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Sweeping It under the Rug? The Securitisation of Climate-Stressed Loans by European Banks

By *Frederik Pietig*

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Sweeping It under the Rug? The Securitisation of Climate-Stressed Loans by European Banks.

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Abstract

I investigate whether European banks use securitisation for strategic divestment of loans with high climate risk in response to direct supervisory scrutiny. Exploiting the 2022 ECB climate risk stress test as a setting and using granular, loan-level data from European asset-backed securities, I find that banks with high lending-related climate risk exposure significantly increased their securitisation of "climate-stressed" loans before the test. This behaviour reverses post-test, as these loans become less likely to be securitised, suggesting that supervisory pressure accelerates the offloading of assets before internal model updates render them ineligible for transfer. Results provide evidence of strategic risk-shifting in response to a thematic stress test and identify a new form of adverse selection based on regulatory, rather than traditional credit risk.

Keywords: Bank stress-testing, climate risk, securitisation

JEL Classification: D82, G21, G28, Q56

Introduction

In this paper, I investigate how European significant institutions (SIs) adjust their securitisation decision in response to the 2022 climate risk stress test (CRST) by the European Central Bank (ECB). The integration of climate risk into bank-wide lending frameworks and financial models presents a substantial challenge for financial institutions. This is primarily due to a lack of granular borrower-level data necessary for effective risk assessment, as well as the known limitations of existing internal models in linking climate risk to any tangible financial outcomes. In practice, banks often resort to qualitative borrower categorisations and simplified traffic-light indicators to gauge climate-related exposures. While much of the existing research and industry practice has focused on macro-level risks scenarios (Dunz et al., 2021; Reinders et al., 2023, 2025), a gap remains in the formal assessment of risk at the micro, firm-specific level. This gap is becoming increasingly critical as growing regulatory scrutiny and external pressure compel institutions to adjust their internal climate risk governance and models to satisfy current requirements and prepare for future regulatory burdens (Kok et al., 2023; Konietschke et al., 2022).

The regulatory framework for climate risk in the lending operations of SIs has evolved through a series of legislative and supervisory actions. Its foundation was established in 2019 with amendments to the Capital Requirements Directive (CRD) and the Capital Requirements Regulation (CRR), namely the CRD V[1] and the CRR II[2], that formally mandated the integration and disclosure of environmental, social, and governance (ESG) risks.

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[1] Directive (EU) 2019/878.

[2] Regulation (EU) 2019/876.

This was complemented by the Sustainable Finance Disclosure Regulation (SFDR)[3], which requires financial institutions to be transparent about how they incorporate environmental factors into financing decisions. And further seconded by extensive disclosure required by the EU Taxonomy[4], a classification system that now compels banks to evaluate their financed activities and report on their expected environmental impact.

To provide concrete direction for implementation, the European Banking Authority (EBA) and the ECB issued detailed supervisory guidance. The EBA's Guidelines on loan origination[5] specifically instruct institutions to: "[…] take into account the risks associated with ESG factors on the financial conditions of borrowers, and in particular the potential impact of environmental factors and climate change, in their credit risk appetite, policies and procedures." (European Banking Authority, 2024, p. 26). This approach was reinforced by the ECB Guide from November 2020, which stipulated that "[…] institutions are expected to consider climate-related and environmental risks at all relevant stages of the credit-granting process and to monitor the risks in their portfolios." (European Central Bank, 2020, p. 4).

Regulatory initiatives, including regional climate stress tests by the Bank of France and the Bank of England in 2020 and 2021, the 2020 EBA Climate Pilot Exercise, and the 2021 ECB Economy-Wide Climate Stress Test, set a precedent for scrutinising how banks integrate these climate-related requirements. Following these, the 2022 CRST probed 41 banks' corporate loan exposures to small and medium-sized enterprises (SMEs) under various transition and physical risk scenarios in a bottom-up exercise. And lead to a detailed evaluation of potential credit losses

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[3] Regulation (EU) 2019/2088.
[4] Regulation (EU) 2020/852.
[5] EBA/GL/2020/06.

and vulnerabilities within the banks' SME portfolios, thereby revealing the resilience of this lending segment to different climate futures. It has been made clear that“[…] the ECB expects banks to make substantial further progress in the coming years.” (European Central Bank, 2022, p. 5).

This raises a critical and nuanced question: in response to immediate supervisory scrutiny and in anticipation that stressed assets may soon face increased risk from extended inclusion of climate risk, do banks manage their loan books and offload climate-stressed loans, effectively *sweeping these assets under the rug*?

Securitisation presents a primary channel for managing the loan book. By transferring loans to a special-purpose vehicle, banks can remove risky assets from their balance sheets and (Yavas & Zhu, 2024), crucially, from the scope of supervisory stress tests (European Banking Authority, 2021). However, the impending model updates introduce a further urgency. The prospectuses governing securitisations require underlying assets to be of sound credit quality. Once climate risk is further integrated into a bank’s models, loans to carbon-intensive industries may receive a higher risk weighting, potentially disqualifying them from being added to new securitised pools. This creates a limited window of opportunity for banks to act.

Recent work has shown the impact of climate risk, where banks are more likely to select higher climate risk loans for securitisation (Cusano et al., 2024) and particularly when policy pressure is high (Mueller et al., 2025) This dynamic reframes the classic tension in securitisation between legitimate risk management and adverse selection (Fenner et al., 2021; Schwarcz, 1994). I propose that the regulatory pressure from the CRST made climate-exposed loans ‘undesirable’ not only because of their direct supervisory implications but also because of their threatened future eligibility for securitisation. This looming re-classification created an incentive to offload these assets while they still qualified under existing, less climate-aware criteria.

To test these hypotheses, I leverage a unique loan-level dataset from the European securitisation repository[6]. I identify climate-stressed SME loans by classifying their industry according to the high-risk sectors defined in the ECB's methodology note. I then employ probability models to analyse the odds that a loan securitised during the CRST's preparation phase originates from a climate-stressed industry, and during the period after the CRST's conclusion, when model and governance updates would be underway.

My results provide strong evidence for this pre-emptive offloading strategy. Loans securitised by SIs were more likely to be originated from climate-stressed industries in the preparation period leading up to the CRST. For banks with higher pre-existing climate risk exposure from their lending activities, the chance of such a loan being securitised more than doubled. This suggests that, anticipating these loans are undesirable in context of the upcoming CRST and that these loans would soon be re-classified under updated models and potentially become ineligible for future securitisation, banks accelerated their transfer into ABS pools. Conversely, in the post-stress test period, I find that the odds of securitising a climate-stressed loan were significantly lower, consistent with the closing of this strategic window and post-stress adjustment to internal models. Results are robust to different scenarios, potential confounding explanations, and reporting changes to the European ABS regime.

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[6] The European DataWarehouse (EDW), established pursuant to Article 10 ff. of (EU) 2017/2402, the Securitisation Regulation.

Furthermore, robustness analysis reveals a corresponding shift in loan size. The increased securitisation of climate-stressed loans pre-CRST was concentrated on a more diverse borrower base. Post-CRST, the fewer climate-stressed loans that were securitised were, on average, significantly larger. This lends further support to the hypothesis: after the model updates, the eligibility criteria tightened, such that only a narrow subset of climate-stressed loans, perhaps larger, more well-known borrowers with other mitigating factors, could still qualify for inclusion in securitised pools.

This paper contributes to several strands of the literature. First, I add a new dimension to the long-standing debate on adverse selection in securitisation. While prior work has focused on traditional credit risk (Fenner et al., 2021; Kara et al., 2019; Yavas & Zhu, 2024), this study identifies a new class of undesirable asset, the regulatory or climate-stressed loan, and shows that banks engage in a thematic form of ‘lemon-dumping’ when faced with targeted regulatory scrutiny. This qualifies the findings of studies like Duran & Lozano-Vivas (2013) and Albertazzi et al. (2015), which suggest banks primarily securitise high-quality loans, by showing that under specific pressures, the opposite can be true for non-traditional risks. Second, this paper provides evidence of regulatory arbitrage in the novel context of climate risk, extending the work of Cornett et al. (2020) and Dechow & Shakespeare (2009). The results demonstrate that supervisory exercises like the CRST do not merely measure risk but actively induce adjustments. Finally, this study confirms the role of strategic loan securitisation in response to regulator-imposed climate risk shown by Cusano et al. (2024) and Mueller et al. (2025).

Literature and Hypotheses Development

Extensive research has examined the general motives for bank securitisation, where early work identifies fee generation as a primary driver, focusing on securitisation as a tool to enhance profitability (Hänsel & Bannier, 2008; James, 1988; Lockwood et al., 1996). A more recent stream of literature points to liquidity management (Farruggio & Uhde, 2015). Banks with limited access to alternative funding, such as the interbank market, or those with weaker financial performance, are more likely to securitise assets (Cardone-Riportella et al., 2010). This process transforms illiquid loans into vital short-term funding (Loutskina, 2011). A third motivation has been identified as regulatory capital arbitrage, whereby banks strategically employ securitisation to reduce their regulatory capital requirements (Affinito & Tagliaferri, 2010; Michalak & Uhde, 2012). This theory finds particular support in studies from the pre-2007 financial crisis era (Calomiris & Mason, 2004; Minton et al., 2004; Uzun & Webb, 2007). Lastly, risk transfer has also been identified as a critical driver, as securitisation relieves pressure from a bank's balance sheet. The selection of loans for transfer is strongly correlated with their credit risk; interestingly, banks tend to retain loans whose risk is high or opaque to external investors (Chen et al., 2008). However, less attention has been paid to how specific loan portfolio characteristics influence securitisation decisions. Some evidence suggests that banks use securitisation to manage troubled loans (Affinito & Tagliaferri, 2010), and that larger loans are more frequently securitised (Ghent & Valkanov, 2016).

Collectively, this literature indicates that both institutional financial health and portfolio risk are key determinants of securitisation activity. This supports the proposition that banks selectively transfer loans that either impair their financial condition or increase their portfolio risk.

Securitisation and Climate Risk

In this context climate risk represents a new, additional dimension of risk for financial institutions. Methodological advances now permit the systematic classification of financial assets by their climate risk profile, and these frameworks are being integrated into regulatory supervision (Battiston et al., 2017; Reinders et al., 2023, 2025) where climate scenarios materially affect credit risk through higher probabilities of default and losses given default (Dunz et al., 2021). Consequently, assets with high climate risk exposure, often labelled ‘brown’ loans, can become balance sheet liabilities due to potential regulatory penalties, reputational damage, or valuation haircuts, even if their credit performance remains sound.

