Identification and Measurement of Climate Change Impact on Credit

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What are the main drivers for integration of climate assessment into credit?

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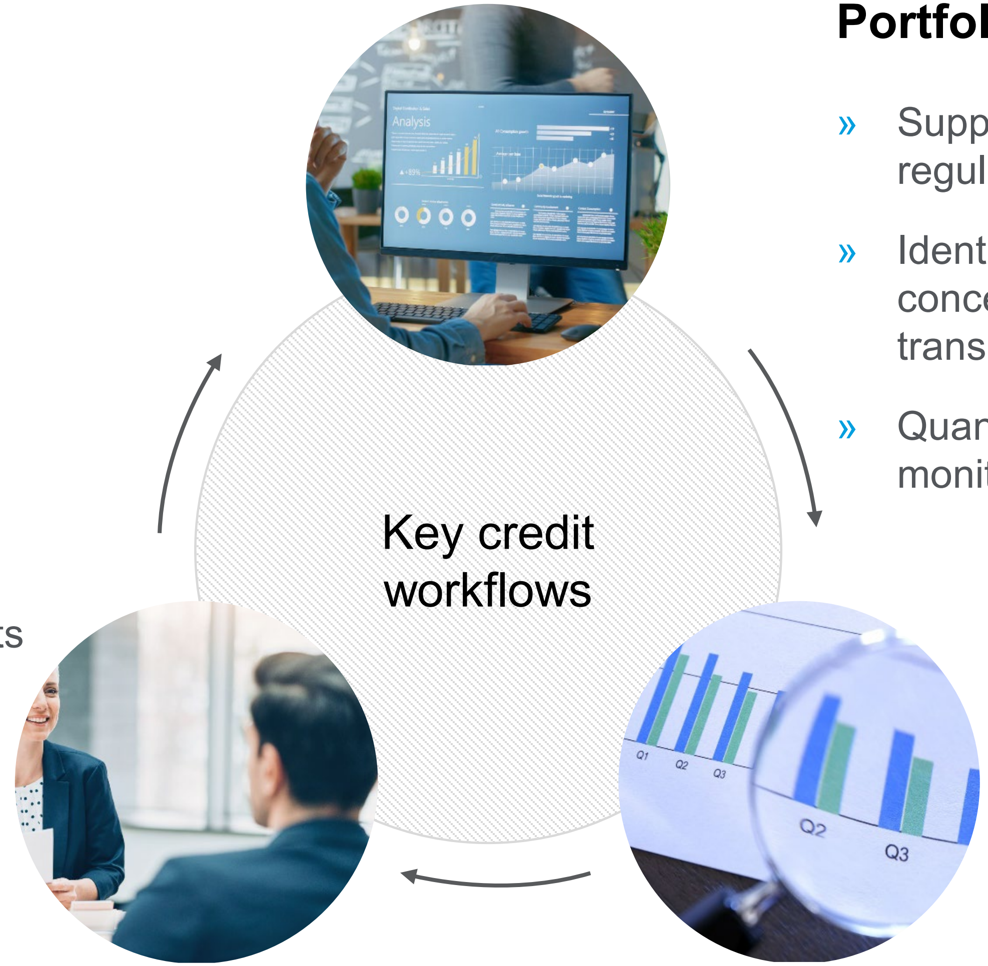
Priority credit workflows for climate

Lending.

Support better loan decisions by considering climate effects.

- Climate risk exposure of counterparties
- Sustainable financing opportunities
- Alignment with net zero targets
- Impact in loan pricing



Portfolio planning.

- Support execution of internal and regulatory stress tests
- Identify vulnerabilities and risk concentrations, support development of transition plans and target setting
- Quantify climate risk appetite metrics and monitor portfolio performance.

Disclosures.

- Track, monitor and align with Climate regulatory and voluntary disclosures.
- Facilitate consistency, accuracy, quality and speed of reporting against various reporting and disclosure requirements.

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What do you see as the top hurdles in incorporating climate considerations into credit assessment?

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Needs and requirements for a climate capability

Support identification, measurement and management of climate change impact on credit

NEEDS

- Explainability and reasonableness
- Resolution and insights
- Comprehensive coverage
- Actionable information

REQUIREMENTS

- Credit vulnerability to transition and physical risk
- Impact of climate change scenarios
- Consistent view of climate risk across major asset classes
- Support decision making to manage risk and explore opportunities

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What is the degree of climate analytics and tools advancement in your organization?

