

## **Q3 RESEARCH UPDATE**

### **26 SEPTEMBER 2023**





### **ON TODAY'S CALL**



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### AGENDA

**PUBLICATIONS** 

DATA AVAILABILITY

**ADJUSTED DATABASE/ALL IN ONE DATABASE** 

LOAN PERFORMANCE

**GUEST SPEAKERS** 

- SAMUELE SEGATO: "COMPLEXITY AND THE DEFAULT RISK OF MORTGAGE-BACKED SECURITIES"
- FRANCESCO BENVENUTI: "ASYMMETRIC INFORMATION IN LOAN CONTRACTS"

Q & A



## **PUBLICATIONS** LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE



### **LIST OF RESEARCH PUBLICATIONS**

Our own publications, plus third-party research Media Library - European DataWarehouse (eurodw.eu)



#### INVENTORY OF EDW-RELATED PUBLICATIONS - TITLE PUBLICHER - PUBLICATION TYP + KEYWORDS ACCESSIBILIT - EDW/THIRD PART mic Pul ESRB Direct Central bank FDW (Guest speaker from University Webiner Loan performance, data availability, energy performance, adjuste Direct FDW Deutsche Bundesbank discussion paper on the replenishments Deutsche Bundesbank Central bank publica ic ABS SME, nevolving transactions Central bank Direct Moody's Investors Service: ESMA rules will raise data quality, b. Moody's Data comment ESMA reporting standards Restricted Rating agency EDW troducing the EOW adjusted Database EDW Webinar Adjusted database Direct February New Year 2022 Research Webinar Webinar Loan performance, energy performance, adjusted database, COV Direct EDW AFINE Report ESG securitisation issuance increases 273% from AFINE Data comment ESG, sustainable finance, data availability Direct 022 February Others Winter 2021 Research Webinar EDW (Guest speake Loan defaults, machine learning, RMBS prepayments, forecasting Direct Hypotest 2021 - From the EMF-ECBC (European Montgage Fee) EMF ECBC (EDW in HYPOSTAT) COVID impact COVID impact November Direct Others Iournal of Francel Econometrice Forecasting Last: Default in Ejournal of Financial Econometrics Academic publication mortage defaults, machine learning Summer 2021 Illearanch Webinar COND, moretaria, or edit risk and COND Septembe Direct EDW Sonng 2011 Research Websare EDW Websare Data availability, COVID, Energy efficiency, payment holdays, Direct EDW Increal of Real Enter Energize of Education morpage defaults, energy efficiency Operation Realized and Academic Publication morpage defaults, energy efficiency Direct Academic Publication May Data Availability Report 04 2020 EDW Data comment Deta availability Direct EDW Data Assisbility Report OF 2020 EDW Data comment Data swilebility Monitoring the Impact of COVID-19: 01 2021 RMB5 Report EDW COVID Impact COVID Impact COVID Impact Direct EDW February New Year 2021 Research Webloar EDW (Gest speaker from European c Webinar COVID, RMBS performance, Loan amortisation, Cover your assets Direct EDW Monitoring the Impact of COVID-19: 01:2021 RMBS Tracker EDW COVID Impact COVID Impact, moretoria, mortgages February Direct EDW COVID, loan performance, payment holiday, reporting practices Direct COVID-19 Webinar ED/W December COVID-19 (Healther COVID-19 Healther COVID-EA Auto Lose EDW COVID Impact COVID Impact, auto loans, mortgages Direct EDW COVID-19: Survey of Payment Holday Reporting Practices in Ex EDW COVID impact, moratoria EDW Moody's Analysiss COVID 19:360" New of the Dutch Morrager Moody's COVID impact COVID impact, Netherlands morrages November Restricted Rating agency November Mondy's Analysis Comment Stress of the LIX. Kompare Mark Mody's Credit research COVID impact, mortgages Restricted Reing agency November Montang the Impact of COVID-19: 04 2020 AUTO Tracker EDW COVID Impact, mortgages Devices De Creds Performance Review EDW Monitoring the Impact of CDVID-19: 03 2020 RMBS Tracker EDW COVID IMPACT COVID impact, implied payment holiday Direct EDW COVID impact COVID impact, moratoria, mortgages EDW August Maron Hibbeln and Werner Osterkamp: The Impact of Skin in th Academic Publication Academic publication security design, asset-backed securities, retention, moral hazard, Direct Academic Publicati homas Eanagars Stealth Recapitalization and Bank Risk Taking Academic Publication Academic publication TLTRO, Unconventional Monetary Policy, Credit Risk, Bank Capital Direct Academic Publicatio EDW COVID Impact First time delinquencies, auto, consumer, leases, RMBS Direct ED/W EDW Data Timing and Timelines Data comment Reporting lag, data timeliness EDW February ESMA data vs ECB data Data comment EDW Gap analysis version 3.0 and 3 November IRPH Index Insists from European ehouse FDW Data comment IRPH index Spain Direct EDW SME performance taly, SME, performance Direct EDW Central bank publicatic lian defaults, lending standards, residential real estate, lian-feve Direct Central bank tation SME Index EDW ECB: The Impact of Lending Standards on Default Rates of Resiz ECB October 4. 54 577 *555555*555555