Recent empirical work offers direct support for securitisation as a climate risk transfer channel. In the Italian market, ‘brown’ loans form a disproportionately large share of securitised pools, suggesting banks strategically divest assets with high climate risk while retaining ‘green’ loans (Cusano et al., 2024). Derecognising these loans also materially reduces a bank’s reported financed emissions (Cusano et al., 2024). Causal evidence from the U.S. market further corroborates this behaviour. Using the 2016 presidential election as an exogenous shock to climate policy expectations, a study finds that banks were significantly more likely to securitise loans with high transition risk when perceived policy risk was elevated. This behaviour subsided as policy risk declined, providing strong evidence that banks actively use securitisation to transfer climate-related risk from their portfolios (Mueller et al., 2025).

Information Asymmetry and Adverse Selection

The premise that banks use securitisation to manage undesirable assets, coupled with evidence that they offload loans with heightened risk, has inspired a broad stream of research into potential adverse selection, or ‘cherry-picking’, behaviours.

Early theoretical work posits that regulatory incentives can lead banks to retain lower-quality debt (Greenbaum & Thakor, 1987). This is consistent with evidence from the U.S. mortgage market, where banks retain loans with higher default risk, particularly during crises (Agarwal et al., 2012). Similarly, European studies find that securitised loans are often of higher quality, arguing that investor risk aversion imposes market discipline (Albertazzi et al., 2015; Duran & Lozano-Vivas, 2013).

Conversely, a more recent stream of literature finds that banks securitise their lower-quality assets. Recent evidence from the U.S. reveals a positive correlation between a loan’s expected loss and its probability of being securitised (Yavas & Zhu, 2024). Other work highlights dynamic risks, such as the post-securitisation deterioration of loan performance due to reduced originator monitoring (Kara et al., 2019) or the subsequent addition of lower-quality loans to existing pools (Fenner et al., 2021).

These contradictory findings are often reconciled by the problem of information asymmetry between originators and investors (An et al., 2011; Cheng et al., 2011; Downing et al., 2009; Keys et al., 2010). Supporting this view, research on the European ABS transparency regime shows that mandatory disclosure improves the performance of securitised assets and reduces bid-ask spreads (Ertan et al., 2017). The conclusion that transparency mitigates information asymmetry, thereby enhancing the quality of securitised assets, is supported by several recent studies (Fenner et al., 2021; Klein et al., 2021; Neilson et al., 2022). Yet, previous research exclusively focused on risk and transparency in context of credit risk and performance. No work has investigated thematic loan selection, like the categorisation of climate-stressed assets, outside traditional financial risk and performance metrics.

Stress Testing and Securitisation

This potential for thematic adverse loan selection gives additional tension in context of thematic stress testing, such as the CRST. European banks subject to stress tests, particularly when the results were not publicly disclosed, were found to reallocate credit away from high-risk borrowers (Konietschke et al., 2022). Additionally, the public disclosure of stress test results, appears to exert a disciplining effect on banks (Kok et al., 2023). Comparable trends are observed in U.S. banks, where capital stress tests similarly influence risk-taking and credit allocation (Pierret & Steri, 2020).

This behaviour is consistent with a broader literature on balance sheet management. Banks actively manage their risk profiles and financial statements in response to capital pressure, particularly near reporting deadlines (Begley et al., 2017; Garcia et al., 2021). This incentive to manage the balance sheets is a well-documented phenomenon (Dechow & Shakespeare, 2009; Garcia et al., 2021). In this context, securitisation is an effective tool for offloading credit risk to manage regulatory scrutiny. However, while beneficial for an individual institution, this activity is not without controversy. A substantial body of research documents the negative externalities of such risk transfer, linking it to an increase in systemic risk (Higgins et al., 2019; Michalak & Uhde, 2012; Sahin et al., 2020; Uhde & Michalak, 2010).

Hypotheses on Securitisation in the Context of the 2022 ECB Climate Risk Stress Test

The CRST provides a unique setting for testing strategic securitisation behaviour. The announcement of the CRST methodology in October 2021 created a strategic window for banks. With three months before the test's data reference date (end of December 2021)(European Central Bank, 2021), SIs had a clear incentive to manage their portfolios by securitising loans from newly designated climate-stressed industries. A poor test outcome could trigger intense regulatory scrutiny and fuel higher capital requirements. Furthermore, Module 3 of the CRST forced banks to confront latent transitional and physical climate risks in their portfolios (European Central Bank, 2021), which would inevitably lead to pressure on internal credit risk models. Consequently, loans that were suitable for securitisation before the CRST are likely be deemed too risky for transfer after these model adjustments.

This incentive to offload climate-stressed loans is amplified by information asymmetry. While transparency can ordinarily mitigate adverse selection (Ertan et al., 2017; Klein et al., 2021), specific climate risk metrics are proprietary and not observable to investors. This allowed banks to transfer latent regulatory risk by securitising a climate-stressed loan over a comparable loan with identical observable financial metrics. This leads to my first hypothesis:

Hypothesis 1: *Following the announcement of the 2022 ECB climate risk stress test methodology, loans securitised by SIs were more likely to originate from climate-stressed industries.*

The communication of the CRST results by the end of July 2022 marks a crucial second event. The regulatory feedback, which identified specific shortcomings in banks' risk management frameworks, created intense pressure for SIs to incorporate climate factors more formally into their internal models (Kok et al., 2023; Konietschke et al., 2022). This recalibration would directly increase the recognised risk of loans to borrowers in climate-stressed industries. As these assets become explicitly riskier on the bank's own books, they become less suitable for securitisation under conventional criteria designed to ensure the quality of the asset pool. This leads to my second hypothesis:

Hypothesis 2: *Following the communication of the 2022 ECB climate risk stress test results, loans securitised by SIs were less likely to originate from climate-stressed industries.*

Method and Sample

To investigate my hypotheses, I analyse loans securitised to European SME-ABS backing asset pools, comprising European loans to SMEs, between 2015 and 2024 by SIs. These loans relevant in Module 3, the bottom-up assessment of transitional and physical climate risk, of the 2022 ECB CRST (European Central Bank, 2021) and resemble the backbone of the European debt financing on banks' balance sheets. I leverage the mandatory transparency requirements of the European public ABS market per Article 7 of Regulation (EU) 2017/2402. Different to the U.S., European regulations require quarterly loan-level reporting to an established securitisation repository, which allows for the observation of assets transferred in and out of ABS pools over time, but only the initial portfolio composition at ABS-issuance. While previous research utilised collateral loan obligations (CLOs) (Mueller et al., 2025), this approach allows me for a direct window into bank behaviour, eradicating noise from the collateral manager.

Prior literature that aimed to analyse the drivers of securitisation and loan selection criteria in ABS made wide use of the probability assessment method (Affinito & Tagliaferri, 2010;

Cardone-Riportella et al., 2010; Farruggio & Uhde, 2015; Hibbeln & Osterkamp, 2024; Kara et al., 2019). Similarly, I utilise a logistic regression to estimate the probability (*P*) that a loan (*L*) securitised into ABS (*S*) pool is climate-stressed (*CS*) at time (*t*), facing elevated transitional or physical climate risk. Where a climate-stressed loan is identified when the loan's NACE Level 2 industry identifier corresponds to one of those industries categorised for the CRST (European Central Bank, 2021). The impact of these CRST-related effects is measured using two dummy variables: *CRST Prep,* covering the period between the methodology announcement (October 2021) and the pool cut-off date (end of December 2021)(European Central Bank, 2021); and *CRST Post*, covering the period following the publication of the results in July 2022 (European Central Bank, 2022).

While previous research has shown that the securitisation of 'brown' loans is related to financed carbon emission (Cusano et al., 2024; Mueller et al., 2025), a primary empirical challenge is that the exact CRST-related pressure on a bank's loan book is unobservable. I therefore construct a proxy, the Lending-Adjusted Carbon Intensity (*LACI*), to capture this pressure. The logic is twofold. First, a bank's climate risk exposure relates to its carbon intensity, measured as financed emissions in thousands to total assets in millions (*GHG/Size*). Second, since securitisation is a tool to manage the loan book, a bank's ability to act is constrained by the relative importance of its lending activities. I therefore scale the carbon intensity by the ratio of gross loans to total assets (*Loans/Size*). This results in the moderator variable, which captures a bank's pressure to manage climate risk via its lending portfolio and separates the impact from the market exposure emissions: $LACI = (GHG/Size) \times (Loans/Size)$.

The baseline Model (1) specifies as follows:

$$
\begin{aligned}
Logit(P(CS_{L,t} = 1)) & \\
&= \alpha + \beta_1 CRST\ Prep_t + \beta_2 CRST\ Post_t + \beta_3 (CRST\ Prep_t \\
&\times LACI_{I,t}) + \beta_4 (CRST\ Post_t \times LACI_{I,t}) + \beta_5 LACI_{I,t} + \Gamma'_{L,t} + \mathrm{X}'_{I,t} \\
&+ \gamma EURIBOR_t + \theta_S + \tau_t + \epsilon_{L,I,S,t}
\end{aligned}
\tag{1}
$$

The above *Model 1* includes several vectors of control variables to isolate the effect of the CRST. First I employ controls for loan-specific characteristics that may differ for climate-stressed industries by means of a vector Γ of attributes, and significant in previous research (Dunz et al., 2021; Ertan et al., 2017; Fenner et al., 2021; Ghent & Valkanov, 2016; Hibbeln & Osterkamp, 2024; Kara et al., 2019; Klein et al., 2021): the current *Interest Rate*, the natural logarithms of the loan's *Balance* at the time of securitisation, its amortisation as the ratio of the current to the original balance (*Outstanding*), its residual *Maturity* in years, and dummy variables for whether the loan is *Collateralised* and/or *Syndicated*.