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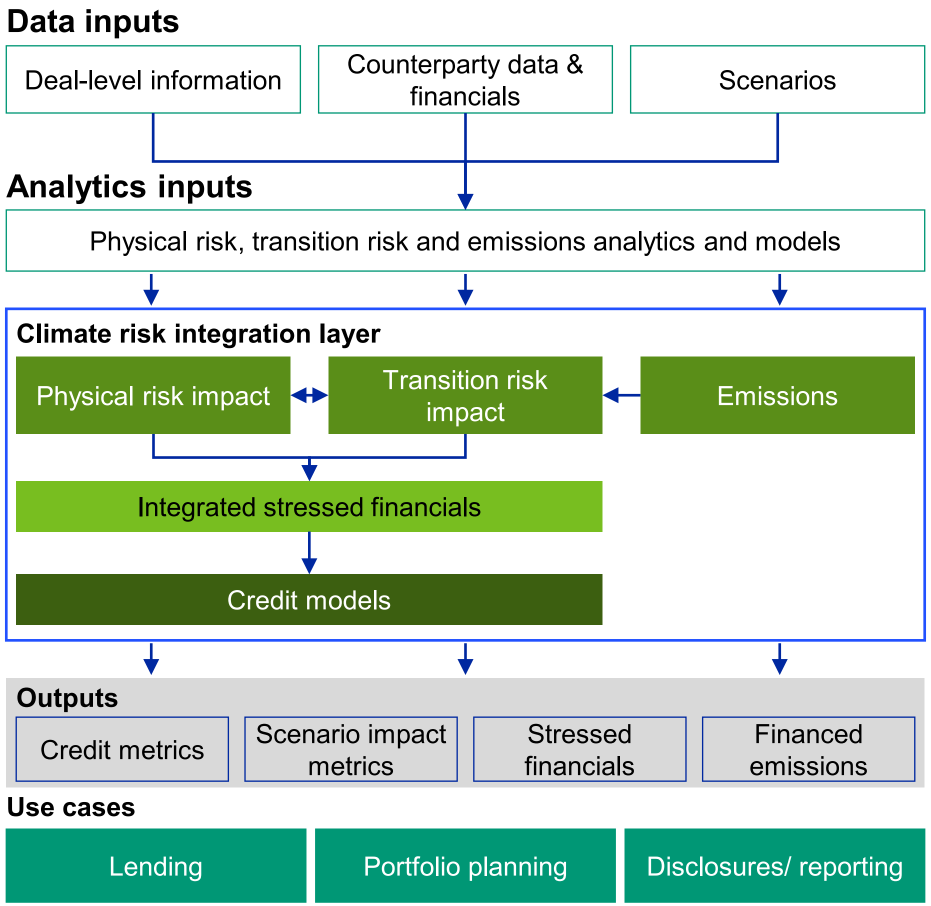
Embedding climate as a capability

1 Transition risk

- **Transition risk modelling** to assess **company-level climate risk implications**
- **Coverage of climate drivers** including demand, costs, price, competition, transition plans

2 Physical risk

- **Coverage of climate and natural disaster risks**
- Modelling for **both acute and chronic hazards**



3 Integration:

- **Application of sectoral and climate considerations**
- **Holistic climate capability with business focus** to facilitate integrating climate risk into priority use cases

4 Credit modeling

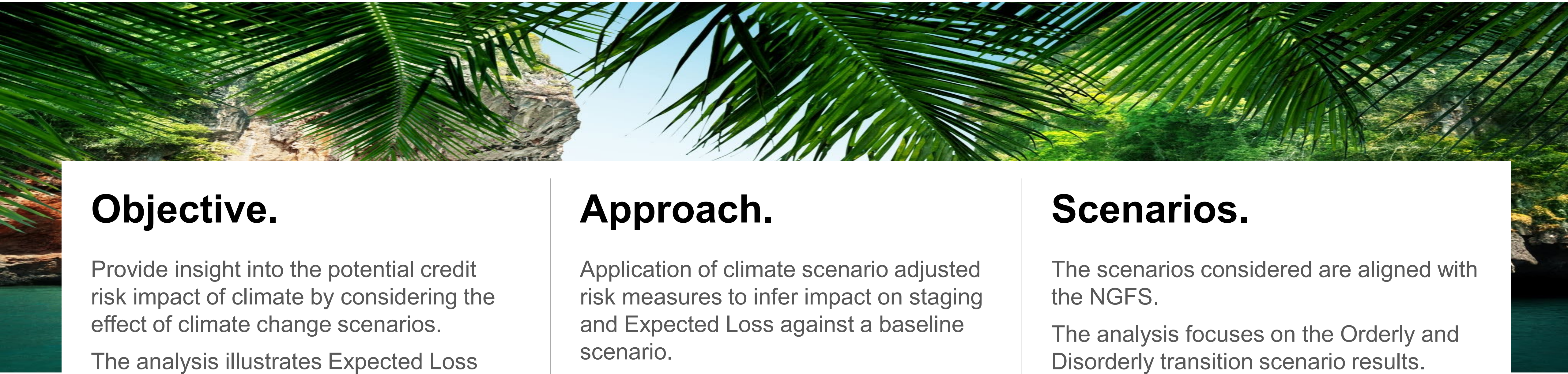
- **Assessment of climate impact on key financials** to enable scenario-based view of financial performance
- **Comprehensive coverage,** for climate material asset classes, e.g. wholesale and corporate lending, CRE, residential mortgages.

1. Partnered with PRA and used for EIOPA and CBES scenarios
2. Also known as CDS

A

Case study

Background and scope



Objective.

Provide insight into the potential credit risk impact of climate by considering the effect of climate change scenarios.

The analysis illustrates Expected Loss calculations on a “synthetic” corporate credit portfolio.