https://eurodw.eu/about-us/media-library/

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### **WEBINARS**

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





### BLOG

### Short articles on current topics https://eurodw.eu/knowledge/magazine//





### **RESEARCH SECTION**

### Our own publications, plus third-party research https://eurodw.eu/knowledge/research/



### https://eurodw.eu/knowledge/magazine//

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## **RECENTLY PUBLISHED** LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE

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### **EUROPEAN BENCHMARKING EXERCISE - UPDATED REPORT ON PRIVATE DEALS (1)**

The European Benchmarking Exercise was updated and is posted on our website (joint publication AFME/TSI/EDW)

| Finance                                       | ne/  | EUROPEAN<br>DATAWAREHOUSE                                    | TRUE SALENAL                       |
|---|--|--|------------------------------------|
|   | E  | uropean Benchmarking Exercise<br>for Private Securitisations | (EBE)                              |
|   |  | -<br>Report of H2-2022 Results<br>(September 2023)           |                                    |
|   |  |  |                                    |
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| Tab   | e of Contents  |  |                                    |
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| Tab<br>1.<br>2.                               | le of Contents<br>Executive Summa<br>Background, Scop  | ary  |                                    |
| Tab<br>1.<br>2.<br>3.                         | e of Contents<br>Executive Summa<br>Background, Scop<br>Overview   | ary<br>be and Objectives:                                    |                                    |
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| Tab<br>1.<br>2.<br>3.<br>4.<br>5.<br>6.<br>7. | e of Contents<br>Executive Summa<br>Background, Scop<br>Overview<br>Transaction and S<br>Asset Types<br>Seller Industries .<br>STS Transactions. | ary<br>be and Objectives:<br>Seller Ratings                  | 2<br>3<br>5<br>9<br>12<br>13<br>14 |

|      |               | End | of 202   | 2      |         |    |      |    |         |         |
|------|---------------|-----|----------|--------|---------|----|------|----|---------|---------|
|      | # Commitments |     | AA       | A<br>2 | BBB     | BB | NR   | ND | Dropped | Total   |
|      |               | 00  | ð<br>120 | 3      | 1       | -  | -    | -  | 13      | 85      |
|      | AA            | 1   | 158      | 110    | -       | -  | -    | -  | 10      | 189     |
|      |               | 1   | 10       | 6      | 0<br>51 | -  | -    | -  | 0       | 134     |
|      | DDD           |     | 1        | 0      | 51      | 5  |      |    | 1       | 6       |
| 021  | NR            |     |          |        |         | 5  | - 18 |    | 3       | 21      |
| of 2 |               |     |          |        |         |    | 3    | 1  | 5       | 21<br>A |
| pu   | New in 2022   | 18  | 27       | 12     | 16      | -  | 5    |    | -       | 78      |
| ш    | 2022          | 101 | 190      | 156    | 76      | 6  | 26   | 1  | 49      |         |
|      |               |     |          |        |         |    |      |    |         |         |