To account for other stress-test-related factors, I control for a vector of bank specifics, X', incorporating decisive variables identified to affect securitisation (Affinito & Tagliaferri, 2010; Casu et al., 2013; Chen et al., 2008; Cornett et al., 2020; Duran & Lozano-Vivas, 2013; Farruggio & Uhde, 2015; Klein et al., 2021; Uhde & Michalak, 2010). These include proxies for general stress test performance, namely the capital adequacy ratio (*CAR*) and earnings to total assets ratio (*EAR*), and credit risk proxies, by means of the ratio of non-performing loans to gross loans (*NPL/Loans*), and the loan loss reserve to gross loans (*LLR/Loans*). Furthermore, I include the return on assets as a common performance proxy (*ROA*), as well as the natural logarithm of banks' total assets (*Size*). To address bank-level key sustainability metrics, I control the natural logarithm of total Scope 3 carbon emissions (*GHG*) and the bank's Refinitiv Combined ESG Score (*ESG Score*). Lastly, to reflect the overall credit market situation, I control for the 3-month *EURIBOR*.

The likelihood of securitising a climate-stressed loan is potentially influenced by the proportion of loans leaving the portfolio, as these loans need to be 'replaced'. If the departing loans predominantly belong to industries classified as climate-stressed, it is reasonable to assume that incoming loans are more likely to share the same industry classification. To account for this dynamic, I include a control variable (*CS Exiting*), defined as the percentage of climate-stressed loans exiting the portfolio at the time new loans are securitised.

Refer to Appendix 1 for detailed descriptions of all variables and their corresponding data sources. Unobserved heterogeneity, unique to each ABS deal and its prospectus, is addressed by deal fixed effects (θ_S). I also incorporate year fixed effects (τ_t) to capture common time trends and macroeconomic shocks.

Sample, Data Sources, and Descriptive statistics

To obtain a comparable and transparent view on securitised loans and avoid the information asymmetry likely present in non-public markets, or where intermediaries are involved (Mueller et al., 2025), I exclusively utilise information from public European ABS (Ertan et al., 2017). Following previous research (Ertan et al., 2017; Fenner et al., 2021; Hibbeln & Osterkamp, 2024; Klein et al., 2021), I construct my sample by extracting loan-level data directly from the securitisation repository.

Reporting to the repository is made via two distinct data templates. Until 2021, data was exclusively reported under an ECB-provided template. From that time until end of the transition period by the end of 2024, reporting has been moved to the European Securities and Markets

Authority (ESMA)-provided template. In the first step, all SME-categorised ABS deals outstanding between 01.01.2015 and 31.12.2024 were extracted from the 'Deal' table (sme.deals) in the ECB template corresponding table (edcloud) and the the ESMA template corresponding service (srdata), yielding 156 unique asset pools. SME-categorised deals in the repository include all loans originated for SMEs, which fall within the scope of the 2022 CRST. Table 1 outlines the sample filtering process.

[Insert Table 1 about here.]

Next, I remove all deals where the originator cannot be identified as a CRST-relevant SIs under ECB supervision, resulting in 131 relevant SME deals from 19 individual banks. Subsequently, I filter loan-level data from the repository for deals that have sufficient corresponding bank-level data available via Moody's[7] and Refinitiv, based on the loan securitising originators' legal entity identifier (LEI), resulting in 65 deals from 11 SIs. Loans are identified by their unique loan identifier and filtered by the pool cut-off date, where the earliest observation pinpointing their initial securitisation date. In addition, loans with a negative reported securitised amount and those with a loss-given default value exceeding the nominal 0 to 100 scale were excluded from the sample. Table 2 provides an overview of the individual deals identified and the corresponding loans added to the asset pool between 2015 and 2024. The asset pool-level sample consists of 875 quarter-year observations for all 65 deals from 11 Sis in scope. Cleaning for

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[7] Previously Orbis (Bureau van Dijk, BvD).

missing and inconsistent loan-level reporting, the loan-level final sample consists of 3,028,263 loans securitised by 10 unique Sis.

[Insert Table 2 about here.]

Table 3 presents descriptive statistics for the full sample per SI. The immense standard deviation in gross *Loans* (297,919) and *Securities* held (111,248) highlights the vast diversity in the scale and business models of the banks included in the sample, ranging from smaller institutions to major financial conglomerates. Similarly, the wide dispersion in *GHG* (standard deviation of 62,696) points to differences in the financed emissions and underlying sustainability profiles of the banks' loan books. This highlights the necessity to correct for the *LACI*.

[Insert Table 3 about here.]

The dataset comprises securitised loans with a mean balance of approximately € 135,000 and an average interest rate of 2.34%. Around 53.4% of loans in the sample are categorised as climate-stressed, indicating that just over half the loans are given to 'brown' borrowers. Distinct asset pools have an average size of € 2.4 billion and show an average share of climate-stressed loan volume of 42.12%. Banks in the sample are generally large and well-capitalised, with an average *CAR* of 16.6%. Key risk indicators for these banks include a mean *NPL/Loans* ratio of 5.4% and an average *LACI* of 0.085, which provides a baseline for the climate risk exposure my research investigates.

Empirical Results

Table 4 reports the results from the loan-level baseline analysis, employing Model (1). The coefficients for the main variables of interest, *CRST Prep* and *CRST Post*, are statistically insignificant across most specifications. This suggests that, unconditionally, the CRST did not induce a change in the likelihood of securitising climate-stressed loans. Column (V) provides an exception, showing a modestly significant negative coefficient for *CRST Post*, which offers preliminary support for the hypothesis (H2) that, on average, banks adjusted their internal risk models following the stress test, making climate-stressed loans less suitable for inclusion in ABS pools.

[Insert Table 4 about here.]

Several control variables are statistically significant and aligned with prior literature. At the loan level, results from the full specification (VIII) indicate that climate-stressed loans are more likely to have a larger *Balance* (Ghent & Valkanov, 2016) but a lower *Interest Rate* and shorter residual *Maturity* (Chen et al., 2008; Fenner et al., 2021). I also find a strong negative association for *Syndicated* loans, indicating they are significantly less likely to be climate-stressed within these SME-ABS transactions. This result does not necessarily contradict prior findings on the securitisation of ‘brown’ syndicated loans in the U.S. (Mueller et al., 2025), as those are typically channelled into collateralised loan obligations (CLOs) rather than SME-ABS.

At the bank level, the positive and significant coefficient on *Size* suggests that larger institutions are more likely to securitise climate-stressed loans. Furthermore, the significant negative coefficient on *CAR* indicates that better-capitalised banks are less likely to securitise these loans, which aligns with the notion that regulatory capital pressure is a key driver of this specific form of risk transfer (Affinito & Tagliaferri, 2010; Michalak & Uhde, 2012).

Moderating Role of Lending-Adjusted Carbon Intensity

Table 5 reports the main results of my analysis, testing whether the CRST's impact is conditional on a bank's pre-existing lending-related climate risk exposure (*LACI*). The results provide strong support that banks would preemptively select CRST-relevant loans ahead of the stress test's field work taking place (H1). I find a positive and highly significant coefficient for the interaction term *CRST Prep* × *LACI* (58.038, $p < 0.01$). This is consistent with the literature on balance sheet management (Begley et al., 2017) and strategic securitisation behaviour by banks with higher climate risk exposure (Cusano et al., 2024; Mueller et al., 2025).

[Insert Table 5 about here.]

The results for the post-period support the predicted change in behaviour following the CRST feedback (H2). While the main effect of *CRST Post* is negative, the interaction term *CRST Post* × *LACI* is positive (3.312, $p < 0.10$). This suggests that although the selection of climate-stressed loans decreased on average, consistent with banks updating their internal risk models, this effect was significantly attenuated for the higher *LACI* banks. These institutions, despite the new risk parameters, still faced a greater exposure to a legacy stock of 'brown' assets.

The magnitude of this strategic behaviour is substantial. Based on the coefficients in column (III), the odds more than doubled that a loan securitised is climate-stressed for banks that have an *LACI* at or above the sample mean (0.064). This preemptive offloading ceased after the exercise was complete. In the *CRST Post* period, the odds of securitising a climate-stressed loan decreased by 4.4%, employing the loan sample mean *LACI*. Using the lower sample median *LACI* (0.049) as a reference, the chances that a securitised loan is climate-stressed decreased by around 9.0% in the *CRST Post* period, reflecting the persistent pressure on high *LACI* institutions.

Overall, the core analysis of this study yields significant evidence that the odds of a securitised loan originating from a climate-stressed industry increased in the preparation period of the CRST and decreased in the post-period. Confirming that banks are more likely to transfer such loans to the ABS pool when the asset is on the verge of becoming undesirable (H1). Following the examination and assuming subsequent risk model adjustments, such loans are less likely to be observed coming into the ABS pool (H2).

Robustness and Additional Analysis

Moderator Component Analysis: Carbon Intensity and Lending Ratio

To ensure the moderating effect of the *LACI* is not driven by a single component, I test the model's robustness by disaggregating *LACI* into its two constituent parts: the relative carbon emissions and its lending-to-asset ratio. I re-estimate the Model twice (*2.1, 2.2*), replacing the composite *LACI* variable first with the relative carbon emissions measure and then with the lending ratio. All controls and fixed effects remain identical to the main specification from Model (*1*).

$$\begin{aligned} Logit(P(CS_{L,t} = 1)) \\ &= \alpha + \beta_1 CRST\ Prep_t + \beta_2 CRST\ Post_t + \beta_3 (CRST\ Prep_t \\ &\times (GHG_{I,t} \div Size_{I,t})) + \beta_4 (CRST\ Post_t \times (GHG_{I,t} \div Size_{I,t})) \\ &+ \beta_5 (GHG_{I,t} \div Size_{I,t}) + \Gamma'_{L,t} + \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \ \theta_S + \tau_t \\ &+ \epsilon_{L,I,S,t} \end{aligned} \tag{2.1}$$

$$\begin{aligned} Logit(P(CS_{L,t} = 1)) \\ &= \alpha + \beta_1 CRST\ Prep_t + \beta_2 CRST\ Post_t + \beta_3 (CRST\ Prep_t \\ &\times (Loans_{I,t} \div Size_{I,t})) + \beta_4 (CRST\ Post_t \times (Loans_{I,t} \div Size_{I,t})) \\ &+ \beta_5 (Loans_{I,t} \div Size_{I,t}) + \Gamma'_{L,t} + \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \ \theta_S + \tau_t \\ &+ \epsilon_{L,I,S,t} \end{aligned} \tag{2.2}$$

Results presented in Table 6 reveal that both moderating components have a significant positive coefficient in the preparation period. Different to the main loan-level analysis results, no significant effect is found for the post period. This results indicated that in the preparation period both components drive the odds that a securitised loan is originated from a climate-stressed industry, while the post CRST period effect is only a combined effect, measured as the *LACI*.

