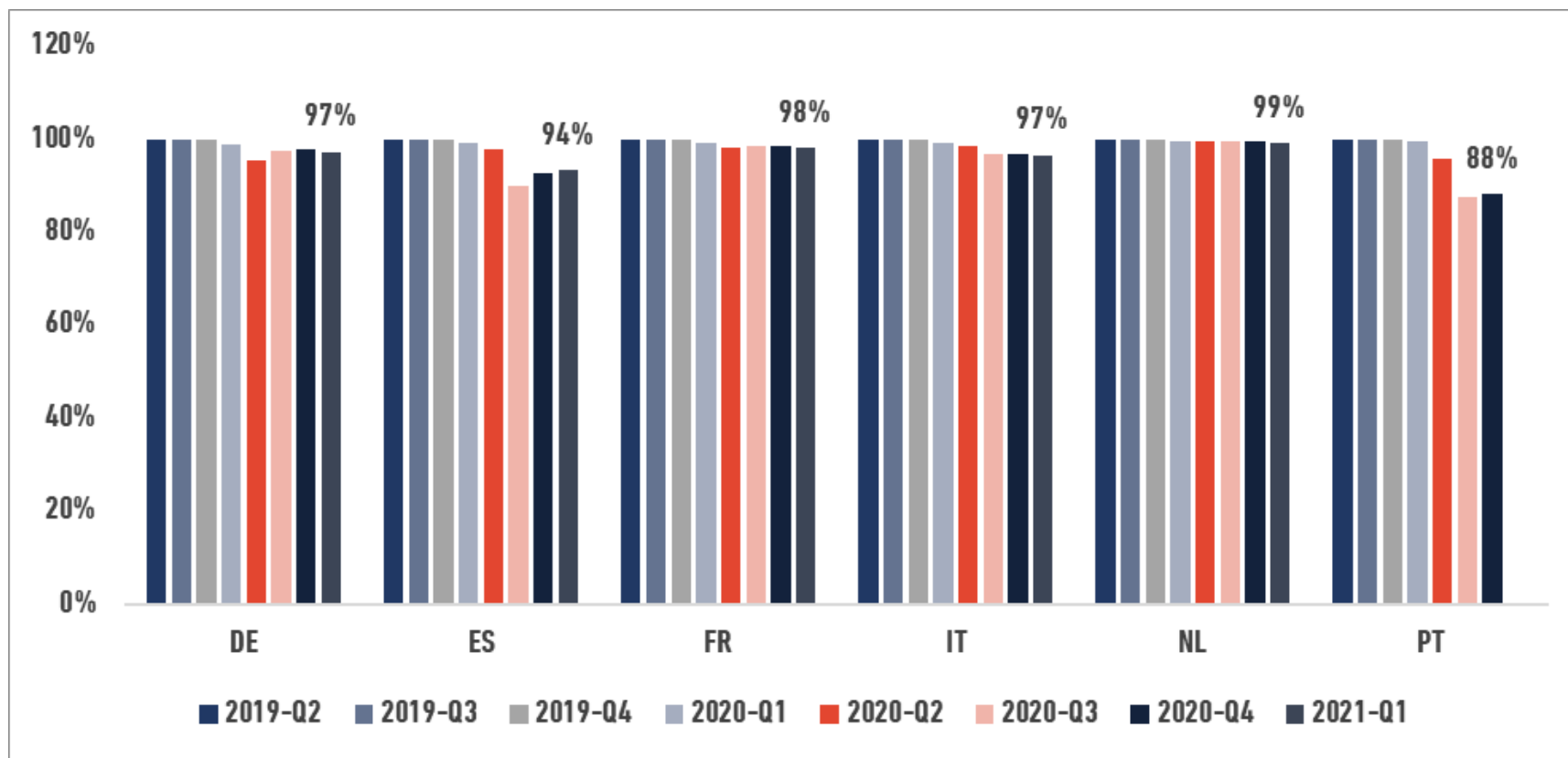
AUTO LOANS

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



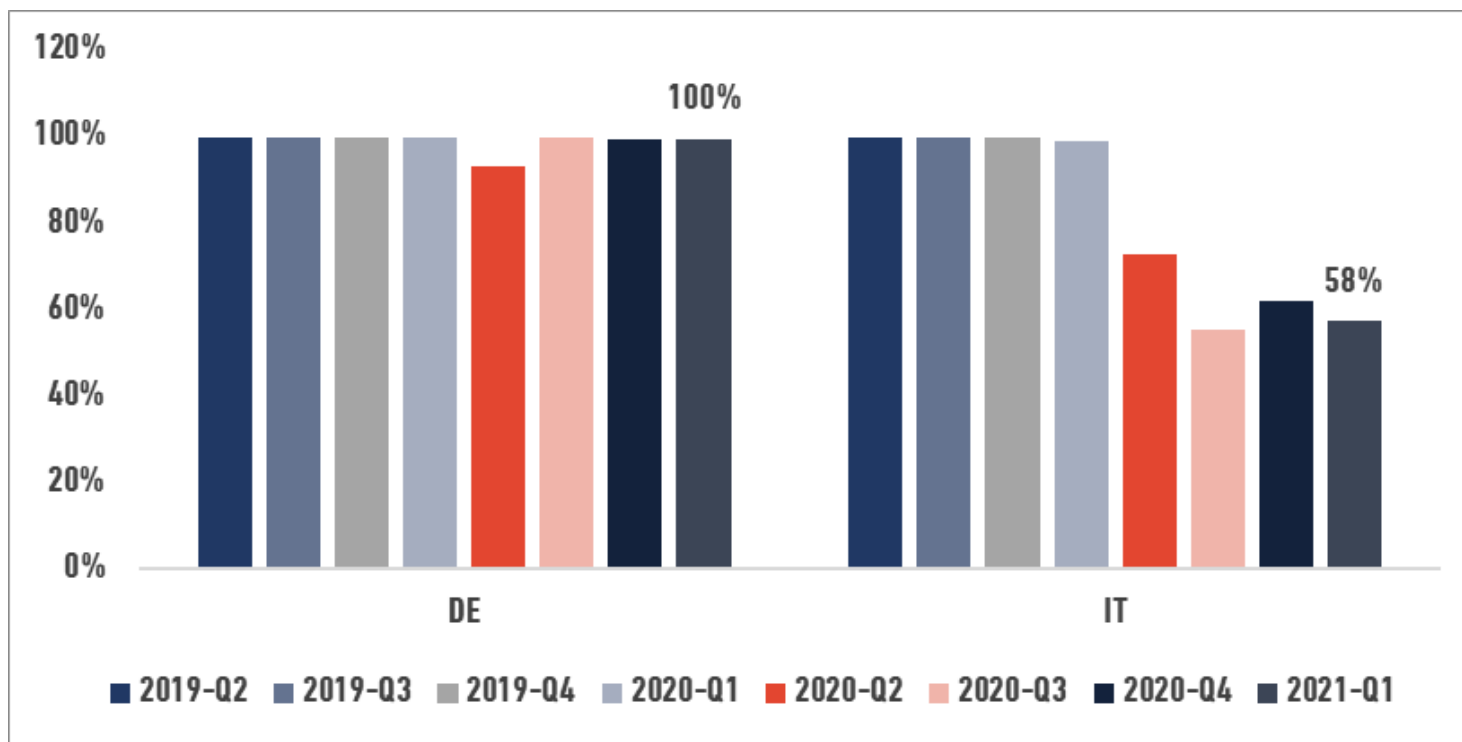
CONSUMER LOANS

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