### **EUROPEAN BENCHMARKING EXERCISE - UPDATED REPORT ON PRIVATE DEALS (2)**

The European Benchmarking Exercise was updated and is posted on our website

- Report co-authored with AFME and TSI
- Data provided in aggregated form by 12 banks from 6 EU countries
- Data received accounts for €73 billions in commitments (from €67 b. Previously)
- We estimate the amount of assets of private deals exceeds €196 billion
- Trade Receivables and Auto make up around 73% of the market, of which 36% and 91% respectively are funded through syndicated transactions
- Over 72% of private securitisation fund sellers in the EU
- > Over 72% fund the real economy (the non-financial sectors of the economy)

Of all transactions by volume, 87% were undertaken by sellers with ratings of BBB and below at inception. In contrast, the average transaction rating is in the range A to AA. This shows that private cash securitisations provide a costeffective means of financing for lower-rated sellers.

https://eurodw.eu/wp-content/uploads/EBE\_2022-H1\_Report-2023-03-22\_final-2.pdf

### **RESEARCH SECTION**

### DBRS publication on the BTL sector (third party publication)



### https://www.dbrsmorningstar.com/research/420444

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## DATA AVAILABILITY UPDATE LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE



### **EPC DATA AVAILABILITY**

### Mortgages



### EPC DATA AVAILABILITY

Mortgages





SEPTEMBER 2023

SOURCE: EDW RESEARCH



### **EPC DATA AVAILABILITY**

### Auto loans





### **EPC DATA AVAILABILITY** Auto loans



### EPC distribution by Country using EDW data





## ALL IN 1 DATABASE LUDOVIC THEBAULT, EUROPEAN DATAWAREHOUSE



### **ECB VS ESMA VS FCA DATA AVAILABILITY**



### **5 COMPONENTS**



SEPTEMBER 2023

### **ADJUSTED DATABASE REPORT**

### Soon available online (or ask sales team directly)



### LIST OF CALCULATED FIELDS AS OF SEPTEMBER 2023 IN ECB ADJUSTED DATABASE

|                   | AUTO | CONSUMER | CREDIT CARDS | LEASINGS | RMBS | SME |
|-------------------|------|----------|--------------|----------|------|-----|
| DATA_ORIGIN       | yes  | yes      | yes          | yes      | yes  | yes |
| EDCODE            | yes  | yes      | yes          | yes      | yes  | yes |
| PCD               | yes  | yes      | yes          | yes      | yes  | yes |
| GEO_1             | yes  | yes      | yes          | yes      | yes  | yes |
| GEO_2             | yes  | yes      | yes          | yes      | yes  | yes |
| GEO_3             | yes  | yes      | yes          | yes      | yes  | yes |
| QTR               | yes  | yes      | yes          | yes      | yes  | yes |
| COUNTRY           | yes  | yes      | yes          | yes      | yes  | yes |
| Manufacturer      | yes  | -        | -            | -        | -    | -   |
| Model             | yes  | -        | -            | -        | -    | -   |
| Fuel_Type         | yes  | -        | -            | -        | -    | -   |
| Year_Registration | yes  | -        | -            | -        | -    | -   |
| Engine_size       | yes  | -        | -            | -        | -    | -   |
| Vehicle_type      | yes  | -        | -            | -        | -    | -   |



### **STRUCTURE**

- To the ESMA fields, we add the ECB fields with no ESMA equivalent
- All the ESMA data can fit in
- All the legacy ECB data fits in





### **POPULATING THE ALL IN ONE DATABASE**





### **COMPOSITION OF THE TABLES BY ASSET CLASS**





ECB Fields with No ESMA Equivalent

Extra/Calculated Fields



### DATA CONTINUITY MANDATORY VS OPTIONAL FIELDS



ESMA Fields Populated With ECB Data Of which...