[Insert Table 6 about here.]

The real effects are consistent with the main analysis. For the relative carbon emissions (*GHG/Size*), employing either the loan sample mean (0.117) or median (0.096) indicates a positive effect during the preparation period and a negative effect in the post-period. The impact of the lending ratio (*Loans/Size*) is more nuanced. Based on the sample mean (0.498), the effect is negative for both the preparation and post-periods. However, for banks with a lending ratio at or above the median (0.525), I find a positive effect in the post-period.

These component tests reveal that while relative carbon emissions are the primary driver of the observed securitisation behaviour around the CRST, this effect is significantly moderated by the bank's lending ratio. This result validates the use of the composite *LACI* measure to capture the nuanced incentives that these institutions face.

Robustness to Alternative Explanations

I conduct a series of tests for alternative explanations, presented in Table 7, to ensure my main findings are robust to confounding factors related to a bank's general sustainability profile, its financial position, or its performance. To do so, I re-estimate the main logit Model (*1*), replacing the *LACI* interaction terms with interactions between the *CRST Prep* and *CRST Post* dummies and alternative bank characteristics.

[Insert Table 7 about here.]

While several alternative interactions are statistically significant, they do not show the same consistent and economically significant pre-emptive pattern as the primary *LACI* interaction. For sustainability-related metrics, banks with higher absolute emissions (*GHG*) were less likely to securitise climate-stressed loans during the preparation period. Though this metric does not account for the source of the emissions, thereby containing the lending-related effect. In the stress category, banks with a higher equity-to-assets ratio (*EAR*) were more likely to securitise these loans in both periods, suggesting a bank's capital structure plays a role. For performance, more profitable banks (*ROA*) were significantly less likely to offload climate-stressed loans pre-emptively. As expected based on findings from previous literature (Cardone-Riportella et al., 2010; Michalak & Uhde, 2012). While these results indicate that capital structure and performance are relevant, the lack of a consistent, strong, and positive pre-emptive effect across these alternative measures reinforces the conclusion that the strategic loan selection is most directly and strongly explained by the specific, lending-related climate risk captured by the *LACI* metric.

Subsequently, I test whether banks' ex-ante public commitments to sustainability initiatives could provide an alternative explanation for the observed loan selection patterns. It's plausible that banks committed to the Science Based Targets initiative (*SBTI*) or the Net-Zero Banking Alliance (*NZBA*)[8] already perceive 'brown' loans as undesirable in the context of their long-term climate pledges. If so, these pre-existing commitments, rather than the specific pressure of the CRST, could be the primary driver of their loan selection decisions, particularly for banks with a high emissions intensity relative to their lending activities (*LACI*). To test this, I estimate Models (*3.1*) and (*3.2*) by interacting dummy variables for *SBTI* and *NZBA* participation with the bank's *LACI*. With controls and fixed effects identical to Model (*1*).

$$\begin{aligned} Logit(P(CS_{L,t} = 1)) & \\ &= \alpha + \beta_1 SBTI_{I,t} + \beta_2 (SBTI_{I,t} \times LACI_{I,t}) + \beta_3 LACI_{I,t} + \Gamma'_{L,t} \\ &+ \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \theta_S + \tau_t + \epsilon_{L,I,S,t} \end{aligned} \tag{3.1}$$

---

[8] The recent exodus from the NZBA, with major banks withdrawing or pausing their membership in the NZBA, does not interfere with my analysis. Though some of the significant institutions in the sample withdraw from the NZBA, this is recorded for 2025 – outside the sample period.

$$
\begin{aligned}
&Logit(P(CS_{L,t} = 1)) \\
&\qquad = \alpha + \beta_1 NZBA_{I,t} + \beta_2 (NZBA_{I,t} \times LACI_{I,t}) + \beta_3 LACI_{I,t} + \Gamma'_{L,t} \\
&\qquad + \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \ \theta_S + \tau_t + \epsilon_{L,I,S,t}
\end{aligned} \tag{3.2}
$$

Table 8 presents the results. The interaction term *SBTI* × *LACI* in column (I) is statistically insignificant, providing no evidence that SBTI-committed banks with high climate risk altered their securitisation behaviour. More strikingly, the interaction term *NZBA* × *LACI* in column (II) is negative and highly significant (-4.612, $p < 0.01$). This indicates that, contrary to the alternative hypothesis, NZBA members with higher climate-risk exposure were significantly less likely to securitise their climate-stressed loans compared to non-member banks with similar risk profiles. These findings suggest that ex-ante commitments do not explain the strategic behaviour observed around the CRST. If anything, NZBA members appear more inclined to retain their climate-stressed assets, which strengthens the conclusion that the pre-emptive securitisation activity documented earlier is a direct, strategic response to the impending regulatory stress test rather than a reflection of broader, pre-existing climate pledges.

[Insert Table 8 about here.]

Asset pool-level effects

As hypotheses (H1, H2) would lead to an increased/decreased inflow of climate-stressed loans, over time, they would increase/decrease their overall concentration within the securitised asset pool. While the large volume of these pools makes it challenging to observe marginal changes from incoming and outgoing loans, asset pool-level analysis is a established approach in securitisation research (Albertazzi et al., 2015; Ertan et al., 2017; Klein et al., 2021; Neilson et al., 2022).

To test this, I calculate the percentage share of climate-stressed loan volume (*CS Pool Share*) in each ABS pool quarterly. I then apply a panel OLS regression to model this share for each ABS pool (S) at each quarterly cut-off date (t). This method allows for a dynamic assessment of how the composition of these pools evolves in response to regulatory events.

The Model (*4*) is specified as follows:

$$\begin{aligned} CS\ Pool\ Share_{S,t} &= \alpha + \beta_1 CST\ Prep_t + \beta_2 CST\ Post_t + \beta_3 (CST\ Prep_t \times LACI_{I,t}) \\ &+ \beta_4 (CST\ Prep_t \times LACI_{I,t}) + \beta_5 LACI_{I,t} + \mathrm{X}'_{I,t} + \gamma EURIBOR_t \\ &+ \ \theta_S + \tau_t + \epsilon_{S,I,t} \end{aligned} \tag{4}$$

Where interactions, control variables and fixed effects are identical to the previous loan-level model (1), excluding the loan-level variables.

Table 9 presents the asset pool-level results, where the dependent variable is the percentage share of climate-stressed loan volume (*CS Pool Share*). The plain model in column (I) shows a negative and statistically significant coefficient for *CRST Prep* (-2.311, $p < 0.10$), which remains significant in the full specification with all controls (column VIII: -2.277, $p < 0.05$). This suggests that, on average, the climate-stressed loan share in securitised portfolios decreased during the preparation period for the CRST. The coefficient for *CRST Post* is negative but loses significance in the initial full model (column VII), providing no consistent evidence of a shift in portfolio composition following the test's conclusion.

[Insert Table 9 about here.]

Again, to investigate if these average effects are conditional on banks' lending-imposed climate-risk exposure, Table 10 introduces the interaction terms with the *LACI* metric. In full specification (column IV), the main effects of the CRST periods and the interaction terms (*CRST Prep* × *LACI* and *CRST Post* × *LACI*) are all statistically insignificant. Although the main impact of *CRST Prep* remains negative and marginally significant (-3.659, $p < 0.10$), there is no evidence that this is moderated by the banks *LACI*.

[Insert Table 10 about here.]

Therefore, while the loan-level analysis reveals a strategic response, the results suggest this behaviour was not of sufficient magnitude to significantly alter the aggregate composition of securitised asset pools. Although one might argue that a net-zero effect in the *CS Pool Share* could be attributed to a higher outflow of climate-stressed loans requiring replenishment, the coefficient for *CS Exiting* is statistically insignificant in Table 5.

At the same time, *LACI* shows a consistently significant ($p < 0.01$) positive coefficient. This confirms the general assumption that banks with a larger climate-stressed loan portfolio on-book have larger exposure to these loans in their securitised asset pools. Further validating this metric.

Reporting Regime Changes

A potential concern for the analysis is the transition from ECB to ESMA reporting templates that occurred during the sample period. Figure 3 outlines how the ESMA template took over between 2021 and 2024. Given that the transparency of securitisation data plays a crucial role in market behaviour and loan performance (Ertan et al., 2017; Klein et al., 2021; Neilson et al., 2022), it is important to test whether differences in these reporting regimes drive this study's main findings. The ESMA template requires fewer mandatory risk metrics, which could theoretically allow banks to obscure the transfer of riskier assets. The transition likely also required internal governance and process adjustments by reporting banks, potentially affecting data quality.

[Insert Figure 3 about here.]

To rule out the possibility that the measured odds effects stem from these reporting differences, I conduct a series of tests. First, I split the loan-level sample based on whether the data was reported under the ECB or ESMA template. The results for model (1), presented in Table 11, reveal that the increased likelihood of securitising a climate-stressed loan during the *CRST Prep* period is statistically significant only in the sub-sample of data reported under ESMA standards. This is likely due to the temporal overlap of the template transition with the CRST, making the ESMA-reported data more relevant to the stress test periods.

[Insert Table 11 about here.]

Second, I test for confounding interaction effects between an *ESMA* template dummy and the key bank characteristics. As shown in Table 12, there is some evidence that loans securitised by a higher *LACI* bank were slightly less likely be climate-stressed after the adoption of the ESMA template. This finding runs contrary to the hypothesis that banks might exploit the new template to hide the securitisation of undesirable 'brown' assets.

[Insert Table 12 about here.]

Additionally, I test for these effects at the asset-pool level. The untabulated results reveal no significant interaction between the *ESMA* template and the *CRST Prep* or *CRST Post* periods, suggesting the main portfolio-level findings are not conditional on the reporting regime. However, the analysis does indicate that the adoption of the *ESMA* template is associated with a small per se reduction in the *CS Pool Share*, which may point to a correction effect or a broader shift in reporting behaviour stemming from the template change itself.

Overall, the above analysis provides no evidence that banks exploited the change in reporting standards to obscure the transfer of climate-stressed assets; on the contrary, some evidence points to high *LACI* banks being more cautious under the new regime. Therefore, the primary findings regarding banks' strategic response to the CRST are robust to concerns about the reporting environment.