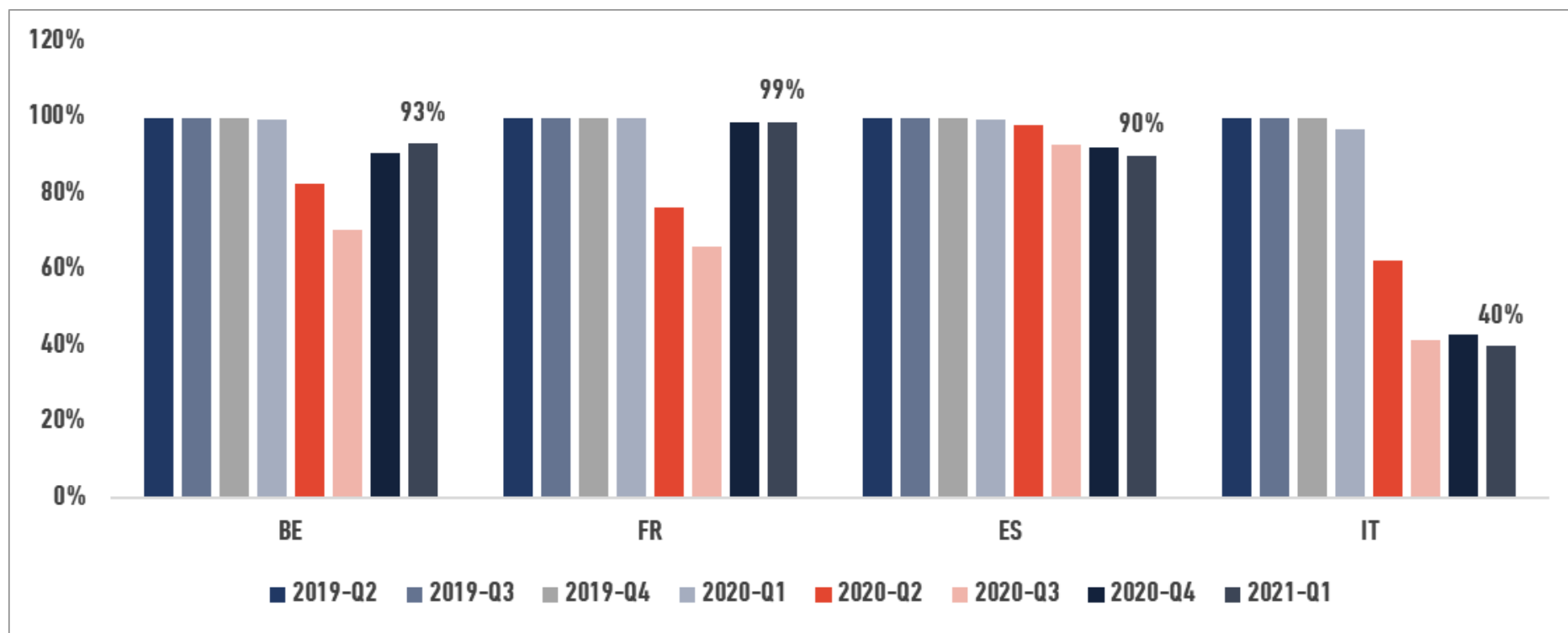
LEASES

Almost half of Italian Leases have not amortised for almost a year



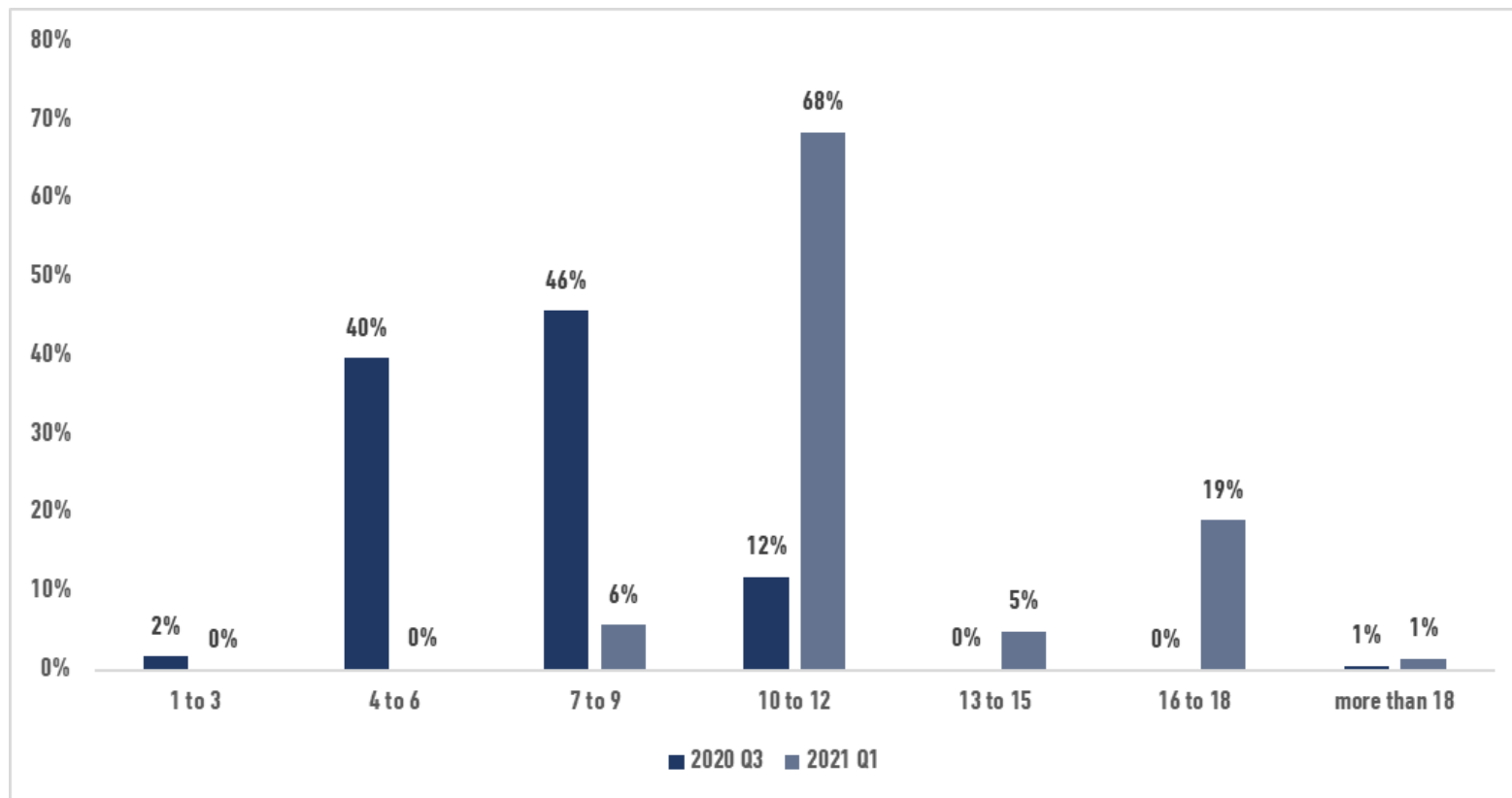
SME LOANS

Loans to SMEs show the strongest impact on loan amortisation



SME LOANS IN ITALY – LENGTH OF MATURITY DATE EXTENSION (MONTHS)

There have been further Maturity Date Extensions among Italian SME loans after 2020-Q3