### **ECB TO ESMA TRANSLATION**



- Many fields fit "one to one" with a direct equivalent with same name and definition
- Some fields are defined somewhat differently but should generally be similar such as for the Arrears Balance which must include fees and capitalised amounts in ESMA...
- Dates in ECB often only had month precision, in ESMA day precision is required; we assume the 15th of the month

### **ECB TO ESMA TRANSLATION**

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

- Some ECB fields have the same name and the same options as their ESMA equivalent and can therefore be translated 1 to 1.
- Data from the field AR58 goes 1 to 1 in the corresponding options of field RREL26 of the "All in One Database"

### **ECB TO ESMA TRANSLATION**

| ECB  |    |               | ESMA |  |
|--|----|---------------|------|--|
| Property type (AR131)                                    |    |               |      | Poroperty type (RREC9)                   |
| Residential (House, detached or semi-detached)           | 1  |               | RHOS | Residential (House, detached or semi-d.) |
| Residential (Flat/Apartment)                             | 2  |               | RFLT | Residential (Flat/Apartment)             |
| Residential (Bungalow)                                   | 3  |               | RBGL | Residential (Bungalow)                   |
| Residential (Terraced House)                             | 4  |               | RTHS | Residential (Terraced House)             |
| Multifamily house () with recourse to the borrower       | 5  |               | MFHS | Multifamilly House                       |
| Multifamily house () without recourse to the borrower    | 6  |               | MFHS | Multifamilly House                       |
| Partially commercial use                                 | 7  |               | PCMM | Partial commercial use                   |
| Commercial/business use with recourse to the borrower    | 8  |               | BIZZ | Commercial or business use               |
| Commercial/business use without recourse to the borrower | 9  |               | BIZZ | Commercial or business use               |
| Land only  | 10 |               | LAND | Land Only                                |
| Other  | 11 | $\rightarrow$ | OTHR | Other                                    |

- In this case, there is a loss of detail when switching from ECB to ESMA.
- The lost information is normally now stored in the new ESMA field "Recourse" (RREL76)



## LOAN PERFORMANCE UPDATE (2023-Q2 UPDATE) USMAN JAMIL, EUROPEAN DATAWAREHOUSE



### **RMBS**

### Delinquencies have gone up slightly in some countries



60 - 90 Days Delinquencies (% of Current Balance)



### **RMBS**

Floating Rate Mortgages are the norm for some countries while Fixed Rates for others



### % Balance by Interest Rate Type as of 2023 Q2

Are Floating Rate Mortgages driving Delinquencies??



### RMBS

Spain

#### % Balance by Interest Rate Type as of 2023 Q2









Average Interest Rate by Interest Rate Type

(weighted by Current Balance)

4.93%

2.97%

### RMBS Ireland

0.45% 0.40%

0.35%

0.30% 0.25%

0.20% 0.15%

0.10%

0.05%

0.00%

\_

#### % Balance by Interest Rate Type as of 2023 Q2



2022-Q1 2022-Q2 2022-Q3 2022-Q4 2023-Q1 2023-Q2

Fixed ——Floating

Floating —— Fixed with switch to Floating

2022-Q1 2022-Q2 2022-Q3 2022-Q4 2023-Q1 2023-Q2

Fixed



### RMBS Italy

#### % Balance by Interest Rate Type as of 2023 Q2



Fixed Fixed with switch to Floating Floating Other

#### 60 - 90 Days Delinquencies by Interest Rate Type (% of Current Balance)



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





6.77%

2.89%



### **SME** Slightly elevated delinquency levels for Spain and Italy



### 60 - 90 Days Delinquencies (% of Current Balance)

### **AUTO** Delinquency levels are on the up in most countries



### 60 - 90 Days Delinquencies (% of Current Balance)

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### **CREDIT CARDS** Delinquency levels are rising a little



### 60 - 90 Days Delinquencies (% of Current Balance)

can be seen as a first sign for distress!!

#### Complexity and the default risk of mortgage-backed securities

The Journal of Banking and Finance, Volume 155, October 2023. View Article 🗹

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European DataWarehouse - Q3 Research Update Webinar

#### Introduction

In this study, we examine the effects of the 2018 European securitisation regulation on mortgage quality and securitisation structures.

- Mortgages issued after the new regulation exhibit improved credit quality, resulting in reduced annual delinquency rates.
- Mortgage securitisations meeting the new 'simplicity, transparency, and standardisation' (STS) criteria show 0.77% lower annual delinquency rates and greater resilience to economic shocks.
- STS securitisations typically have fewer tranches with a smaller allocation to subordinated tranches than their non-STS counterparts.
- The improved quality of underlying loans outweighs potential negative effects of thinner subordinated tranches in compliant securitisations. This is reflected in higher ratings at origination.