Difference-in-Difference (DiD) Approach

Given that the interaction term analysis suggests a strong moderating effect from a bank's *LACI*, I employ a difference-in-differences (DiD) framework to test this strategic behaviour further.

This quasi-experimental design, similar to approaches in prior literature (Mueller et al., 2025), provides stronger causal inference by explicitly defining high lending-related climate risk banks as the ‘treated’ group and low risk banks as the ‘control’ group. A bank is classified as *High LACI* if its climate-risk exposure is above the sample median or mean. The analysis utilises DiD-variations of Models (1) and (2), labelled Model (5) and (6) respectively.

$$\begin{aligned} &Logit(P(CS_{L,t} = 1)) \\ &\quad = \alpha + \beta_1 CRST\ Prep_t + \beta_2 CRST\ Post_t + \beta_3 (CRST\ Prep_t \\ &\quad \times High\ LACI_{I,t}) + \beta_4 (CRST\ Post_t \times High\ LACI_{I,t}) \\ &\quad + \beta_5 High\ LACI_{I,t} + \Gamma'_{L,t} + \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \ \theta_S + \tau_t \\ &\quad + \epsilon_{L,I,S,t} \end{aligned} \tag{5}$$

$$\begin{aligned} &CS\ Pool\ Share_{S,t} \\ &\quad = \alpha + \beta_1 CST\ Prep_t + \beta_2 CST\ Post_t + \beta_3 (CST\ Prep_t \\ &\quad \times High\ LACI_{I,t}) + \beta_4 (CST\ Prep_t \times High\ LACI_{I,t}) \\ &\quad + \beta_5 High\ LACI_{I,t} + \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \ \theta_S + \tau_t + \epsilon_{S,I,t} \end{aligned} \tag{6}$$

The loan-level results in Table 13 show a consistently strong and significant positive coefficient for the interaction term *CRST Prep* × *High LACI*. This holds whether the treated group is defined by the sample median (1.561, $p < 0.01$) or the mean (0.644, $p < 0.10$), providing robust support for H1. This indicates that treated banks, relative to their peers, significantly increased their securitisation of climate-stressed loans pre-emptively before the stress test.

[Insert Table 13 about here.]

The asset-pool level results in Table 14, utilising Model (2), reveal a more complex picture. Using the median-based split, the interaction *CRST Post* × *High LACI* is negative and significant (-1.907, $p < 0.10$). This suggests that after the CRST results were published, treated banks saw a greater decrease in the share of climate-stressed loans in their asset pools compared to the control group. In the mean-based specification, while the interaction terms are insignificant, the main effect for the treatment group becomes positive and significant (2.292, $p < 0.05$), indicating that banks with above-average climate risk exposure maintained a systematically higher share of climate-stressed loans in their securitised portfolios overall. Taken together, while the pre-emptive strategic behaviour is clear at the loan level, its impact on the aggregate portfolio remaining less straightforward. It appears to reverse after the CRST is concluded, which may be rooted in a change of maturing and/or defaulting securitised loans.

[Insert Table 14 about here.]

Borrower Concentration and Loan Size Effects

The findings that securitisation of climate-stressed loans increased during the CRST Prep period and decreased in the CRST Post period raise questions about borrower concentration. Prior research indicates that strategic securitisation may focus on the most polluting borrowers (Mueller et al., 2025). I therefore assess whether banks increased the number of climate-stressed loans securitised per unique borrower when these strategic incentives were strongest.

Descriptive statistics, presented in Table 15, reveal that contrary to this prediction, the number of climate-stressed loans per borrower decreased during the preparation period and the quarter where the CRST was conducted. This suggests that the strategic behaviour was not concentrated on a few high-polluting borrowers. However, for the same period (Q4 2021 to Q1 2022), the loan amount per borrower of newly added climate-stressed loans was significantly larger. This implies that while banks did not concentrate on securitising more loans from single polluters, they did select larger loans from climate-stressed borrowers. Following the CRST, this trend reversed.

[Insert Table 15 about here.]

This aligns with a ‘lemon-dumping’ hypothesis, one might expect banks to offload their largest climate-stressed loans to most effectively manage their balance sheets. This idea aligns with findings from Ghent & Valkanov (2016) that larger loans are generally more likely to be securitised. This adds another dimension to the loan selection debate beyond just risk. Conversely, the lack of a significant effect at the asset-pool level, combined with the increased securitisation likelihood at the loan-level, could imply that banks were offloading more climate-stressed loans from more diversified borrowers, but of a smaller average size. To further test this, I employ a OLS regression (Model 7) where the dependent variable is the natural logarithm of the loan *Balance*.

$$\begin{aligned} Balance_{S,t} = \alpha + \beta_1 CST\ Prep_t + \beta_2 CST\ Post_t + \beta_3 (CST\ Prep_t \times CS_{I,t}) \\ + \beta_4 (CST\ Prep_t \times CS_{I,t}) + \beta_5 CS_{I,t} + \mathrm{X}'_{I,t} + \gamma EURIBOR_t + \ \theta_S \\ + \tau_t + \epsilon_{S,I,t} \end{aligned} \tag{7}$$

The results are presented in Table 15. In the full specification with controls (column II), the coefficient on the main *CS* dummy is positive and marginally significant, providing mild evidence that climate-stressed loans are, on average, larger. More importantly, the interaction term *CS* × *CRST Post* is positive and statistically significant (0.137, $p < 0.05$). This indicates that climate-stressed loans securitised after the CRST results were published were significantly larger than those securitised before. The interaction with the *CRST Prep* period is not significant. This suggests that while the pre-emptive securitisation activity was focused on a higher number of climate-stressed loans from a wider range of borrowers, the post-CRST period was characterised by the offloading of significantly larger ones.

[Insert Table 15 about here.]

The preparation period for the CRST showed that securitised loans were larger overall, while climate-stressed loans were more diversified, coming from a wider borrower base. After the results were communicated (post-period), securitised climate-stressed loans became larger relative to non-climate stressed loans.

Conclusion

The goal of this study was to investigate whether European banks strategically alter their loan securitisation decision in response to the 2022 ECB climate risk stress test. By leveraging granular loan-level data from European SME-ABS transactions and controlling for the lending-adjusted emission exposure (*LACI*), the analysis provides evidence of significant stress-test-driven loan management.

The central finding of this study is that banks with higher pre-existing lending-related climate risk (*LACI*) engaged in pre-emptive offloading of climate-stressed loans. As if they were trying to sweep these assets under the rug. In strong support of my first hypothesis (H1), the analysis reveals that in the months leading up to the CRST's reporting deadline, these banks were significantly more likely to transfer climate-stressed loans into securitised asset pools. The magnitude of this effect is substantial, where the odds of securitisation more than doubled for a bank with an above average *LACI*. However, this strategic behaviour appears to cease and even reverse following the publication of the stress test results. In line with the second hypothesis (H2), the evidence suggests that banks with a relatively high emissions from their lending activities were less likely to securitise these assets in the post-CRST period. This is further nuanced by the finding that while the pre-emptive activity was focused on a wider borrower base, the post-CRST period was characterised by the offloading of significantly larger climate-stressed loans. Interestingly, while this strategic loan selection is robust and clear at the micro-level, it does not unambiguously translate into a statistically significant shift in the aggregate composition of the securitised asset pools. The evidence suggests a strategy of diversification. To offload new risk, high-*LACI* banks did not offload more loans from the same risky borrowers. Instead, they securitised loans from a wider range of climate-stressed borrowers, a pattern that is consistent with managing risk without dramatically altering the stated concentration metrics of the ABS pool.

The real-world implications of this research are relevant for both regulators and investors. For regulators, the findings suggest that banks are actively managing their reported exposures around climate stress tests. This implies that the results of such thematic exercises may present an artificially clean picture of a bank's exposure, as undesirable assets are strategically moved beyond the immediate regulatory perimeter via true-sale securitisation. At the same time, the post period effects highlight that the testing had lasting impact on these institutions, where the internal assessment of climate risk did change following regulatory scrutiny. For European ABS investors, the results serve as a caution. Even in a transparent, regulated market, they may be unknowingly acquiring portfolios with concentrated climate risk that originating banks have deemed undesirable to retain. This could be particularly relevant to investors who shall provide sustainability-related disclosure themselves.

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Figures and Tables

Figure 1: *Timeline of the 2022 Climate Risk Stress Test and Related Regulatory Events*

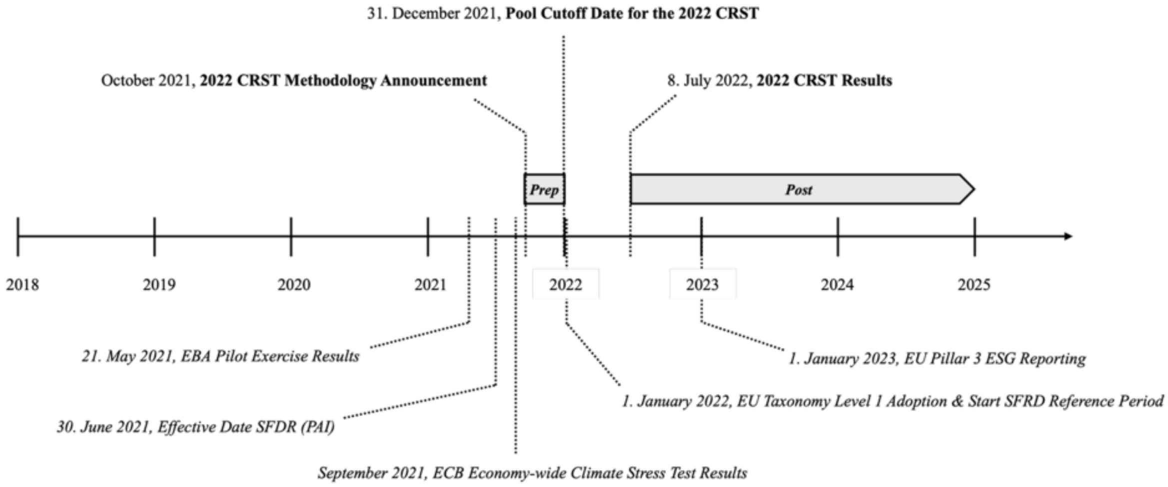

Figure 1 illustrates the timeline of the European Central Bank's (ECB) 2022 climate risk stress test (CRST) and key preceding regulatory events. The shaded areas denote two critical periods: the preparation phase (Prep), spanning from the announcement of the CRST methodology to the reporting cut-off date, and the post-publication period (Post), which commenced after the results were released.