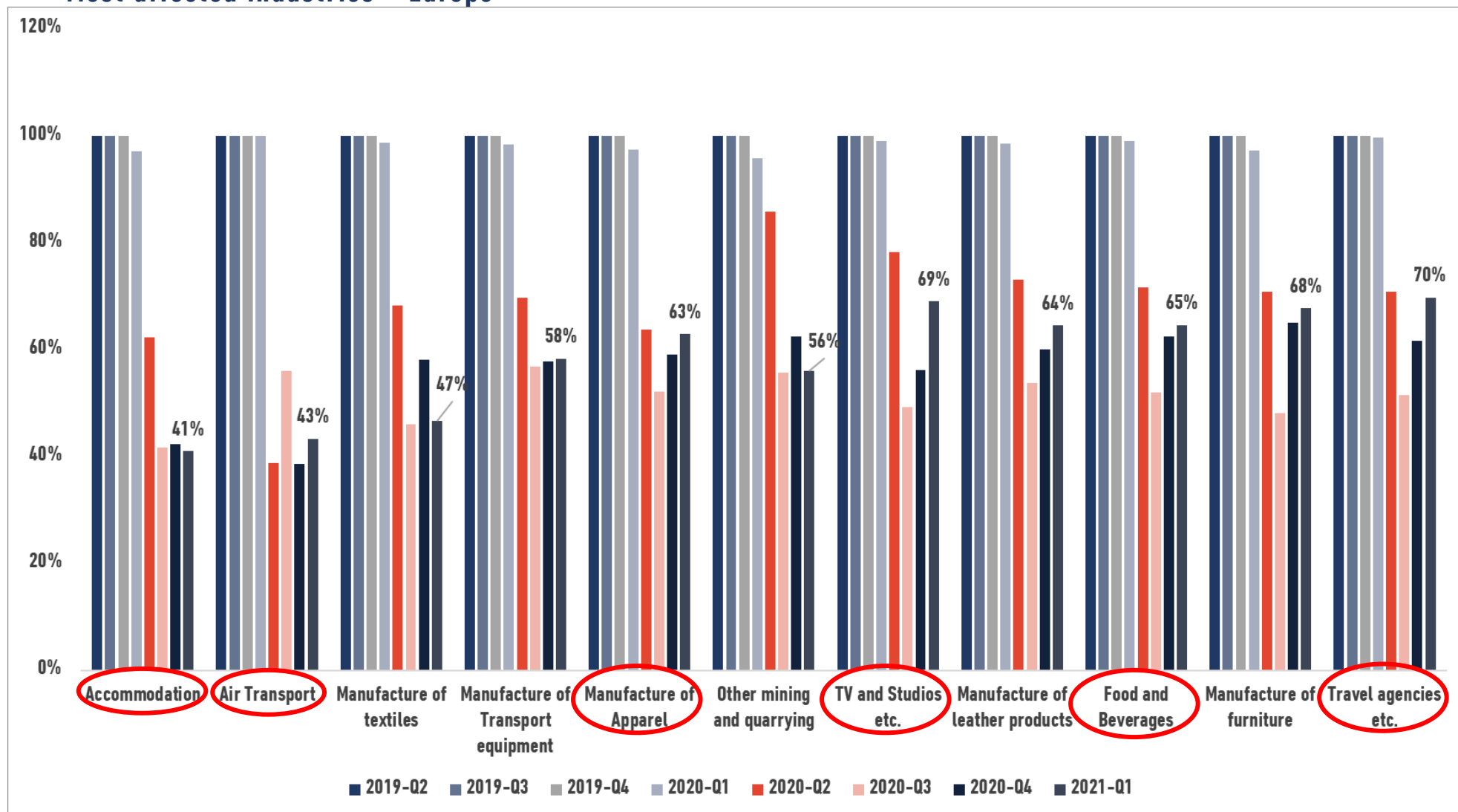


COVID-19 PAYMENT HOLIDAYS FOCUS ON SMES

USMAN JAMIL, EUROPEAN DATAWAREHOUSE

SME LOANS AND LEASES

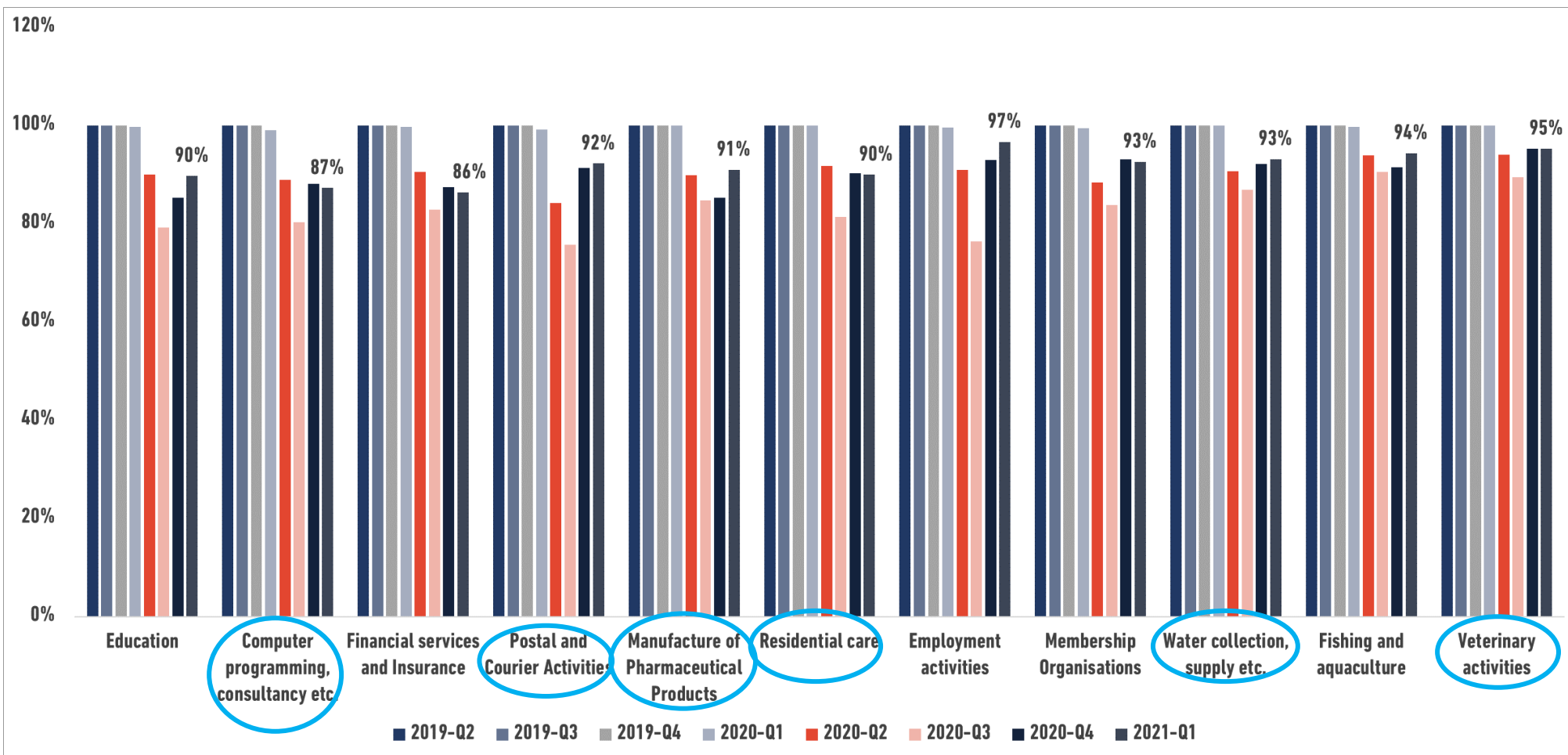