The securitisation process was blamed for the detrimental role it played during the 2008 financial crisis (*Shin*, 2009).

- The ABS market was so **complex**, that even rating agencies **failed to accurately portray default risk** before the global financial crisis (*DeHaan*, 2017).
- The increasing **demand for high rated securities**, matched with the possibility to **transfer risk** to outside inventors, led banks to **lax their lending standards** (*Coval, Jurek & Stafford, 2009*).
- Banks active in securitisation tended to **take substantially more risk** than non-securitising ones (*Keys at al., 2009*).
- Banks active in securitisation were less involved in the ex-post monitoring of the loans (*Wang & Xia, 2014*).

#### The Securitisation Process





Following its announcement in 2017, the new ABS regulation (*Regulation (EU)* 2017/2402) entered into force in 2018, significantly reforming the EU ABS market.

It promotes the harmonisation of the securitisation market through numerous provisions, which can be grouped in:

- General Provisions (Articles 1-17)
- Provisions for Simple, Transparent and Standardised Securitisation (Articles 18-28)

#### The new ABS Regulation - STS Securitisation

#### Simple, Transparent & Standardised Securitisation (STS) (Articles 18-28)

- Unlike the general provisions, the STS regime is optional.
- There are now two different classes of EU securitisation: STS and non-STS, differentiated on the basis of whether they meet the STS criteria or not.
- The criteria relate to simplicity, transparency and standardisation of the ABS deals rather than to the quality of the underlying assets involved.

There should be no implication that STS deals are safer, but rather that a prudent and diligent investor will be able to better analyse the risk involved.

The effects of this newly introduced securitisation type on the quality of the securitised loans are uncertain:

- On the one hand, higher simplicity, transparency and standardisation are likely to positively affect assets performance (e.g., *Ertan et al., 2017*).
- On the other hand, STS labels may have distorting effects on banks' behaviour (*McGowan and Nguyen, 2020*). STS labels may create a false sense of security on investors who may be prepared to fund riskier loans without requiring an adequate rate of return.

We retrieve our data from the **European DataWarehouse**, the designated depository in Europe for collecting and validating loan-level data for asset-backed securities.

- For each loan, more than 150 variables can be reported by the originators, 55 of which are mandatory.
- Our sample consists of 8,961,130 annual observations, reported from 2013 to 2020. These correspond to 3,997,044 loans that have been securitised within Residential Mortgage-Backed Securities (RMBS).
- The EDW also provides information on the tranching composition, which is subsequently linked to tranche-level characteristics sourced from Refinitiv Eikon to access additional data when available. Our final tranche-level dataset includes 782 observations.

#### Data and Methodology

Focusing on the post-regulation period, the sample includes 1,256,011 loans securitised in RMBS deals from 2018 to 2020.



Around 40% of the loans are securitised in deals defined as STS according to the ESMA STS register.

#### Data and Methodology

- We analyse loan delinquencies through a panel-probit model.
- The variable *Loan Delinquency* takes the value of one each time a loan is in arrears for at least two consecutive quarters.

 $\begin{array}{l} \text{Loan delinquency}_{i,t} = \alpha + \beta_1 \textbf{Origin. from 2018}_i + \beta_2 \textit{Int. Rate}_i + \beta_3 \textit{Years to Mat.}_{i,t} \\ + \gamma \textit{Loan characteristics}_i + \delta \textit{Borrower's characteristics}_i \\ + \theta \textit{Macro-variables}_{i,t-1} + \textit{ABS deal FE} + \textit{Year FE} + \varepsilon_{i,t} \end{array}$ 

 $\begin{aligned} \text{Loan delinquency}_{i,t} &= \alpha + \beta_1 \text{STS Securitisation}_i + \beta_2 \text{Int. Rate}_i + \beta_3 \text{Years to Mat.}_{i,t} \\ &+ \gamma \text{Loan characteristics}_i + \delta \text{Borrower's characteristics}_i \\ &+ \theta \text{Macro-variables}_{i,t-1} + \text{ABS deal FE} + \text{Year FE} + \varepsilon_{i,t} \end{aligned}$ 

Cumulative delinquency rates of residential mortgages, before the COVID-19 pandemic.