Figure 2: *Banks' European Public ABS Securitisation Channel*

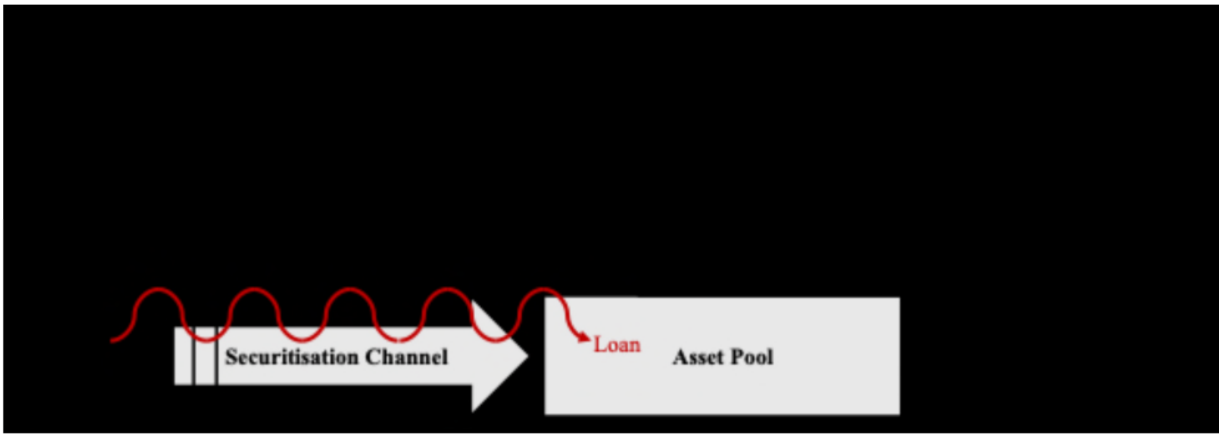

Figure 2 depicts the securitisation channel, which enables banks to transfer loans from their private loan books into publicly observable asset pools. These pools collateralize the different tranches of asset-backed securities (ABS) ultimately acquired by investors. This mechanism is central to our study as it converts otherwise inaccessible loan data into transparent information.

Figure 3: *ESMA vs ECB vs FCA Reporting Format Use in EDW*

This figure shows the proportion of deal reporting in the EDW by reporting template. The original image can be accessed at https://eurodw.eu/wp-content/uploads/Blog-1-2.png.

Table 1: *Sample Composition*

All SME-ABS deals from EDW (edcloud, srdata) …	228
… thereof deals originated from European significant institutions (Sis) or entities fully consolidated in an SI,	156
… thereof deals where ESG data for the originating SI is available via Refinitiv,	131
… thereof deals maturing between 1 January 2015 and 31 December 2025,	112
… thereof deals where Moody's data is available for the originating the SI.	65
Total number of deals in the sample.	**65**

Table 2: *Sample Characteristics*

Originator	**Relevant deals**	**Incoming loans**
Banca Monte Dei Paschi Di Siena	3	91,752
Banco BPM	3	99,521
Bankinter	2	0‡
BNP Paribas	3	400,007
BPER Banca	4	59,368
CaixaBank	14	146,015
Credit Agricole	2	512,376
ING Groep	5	351,400
Intesa Sanpaolo	10	404,564
KBC Groep	2	129,553
Santander	14	262,887
UniCredit	3	570,820
	65	**3,028,263**

‡Two deals from Bankinter that fulfilled the general sample criteria were included in the robustness portfolio-level assessment. Due to inconsistent and missing loan-level data, no incoming loans from these deals were included in the loan-level analysis.

Table 3: *Descriptive Statistics*

	Mean	**Min.**	**25%**	**50%**	**75%**	**Max.**	**SD**	**N**
Loan-level								
Balance (td)	134.624	0.000	11.895	25.000	62.779	525,090.588	904.305	3,028,263
Interest Rate	2.438	-3.069	1.032	1.764	3.462	90.000	1.908	3,028,263
CS	0.534	0.000	0.000	1.000	1.000	1.000	0.499	3,028,263
Outstanding	0.752	0.000	0.592	0.838	0.970	1.000	0.258	3,028,263
Syndicated	0.000	0.000	0.000	0.000	0.000	1.000	0.007	3,028,263
Collateralised	0.289	0.000	0.000	0.000	1.000	1.000	0.453	3,028,263
Remaining Maturity	4.131	0.003	1.685	3.589	5.173	49.792	3.584	3,028,263
Asset Pool-level								
CS Loans Exiting	0.449	0.000	0.361	0.477	0.545	1.000	0.170	875
CS Pool Share (%)	42.123	0.000	35.398	40.925	49.497	75.752	10.828	875
Pool Size (bn)	2.413	0.022	0.334	1.232	3.000	13.762	3.026	875
Bank-level								
Capital Adequacy Ratio	16.594	10.400	14.770	16.400	18.420	21.610	2.353	875
Equity / Total Assets	6.479	3.840	5.960	6.710	7.295	8.550	0.923	875
ESG Score	69.121	28.452	61.352	71.302	76.920	91.907	12.340	875
EURIBOR	0.587	-0.582	-0.408	-0.316	1.428	3.972	1.638	875
GHG (td)	95,013.841	9,326.523	43,176.553	78,727.146	166,615.385	217,956.712	62,696.948	875
Gross Loans (bn)	459.041	45.031	205.586	363.197	805.359	1,040.923	297.919	875
LACI	0.085	0.019	0.049	0.067	0.081	0.692	0.104	875
LLR / Gross Loans	3.409	0.740	2.080	2.550	3.270	26.360	3.376	875
NPL / Gross Loans	5.392	1.740	2.880	3.690	4.610	38.630	5.779	875
Return on Assets	0.568	-3.050	0.440	0.710	0.850	1.460	0.580	875
Securities Held (bn)	150.261	7.260	81.540	105.686	240.385	492.356	111.248	875
Size (bn)	846.464	58.660	347.424	680.036	1340.260	2663.748	619.599	875

Table 4: *Baseline Analysis of Climate-Stressed Loan Selection and Stress Test Effects*

	CS							
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**	**(VII)**	**(VIII)**
CRST Prep	−0.155		−0.155	−0.261	−0.203	−0.126	−0.140	−0.182
			(0.150)	(0.332)	(0.265)	(0.113)	(0.331)	(0.297)
CRST Post		−0.137	−0.138	−0.016	−0.371**	−0.208	−0.150	−0.140
		(0.149)	(0.346)	(0.068)	(0.163)	(0.318)	(0.203)	(0.147)
Interest						−0.053***		−0.055***
						(0.019)		(0.019)
Balance (log)						0.119***		0.117***
						(0.039)		(0.040)
Outstanding						0.152		0.155
						(0.172)		(0.171)
Maturity						−0.086***		−0.086***
						(0.015)		(0.015)
Collateralised						0.023		0.028
						(0.083)		(0.086)
Syndicated						−0.625***		−0.653***
						(0.170)		(0.163)
CS Exiting						0.029		0.089
						(0.085)		(0.111)
LACI							−1.876	−1.678
							(1.222)	(1.146)
ESG Score							−0.000	0.000
							(0.001)	(0.001)
GHG (log)							0.111	0.205
							(0.177)	(0.170)
Securities (log)							0.221	0.191
							(0.251)	(0.210)
Size (log)							−0.672	−0.853**
							(0.447)	(0.355)
CAR							−0.034	−0.033**
							(0.023)	(0.013)
EAR							0.144*	0.060
							(0.083)	(0.078)
NPL / Loans							0.004	0.014
							(0.012)	(0.017)
LLR / Loans							0.005	−0.013
							(0.033)	(0.049)
ROA							0.102*	0.116
							(0.059)	(0.080)
EURIBOR						−0.000		0.028
						(0.034)		(0.037)
Constant	−0.714***	−0.716***	−0.716***	−0.465***	−0.643***	−1.567***	9.964	13.595***
	(0.035)	(0.035)	(0.035)	(0.020)	(0.100)	(0.295)	(8.682)	(4.851)
Deal FE	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Loans	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263
Adj. R^2	0.063	0.063	0.063	0.062	0.011	0.074	0.063	0.074

This table presents the results from a series of logit specification of Model (I) estimating the likelihood that a newly securitised loan originates from a climate-stressed industry (*CS*). The key independent variables, *CRST Prep* and *CRST Post*, are dummy variables capturing the periods corresponding to the CRST's preparation phase and the time following the public release of its results. To demonstrate robustness and isolate specific effects, the table displays several model specifications that sequentially introduce a set of loan-level, as well as the *EURIBOR* to account for market trends, (columns VI and VIII) and bank-level (columns VII and VIII) control variables. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: *Climate-Stressed Loan Selection and Lending-Adjusted Carbon Intensity Under Stress*

	CS			
	(I)	**(II)**	**(III)**	**(IV)**
CRST Prep	−2.824***		−2.861***	−2.866***
	(0.710)		(0.718)	(0.676)
CRST Post		−0.115	−0.257**	−0.310***
		(0.107)	(0.120)	(0.119)
CRST Prep × LACI	57.259***		58.038***	59.036***
	(15.762)		(16.061)	(14.389)
CRST Post × LACI		0.212	3.312*	3.752**
		(2.210)	(1.936)	(1.792)
LACI	−0.748	−1.859	−0.750	−0.326**
	(0.885)	(1.435)	(0.851)	(0.163)
Controls	Yes	Yes	Yes	No
Deal FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Loans	3,028,263	3,028,263	3,028,263	3,028,263
Adj. R^2	0.075	0.074	0.075	0.075

This table presents logit results examining how the effect of the CRST on loan selection is conditioned by a bank's climate risk exposure. The dependent variable is a dummy indicating if a securitised loan is from a climate-stressed industry (CS). The key variables are the interaction terms CRST Prep × LACI and CRST Post × LACI, which test whether the impact of the stress test periods differs for banks with higher or lower pre-existing climate risk, as measured by the Lending-Adjusted Carbon Intensity (LACI). The table displays several specifications: columns (I) and (II) assess the preparation and post-results periods separately, while column (III) presents the full model with all interaction terms and control variables. Column (IV) serves as a robustness check by showing the full model without controls previously established in Table 4 (column VIII). Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6: *Loan Selection Effects from Bank-Size Adjusted Emissions and Lending Ratio*