Most affected industries – Europe*



* Data from 5 countries including Belgium, Germany, France, Italy and Spain

SME LOANS AND LEASES

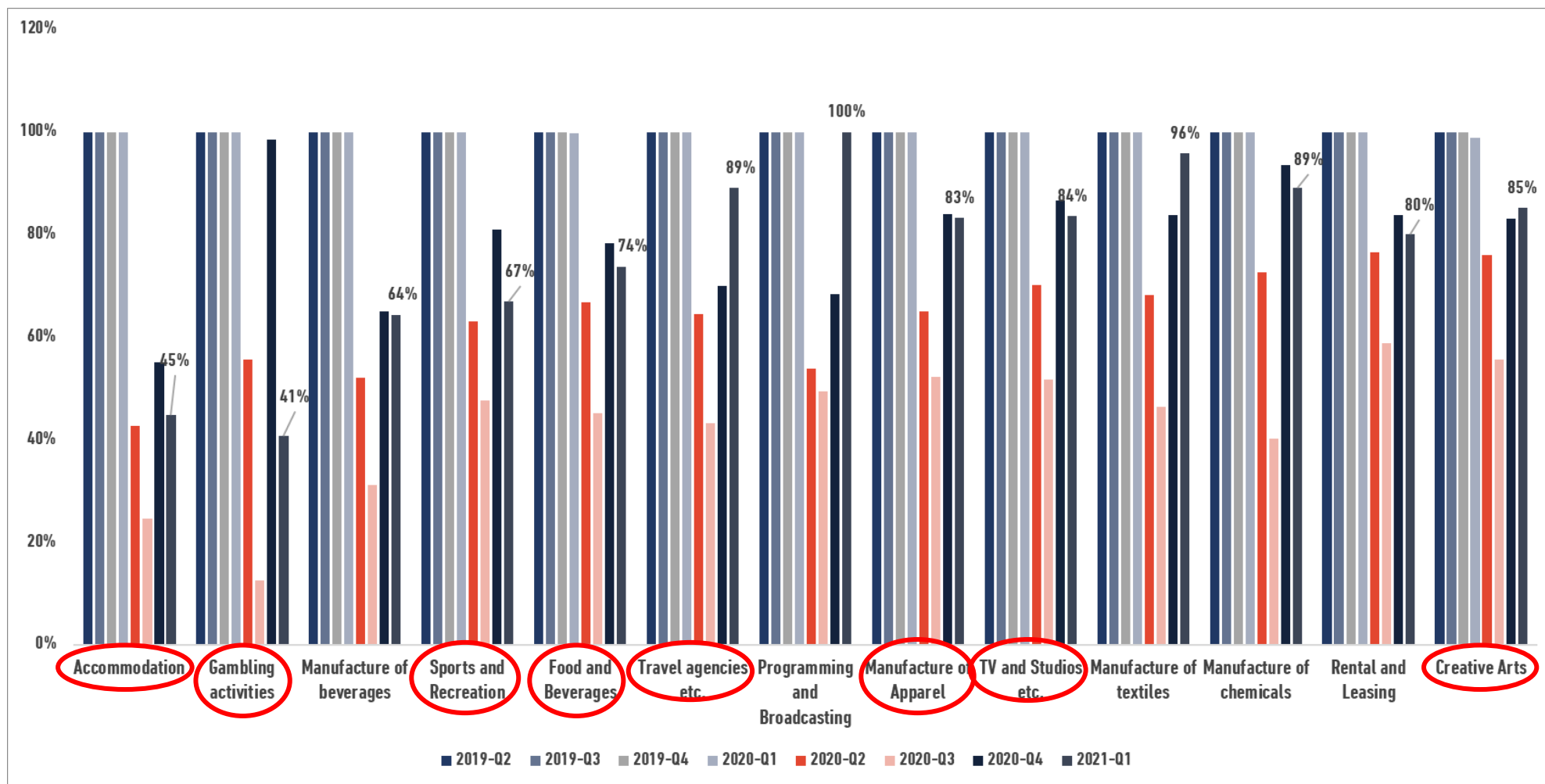
Least affected industries – Europe*