Our model also confirms that loans originated from 2018 show an average lower annual PD of 33.6 bp after controlling for loan/borrower characteristics and macroeconomic variables.

#### The effects of the COVID-19 pandemic

The COVID-19 pandemic provides a unique opportunity to analyse the difference in performance between loans securitised in STS deals and non-STS deals during adverse economic conditions.

Fixed effect marginal coefficients of the probit regression model and their 95% confidence intervals.



#### The effects of the COVID-19 pandemic

#### Quarterly delinquency rate by employment status.



#### The effects of the COVID-19 pandemic

Cumulative delinquency rate by country of origination relative to the total number of active loans in 2019q4.



#### Quarterly delinquency rate for STS and non-STS securitisation.



| Dependent Variable: Loan delinquency |                   |              |  |  |  |
|--------------------------------------|-------------------|--------------|--|--|--|
| Variable                             | Basis Points (bp) |              |  |  |  |
|                                      | 2018 to 2019      | 2018 to 2020 |  |  |  |
|                                      |                   |              |  |  |  |
| STS Securitisation                   | -43.43***         | -79.67***    |  |  |  |
|                                      | (9.66)            | (20.31)      |  |  |  |
|                                      |                   |              |  |  |  |
| Loan characteristics                 | yes               | yes          |  |  |  |
| Borrower characteristics             | yes               | yes          |  |  |  |
| Macro-Variables                      | yes               | yes          |  |  |  |
| Country fixed effects                | yes               | yes          |  |  |  |
| Time Fixed Effects                   | yes               | yes          |  |  |  |
| Observations                         | 1 024 924         | 2 147 141    |  |  |  |
| Pseudo R-squared                     | 0.065             | 0.107        |  |  |  |

#### The effect of the STS regulation on mortgage delinquency rates.

The effect of the STS regulation on mortgage delinquency during the pandemic.

| Dependent Variable: Loan Delinquency |                      |           |  |  |  |  |
|--------------------------------------|----------------------|-----------|--|--|--|--|
| Variables                            | Marginal Effect (bp) |           |  |  |  |  |
|                                      | (1)                  | (2)       |  |  |  |  |
|                                      |                      |           |  |  |  |  |
| STS Securitisation                   | -74.35***            | -25.37*** |  |  |  |  |
|                                      | (20.92)              | (8.37)    |  |  |  |  |
| Pandemic Period                      | 46.00***             | 44.99***  |  |  |  |  |
|                                      | (13.20)              | (12.74)   |  |  |  |  |
| STS Securitisation * Pandemic Period |                      | -84.60*** |  |  |  |  |
|                                      |                      | (22.64)   |  |  |  |  |
| Loan characteristics                 | yes                  | yes       |  |  |  |  |
| Borrower characteristics             | yes                  | yes       |  |  |  |  |
| Macro-Variables                      | yes                  | yes       |  |  |  |  |
| Country fixed effects                | yes                  | yes       |  |  |  |  |
| Observations                         | 2,147,141            | 2,147,141 |  |  |  |  |
| Pseudo R-squared                     | 0.099                | 0.102     |  |  |  |  |

We now focus on our tranche-level dataset to investigate the effects of the STS regulation on the securitisation structure of residential mortgage-backed securitisations.

|  | Non-STS  | STS      |                      |          |
|--|----------|----------|----------------------|----------|
| Variable description                       | Mean (1) | Mean (2) | Difference (2) – (1) | p-value  |
| number of tranches                         | 5.07     | 3.82     | -1.25                | 0.011**  |
| senior tranches (%)                        | 86.7     | 90.4     | 3.7                  | 0.021**  |
| mezzanine tranches (%)                     | 1.1      | 1.5      | 0.4                  | 0.461    |
| subordinated tranches (%)                  | 12       | 8.1      | -3.9                 | 0.027**  |
| - of which retained tranches (%)           | 5.3      | 4.7      | -0.6                 | 0.595    |
| average tranche rating* per securitisation | 25.6     | 26.5     | 0.84                 | 0.002*** |

\* This is the variable *Rating equivalent* from Eikon, which ranges from 1 to 27, with 27 corresponding to AAA.