	CS			
	(I)	**(II)**	**(III)**	**(IV)**
CRST Prep	−0.184	−6.564***	−0.086	−4.323***
	(0.296)	(1.946)	(0.157)	(0.501)
CRST Post	−0.109	−0.301	−0.197	−0.309**
	(0.169)	(0.337)	(0.308)	(0.146)
CRST Prep × (GHG / Size)		70.420***		
		(21.843)		
CRST Post × (GHG / Size)		2.408		
		(3.550)		
CRST Prep × (Loans / Size)				8.242***
				(1.027)
CRST Post × (Loans / Size)				0.445
				(0.301)
GHG / Size	−1.145	−0.310		
	(1.036)	(1.040)		
Loans / Size			−0.579	−0.960
			(0.711)	(0.818)
Controls	Yes	Yes	Yes	Yes
Deal FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Loans	3,028,263	3,028,263	3,028,263	3,028,263
Adj. R^2	0.074	0.075	0.074	0.075

This table presents logit results examining how the effect of the CRST on loan selection is conditioned by a bank's relative carbon emissions and lending ratio. The dependent variable is a dummy indicating if a securitised loan is from a climate-stressed industry (CS). The key variables are the interaction terms CRST Prep × (GHG / Size), CRST Post × (GHG / Size), CRST Prep × (Loans / Size), and CRST Post × (Loans / Size. The table displays several specifications: columns (I) and (II) assess the preparation and post-results and the moderation by the relative carbon emission 48ntensity, while column (III) and (IV) assess the preparation and post-results and the moderation by the lending ratio of the bank. Controls identical to the model presented in Table 4 (column VIII). Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7: *Robustness Test for Alternative Interaction Effects*

	CS				
	Sustainability		**Stress**		**Performance**
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**
CRST Prep	1.975	24.404*	−5.450**	−6.263***	−0.439***
	(1.290)	(14.065)	(3.676)	(0.747)	(0.065)
CRST Post	−0.595*	0.320	−1.070	−0.625***	−0.029
	(0.349)	(0.819)	(0.446)	(0.168)	(0.165)
CRST Prep × ESG	−0.039				
	(0.026)				
CRST Post × ESG	0.006				
	(0.004)				
CRST Prep × GHG		−1.332*			
		(0.770)			
CRST Post × GHG		−0.025			
		(0.041)			
CRST Prep × CAR			0.277		
			(0.184)		
CRST Post × CAR			0.050**		
			(0.024)		
CRST Prep × EAR				0.991***	
				(0.121)	
CRST Post × EAR				0.081***	
				(0.031)	
CRST Prep × ROA					−2.380***
					(0.447)
CRST Post × ROA					−0.135
					(0.120)
Controls	Yes	Yes	Yes	Yes	Yes
Deal FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Loans	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263
Adj. R^2	0.075	0.075	0.075	0.075	0.075

This table presents a series of robustness tests to ensure the main findings are not driven by confounding bank characteristics. The specifications are based on the main logit model (I), where the dependent variable is the likelihood of a loan being climate-stressed (*CS*). Each column tests an alternative hypothesis by replacing the primary *LACI* interaction term with interactions between the *CRST Prep* and *CRST Post* dummies and other key bank-level variables. Specifically, the models test for confounding effects related to the bank's general sustainability profile (the *ESG Score* and *GHG* emissions in columns I-II), its capital adequacy as a proxy for general stress (*CAR* and *EAR* in columns III-IV), and its financial performance (*ROA* in column V). All models include the full set of loan- and bank-level control variables. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 8: *Alternative Explanations from Ex-Ante Commitments*

	CS	
	(I)	**(II)**
SBTI	−0.084	
	(0.229)	
NZBA		0.168
		(0.112)
SBTI × *LACI*	1.324	
	(5.428)	
NZBA × *LACI*		−4.612***
		(1.696)
LACI	−1.215	−2.039**
	(1.595)	(0.944)
Controls	Yes	Yes
Deal FE	Yes	Yes
Year FE	Yes	Yes
Loans	3,028,263	3,028,263
Adj. R^2	0.074	0.074

This table presents results for the investigation whether banks' ex-ante public commitments to sustainability initiatives could explain the loan selection patterns. The analysis uses the main loan-level logit framework and tests for confounding effects from banks' participation in either the Science Based Targets Initiative (*SBTI*) or the Net-Zero Banking Alliance (*NZBA*). Full set of control variables included. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 9: *Baseline Analysis of Climate-Stressed Asset Pool Share and Stress Test Effects*

	CS Pool Share							
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**	**(VII)**	**(VIII)**
CRST Prep	-2.311*		-2.311*	-2.881**	-0.217	-2.289*	-2.299**	-2.277**
	(1.225)		(1.226)	(1.359)	(1.870)	(1.183)	(1.155)	(1.126)
CRST Post		-0.229	-0.231	-2.563***	-1.062	-1.027**	-0.091	-0.781*
		(0.359)	(0.359)	(0.979)	(0.790)	(0.406)	(0.455)	(0.442)
CS Exiting						1.193		0.390
						(1.235)		(1.637)
LACI							17.437	17.140
							(15.035)	(14.805)
ESG Score							-0.003	-0.003
							(0.018)	(0.018)
GHG (log)							-0.982	-0.994
							(1.872)	(1.808)
Securities (log)							-0.132	-0.199
							(0.865)	(0.860)
Size (log)							-1.705	1.752
							(3.707)	(3.659)
CAR							0.083	0.094
							(0.392)	(0.392)
EAR							-0.062	-0.102
							(1.047)	(1.041)
NPL / Loans							0.385	0.384
							(0.238)	(0.235)
LLR / Loans							-0.160	-0.160
							(0.406)	(0.399)
ROA							0.650	0.622
							(1.322)	(-0.40)
EURIBOR						0.531**		0.460*
						(0.240)		(0.244)
Constant	44.726***	44.710***	44.728***	42.947***	38.774***	44.224***	107.200	110.450
	(1.349)	(1.339)	(1.351)	(0.285)	(0.945)	(1.055)	(117.210)	(118.030)
Deal FE	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Observations	875	875	875	875	875	875	875	875
R^2	0.171	0.157	0.171	0.092	0.019	0.177	0.174	0.254

This table presents the baseline results for the asset-pool level analysis, using a panel OLS regression with two-way (deal and year) fixed effects. The dependent variable is the *CS Pool Share*, representing the percentage of climate-stressed loan volume within each securitised asset pool at each quarterly observation. The primary independent variables, *CRST Prep* and *CRST Post*, test for structural shifts in portfolio composition during the preparation and post-results periods of the 2022 CRST. Iterations sequentially introduce controls for exiting climate-stressed loans (*CS Exiting*) and market interest rates (*EURIBOR*), and the full set of bank-level variables previously established in Table 4. Columns (IV) and (V) specifically test the model's sensitivity to the fixed effects structure. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 10: *Climate-Stressed Asset Pool Share and Lending-Adjusted Carbon Intensity Under Stress*

	CS Pool Share			
	(I)	**(II)**	**(III)**	**(IV)**
CRST Prep	-3.252		-3.200	-3.659*
	(2.136)		(2.132)	(1.884)
CRST Post		0.580	0.515	-0.107
		(0.777)	(0.791)	(0.719)
CRST Prep × *LACI*	14.645		13.817	22.128
	(17.653)		(17.439)	(18.133)
CRST Post × *LACI*		-15.999	(-14.733)	-12.935
		(12.041)	(12.291)	(11.360)
LACI	17.245***	17.353***	16.997***	13.525
	(2.064)	(1.689)	(1.871)	(16.358)
Controls	No	No	No	Yes
Deal FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	875	875	875	875
R^2	0.218	0.203	0.220	0.261

This table presents the extended asset-pool level analysis including interaction effects. *CRST Prep* × *LACI* and *CRST Post* × *LACI* test whether changes in the ABS-backing asset pools' climate-loan concentration during the stress test periods are conditional on the bank's pre-existing Lending-Adjusted Carbon Intensity (*LACI*). The iterations test these conditional effects separately for the preparation and post-results periods (columns I and II), jointly (column III), and finally in a full specification that includes the complete set of control variables established in Table 6 (column VIII). Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 11: *Reporting Template-based Sample Separation*

	CS	
	ECB Template	**ESMA Template**
CRST Prep	−1.026	0.170***
	(0.887)	(0.036)
CRST Post	−0.348*	0.026
	(0.185)	(0.099)
Controls	Yes	Yes
Deal FE	Yes	Yes
Year FE	Yes	Yes
Loans	2,044,092	984,171
Adj. R^2	0.089	0.041

This table provides a robustness test to assess whether the main findings are influenced by changes in regulatory reporting standards over the sample period. The analysis reruns the main logit framwork on two separate sub-samples, with *CS* as the dependent variable. Column (I) presents the results using only observations reported under the older ECB Template, while column (II) uses observations reported under the newer ESMA Template. Full set of control variables included. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 12: *Reporting Template Transition-related Confounding Effects*

	CS						
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**	**(VII)**
ESMA	0.024	0.072	0.214*	−0.373	0.317*	−0.004	0.310*
	(0.057)	(0.078)	(0.125)	(0.633)	(0.175)	(0.236)	(0.170)
ESMA × LACI			−2.696*				
			(1.560)				
ESMA × GHG				0.024			
				(0.036)			
ESMA × ESG					−0.004		
					(0.003)		
ESMA × CAR						0.004	
						(0.015)	
ESMA × EAR							−0.039
							(0.031)
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes
Deal FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Loans	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263
Adj. R^2	0.063	0.074	0.074	0.074	0.074	0.074	0.074

This table presents results for tests whether the loan-level main effect of the *ESMA* dummy variable is sensitive to its interaction with key bank-level variables. The iterations include interactions with the bank's climate risk (*LACI* in column III), general sustainability profile (*GHG* and *ESG Score* in columns IV-V), and capital adequacy proxies (*CAR* and *EAR* in columns VI-VII). All specifications from column (II) onwards include the full set of control variables. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 13: *Diff-in-Diff Analysis on High LACI Banks' Loan Selection under Stress*