* Data from 5 countries including Belgium, Germany, France, Italy and Spain

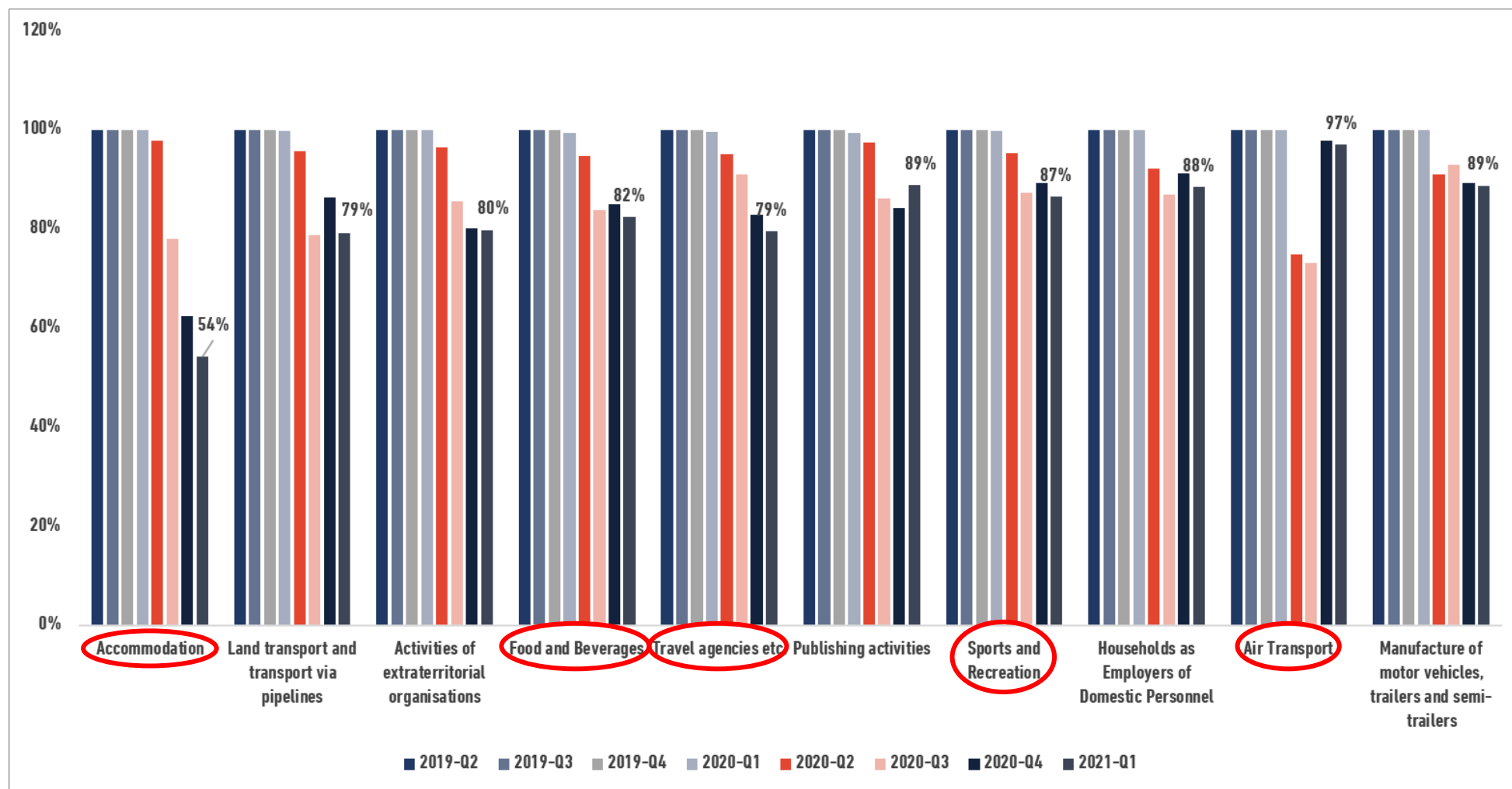
SME LOANS AND LEASES

Most affected industries – Belgium