- The default risk can more easily affect senior tranche holders, given the thinner subordinated tranches and fewer tranches available to absorb losses.
- We perform a stress-testing exercise to evaluate the expected losses for RMBS originators and tranche holders under various scenarios.
- The default rate for each scenario is derived from the distribution of loan default rates within our sample of securitisations.

| LGD=100%  |                |                 | Exp          | ). loss t      | o investors    | Exp. loss to originator |
|-----------|----------------|-----------------|--------------|----------------|----------------|-------------------------|
|           |                |                 |              |                | Tranch         | es                      |
| Parameter | Securitisation | Def. Rate %     | Senior       | Mezz.          | Subordinated   | Retained                |
| Average   | Non-STS<br>STS | 1.49%<br>0.29%  | 0.0%         | 0.0%<br>0.0%   | 0.0%<br>0.0%   | 28.1%<br>6.2%           |
| 90% qnt   | Non-STS<br>STS | 3.94%<br>0.65%  | 0.0%<br>0.0% | 0.0%<br>0.0%   | 0.0%<br>0.0%   | 74.2%<br>13.8%          |
| 95% qnt   | Non-STS<br>STS | 5.42%<br>0.79%  | 0.0%<br>0.0% | 0.0%<br>0.0%   | 1.7%<br>0.0%   | 100.0%<br>16.9%         |
| 99% qnt   | Non-STS<br>STS | 17.45%<br>1.14% | 5.0%<br>0.0% | 100.0%<br>0.0% | 100.0%<br>0.0% | 100.0%<br>24.2%         |

 To supplement our findings, we utilise a simple ordinal logistic model to estimate the likelihood of tranches being rated AAA – A3, BAA1 – BAA3, or BA1 – C (i.e., speculative).

| Marginal Effect       |                    |                     |                       |  |  |  |  |
|-----------------------|--------------------|---------------------|-----------------------|--|--|--|--|
| Rating band           | AAA - A3           | BAA1 - BAA3         | BA1 - C (speculative) |  |  |  |  |
| STS                   | 0.038**<br>(0.016) | -0.012**<br>(0.006) | -0.026**<br>(0.013)   |  |  |  |  |
| Obs.<br>Pseudo- $R^2$ |                    | 163<br>0.075        |                       |  |  |  |  |

#### Conclusions

In this study, we explore the role of lower ABS deal complexity during periods of macro-economic uncertainty. To do so, we analyse the effects of the new European ABS regulation, which entered into force in 2018

- Our study demonstrates that the general provisions of the regulation have led to an improvement in mortgage quality and a reduction in mortgages with "risky characteristics".
- Our findings indicate that less complex ABS deals outperformed their non-STS counterparts during the Covid-19 pandemic.
- Our research provides evidence that the enhanced loan quality in STS deals outweighs the potential effects on securitisation structure, resulting in significantly higher tranche ratings at origination.

#### Thank you

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#### Appendix - Robustness checks

- Main results with quarterly data.
- STS results on a sample of originators issuing both STS and non-STS securitisations.
- Sample restriction to the first two years after loan origination.
- Sample restriction to the first two observations per loan.
- Exclusion of loans securitised from 2017.
- Exclusion of loans originated before 2010.
- Exclusion of loans originated before 2013.
- Inclusion of country-specific lagged GDP.
- Inclusion of lagged 3-month Euribor index.
- Inclusion of measure of country-specific government intervention during Covid pandemic (ESI Index).
- Inclusion of lagged standard deviation of 3-month Euribor index.

#### Asymmetric information in loan contracts: New evidence from Italian big data

Francesco Benvenuti

#### Department of Economics and Business Economics and CREATES Aarhus University

#### Joint work with: Monica Billio, Michele Costola, Marco LiCalzi (Ca' Foscari University)

#### European DataWarehouse Research Webinar

26 September 2023



# SAVE THE DATE: 8th november

(WEDNESDAY FROM 1 PM TO 6 PM)

## **GREEN AUTO SECURITIZATION WORKSHOP**

## **IN FRANKFURT @ GOETHE UNIVERSITY**





SEPTEMBER 2023



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