	CS					
	Loan Sample Median-based			Loan Sample Mean-based		
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**
CRST Prep	−1.388***		−1.393***	−0.229		−0.229
	(0.438)		(0.399)	(0.368)		(0.367)
CRST Post		−0.095	−0.095		−0.056	−0.060
		(0.108)	(0.125)		(0.149)	(0.156)
CRST Prep × High LACI	1.554***		1.561***	0.651*		0.644*
	(0.472)		(0.427)	(0.346)		(0.341)
CRST Post × High LACI		−0.031	0.060		−0.123	−0.118
		(0.114)	(0.083)		(0.122)	(0.120)
High LACI	−0.063	0.021	−0.071	−0.046	−0.015	−0.027
	(0.060)	(0.117)	(0.098)	(0.083)	0.096	(0.086)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Deal FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Loans	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263	3,028,263
Adj. R^2	0.067	0.066	0.067	0.066	0.066	0.066

This table presents a difference-in-differences (DiD) analysis using a logit model to test if high-LACI banks altered their loan selection behaviour differently from low-LACI banks around the 2022 CRST. The dependent variable is the CS dummy. The *High LACI* indicator identifies banks with climate-risk lending exposure above the loan sample median (columns I-III) or mean (columns IV-VI). The key interaction terms, *CRST Prep × High LACI* and *CRST Post × High LACI*, measure the differential effect on these banks with high lending-related climate risk during the stress test periods. All specifications include the full set of controls. Standard errors are shown in parentheses and are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 14: *Diff-in-Diff Analysis on High LACI Banks' Asset Pool Share under Stress*

	CS Pool Share					
	Asset Pool Median-based			Asset Pool Mean-based		
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**
CRST Prep	-3.340*		-3.164*	-2.456*		-2.437*
	(1.949)		(1.911)	(1.264)		(1.263)
CRST Post		-0.039	-0.075		-0.250	-0.252
		(0.411)	(0.409)		(0.349)	(0.350)
CRST Prep × High LACI	3.438		2.955	2.516		1.339
	(2.213)		(2.209)	(1.653)		(1.584)
CRST Post × High LACI		-2.157*	-1.907*		-3.067	-3.053
		(1.234)	(1.134)		(1.990)	(1.917)
High LACI	0.188	1.287	1.080	0.670	2.187*	2.292**
	(1.161)	(1.476)	(1.397)	(0.748)	(1.198)	(1.149)
Controls	No	No	No	No	No	No
Deal FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	875	875	875	875	875	875
R^2	0.180	0.170	0.190	0.174	0.168	0.184

This table presents a difference-in-differences (DiD) analysis using a panel OLS to test if high-LACI banks ABS-backing asset pools *CS Pool Share* is differently from low-LACI banks around the 2022 CRST. The *High LACI* indicator identifies banks with climate-risk lending exposure above the asset pool sample median (columns I-III) or mean (columns IV-VI). The key interaction terms, *CRST Prep × High LACI* and *CRST Post × High LACI*, measure the differential effect on these banks with high lending-related climate risk during the stress test periods. All specifications include the full set of controls. Standard errors are shown in parentheses and are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 15: *Loan Sample Borrower and Balance Dynamics Around the CRST (Q1 2021 to Q4 2022)*

Panel A: All Loans Observed

				CRST Prep			*CRST Post →*	
	2021-Q1	**2021-Q2**	**2021-Q3**	**2021-Q4**	**2022-Q1**	**2022-Q2**	**2022-Q3**	**2022-Q4**
Unique Loans	113,893	242,650	137,563	33,467	28,221	47,398	113,968	210,681
Unique Borrowers	91,250	190,247	109,380	28,973	24,775	42,762	66,104	191,458
Amount Securitised (MN)	10,952.314	18,488.175	19,834.346	8,235.925	7,687.045	6,985.299	17,776.475	19,208.463

Panel B: Climate-Stressed Loans Observed

				CRST Prep			*CRST Post →*	
	2021-Q1	**2021-Q2**	**2021-Q3**	**2021-Q4**	**2022-Q1**	**2022-Q2**	**2022-Q3**	**2022-Q4**
Unique Loans	60,133	129,675	63,569	16,174	15,770	24,020	42,852	97,927
Unique Borrowers	46,067	99,558	50,684	14,135	13,650	21,645	24,914	88,041
Amount Securitised (MN)	4,957.938	9,613.231	10,349.131	3,862.360	4,574.265	3,748.501	7,225.431	10,998.836

Panel C: Ratio Analysis

				CRST Prep			*CRST Post →*	
	2021-Q1	**2021-Q2**	**2021-Q3**	**2021-Q4**	**2022-Q1**	**2022-Q2**	**2022-Q3**	**2022-Q4**
Climate-Stressed to All Loans	0.528	0.534	0.462	0.483	0.559	0.507	0.376	0.465
Climate-Stressed to All Amount	0.505	0.523	0.463	0.488	0.551	0.506	0.377	0.460
Average Number of Climate-Stressed Loans per Unique Borrower	1.305	1.303	1.254	1.144	1.155	1.110	1.720	1.112
T-Test among quarters:		*p = 0.601*	*p = 0.000*	*p = 0.000*	*p = 0.136*	*p = 0.000*	*p = 0.000*	*p = 0.000*
Average Climate-Stressed Amount per Unique Borrower	107,624.498	96,559.101	204,189.310	273,247.999	335,111.020	173,180.905	290,014.905	124,928.568
T-Test among quarters:		*p = 0.217*	*p = 0.000*	*p = 0.000*	*p = 0.004*	*p = 0.000*	*p = 0.001*	*p = 0.000*

This table presents quarterly descriptive statistics for the loan sample from Q1 2021 to Q4 2022. Panel A reports the number of unique loans, unique borrowers, and the total amount securitised for the full sample. Panel B provides the same statistics for the sub-sample of climate-stressed loans. Panel C contains a ratio analysis, including the quarterly proportion of climate-stressed loans relative to all loans (by count and amount). It also reports the average number of climate-stressed loans and the average amount securitised per unique borrower. T-tests assess the statistical significance of quarter-on-quarter changes for these per-borrower metrics. Unique loans are identified by a deal-loan identifier combination; unique borrowers are identified by a deal-borrower identifier combination.

Table 16: *OLS Estimation on Loan Size Effects for Climate-Stressed Loans*

	Balance (log)	
	(I)	**(II)**
CS	0.030	0.114*
	(0.038)	(0.054)
CS × CRST Prep	0.224	0.064
	(0.193)	(0.094)
CS × CRST Post	0.148**	0.137**
	(0.064)	(0.058)
CRST Prep	0.340*	0.469***
	(0.159)	(0.086)
CRST Post	−0.048	0.080
	(0.184)	(0.079)
Controls	No	Yes
Deal FE	Yes	Yes
Year FE	Yes	Yes
Loans	3,028,263	3,028,263
Adj. R^2	0.224	0.438

This table reports the results of an OLS regression examining the relationship between a loan's industry affiliation and its size. The dependent variable is the natural logarithm of the loan *Balance*. The key independent variable, *CS*, tests whether climate-stressed loans are systematically larger or smaller than other loans. The interaction terms, *CS × CRST Prep* and *CS × CRST Post*, further test whether this size differential changed during the preparation and post-results periods of the CRST. Column (I) presents the results from a plain model, while column (II) includes the full set of loan- and bank-level control variables. Standard errors, shown in parentheses, are clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Appendix

Appendix 1: *List of Variables*

Variable	**Description**	**Data source**
Balance	Current amount outstanding of loan *L* at time *t*.	EDW (AS55, CRPL39)
CAR	Core equity capital as a percentage of total risk-weighted assets of by *I* at time *t*.	Moody's
Collateralised	Dummy variable equal to 1 if the loan *L* is collateralised.	EDW (AS3, CS2, CRPC2, CRPC2)
CS	Dummy variable equal to 1 if the loan *L* has a NACE industry identifier relevant to the 2022 climate risk stress test, as outlined in Annex I of the methodology.	EDW (AS42, CRPL14)
CS Exiting	Percentage of loans leaving the securitised assets pool *P* that are classified as climate-stressed on a given date *t*.	EDW (AS3, AS42, CRPL2, CRPL14)
CS Pool Share	Percentage of volume in the securitised assets pool *P* classified as climate-stressed on a given date *t*.	(AS3, AS42, CRPL2, CRPL14)
CRST Post	Dummy variable equal to 1 if the pool cut-off date *t* occurs after the communication of the 2022 climate risk stress test results (02.07.2022).	Date-based
CRST Prep	Dummy variable equal to 1 if the pool cut-off date *t* falls between the methodology announcement of the 2022 climate risk stress test methodology and the stress test cut-off date (02.10.2021–31.12.2021).	Date-based
EAR	Equity to total assets ratio of the bank *I* at time *t*.	Moody's
ESG Score	Refinitiv ESG Combined Score, including the controversies score for bank *I* at time *t*.	Refinitiv
EURIBOR	3-month EURIBOR at time *t*.	ECB
GHG	Scope 3 Emissions of the bank *I* at time *t*.	Refinitiv
Interest	The current interest rate of the loan *L* at time *t*.	EDW (AS85, CRPL53)
LACI	Leverage-adjusted carbon intensity of bank *I* at time *t*. $LACI = \frac{(GHG_{I,t} \div 1{,}000)}{(Size_{I,t} \div 1{,}000{,}000)} \times \frac{Loans_{I,t}}{Size_{I,t}}$	Refinitiv, Moody's
LLR / Loans	The ratio of the loan loss reserve to total gross loans for bank *I* at time *t*.	Moody's
Maturity	The difference in years between the pool cut-off date t and the loan’s final maturity date of loan *L*.	EDW (AS51, CRPL34)
NPL / Loans	The ratio of nonperforming loans to total gross loans (including nonperforming loans before deducting specific loan-loss provisions) for bank *I* at time *t*.	Moody's
Outstanding	Current loan amount relative to the original loan amount for loan *L* at time *t*.	EDW (AS54, AS55, CRPL38, CRPL39)
ROA	The ratio of pre-tax income to yearly average assets for bank *I* at time *t*.	Moody's
Securities	Total financial securities held, including trading securities, FVTPL, FVOCI, AFS, HTM, and investments in associated companies, for bank *I* at time *t*.	Moody's
Size	Total Assets of the bank *I* at time *t*.	Moody's
Syndicated	Dummy variable equal to 1 if the loan *L* is syndicated.	EDW (AS29, CRPL28)

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