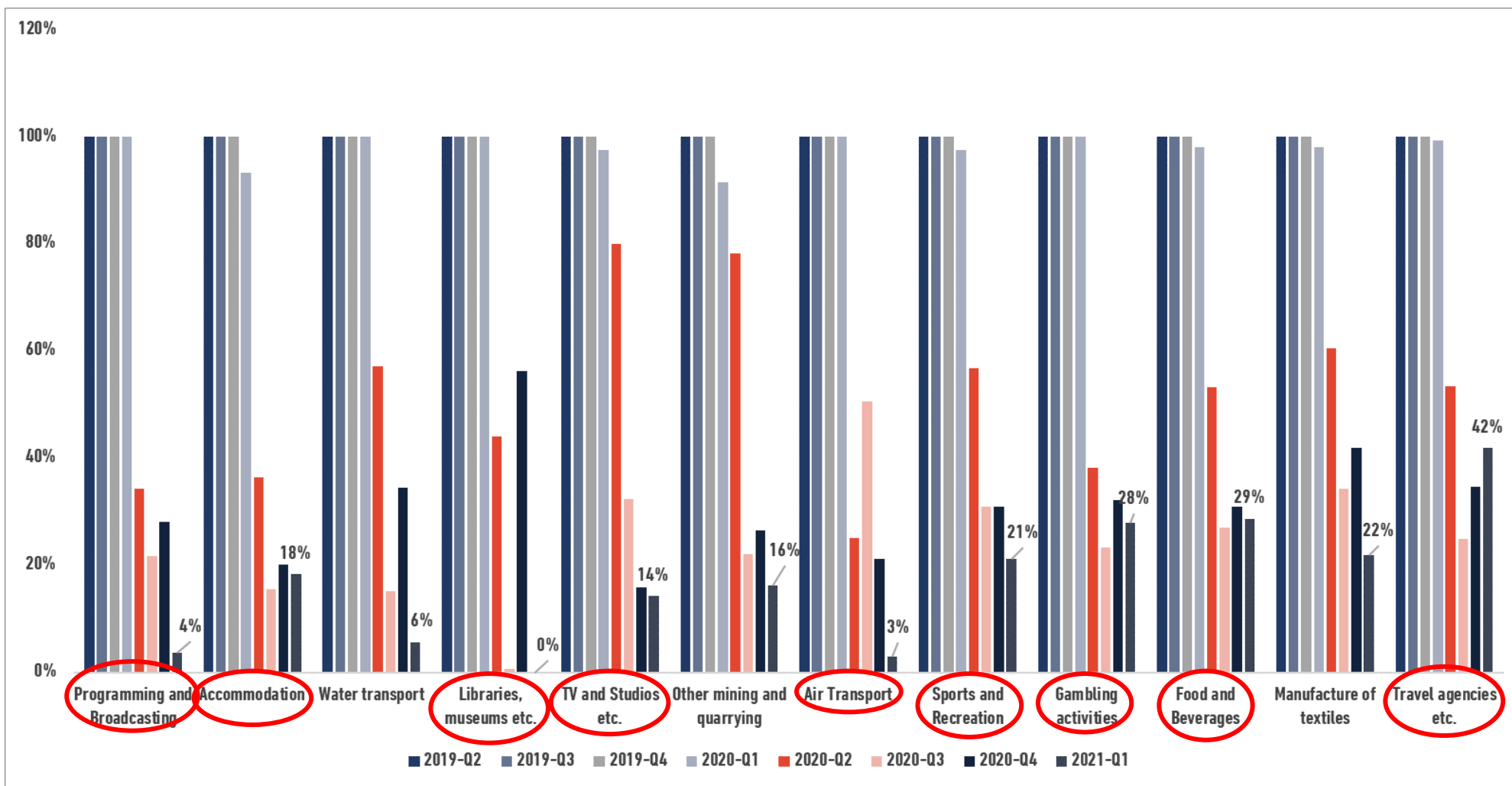
SME LOANS AND LEASES

Most affected industries – Spain



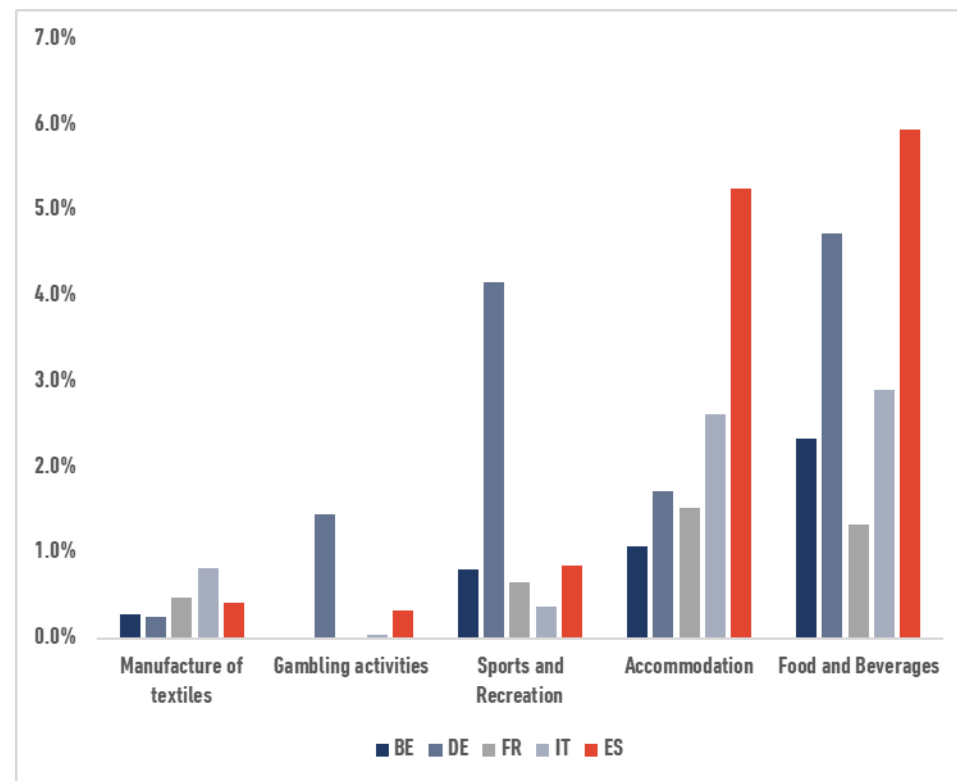
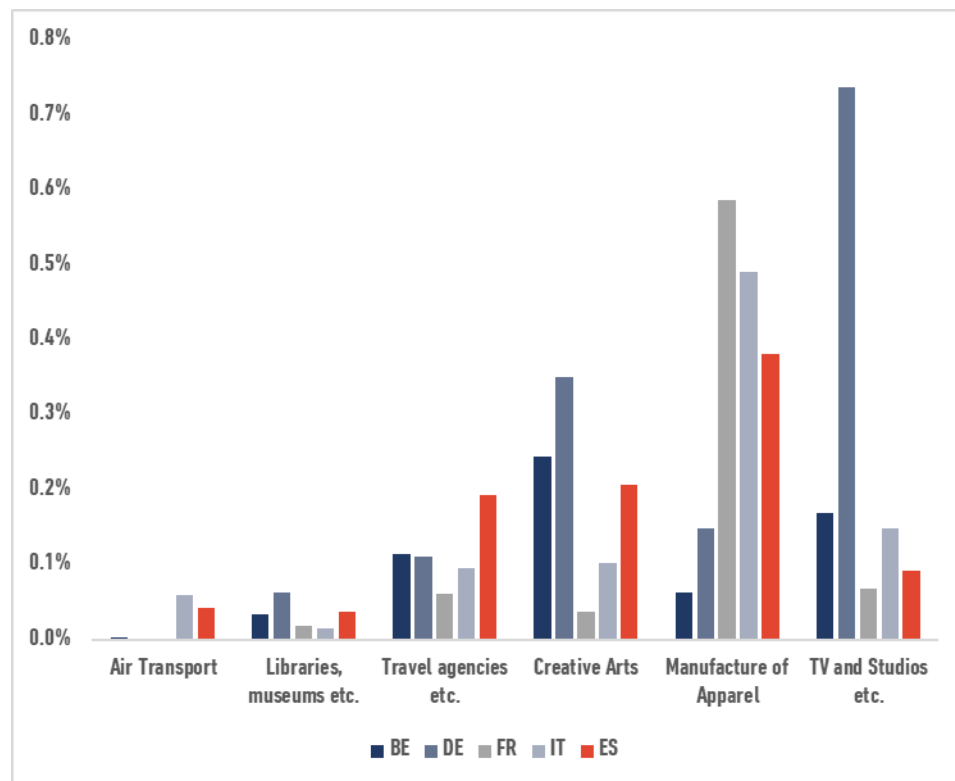
SME LOANS AND LEASES

Most affected industries – Italy



SME LOANS AND LEASES

Concentration of most affected industries by country





Q&A

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.