Approach.

Application of climate scenario adjusted risk measures to infer impact on staging and Expected Loss against a baseline scenario.

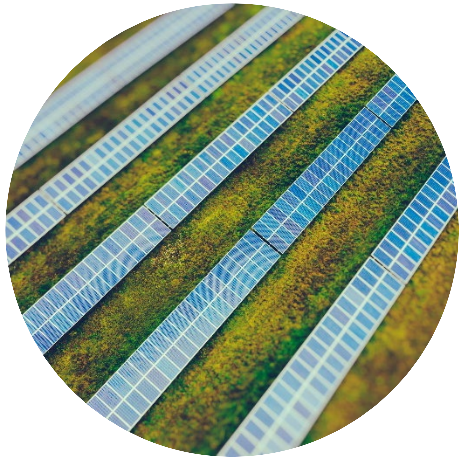
For this exercise, expected losses have been based on a single (mean) scenario.

Scenarios.

The scenarios considered are aligned with the NGFS.

The analysis focuses on the Orderly and Disorderly transition scenario results.

Scenario Overview



Orderly Transition to Net Zero.

Climate policy introduced early and gradually become more stringent. Net zero emissions achieved before 2070, giving a 67% chance of limiting global warming to below 2%.

Disorderly Transition to Net Zero.

Climate policies not introduced until 2030. Due to late action, further limited by available technologies, emission reductions need to be sharper than the Orderly scenario, leading to higher transition risk.

Expected Loss differentials

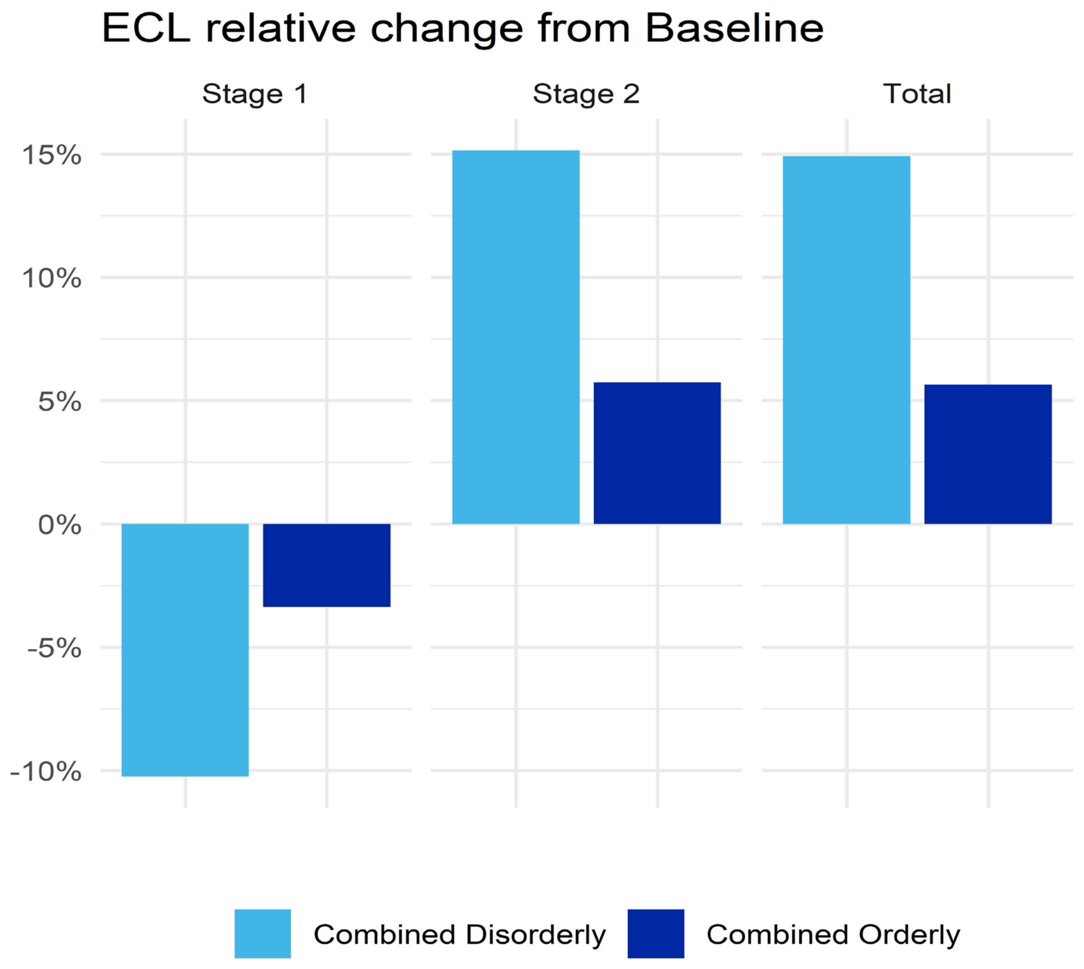
Portfolio level results

Transition scenarios cause asset quality deterioration leading to higher Expected Loss. The effect is more profound under Disorderly transition.

01

Transition scenario Expected Loss coverage rate also increases relative to baseline.

02

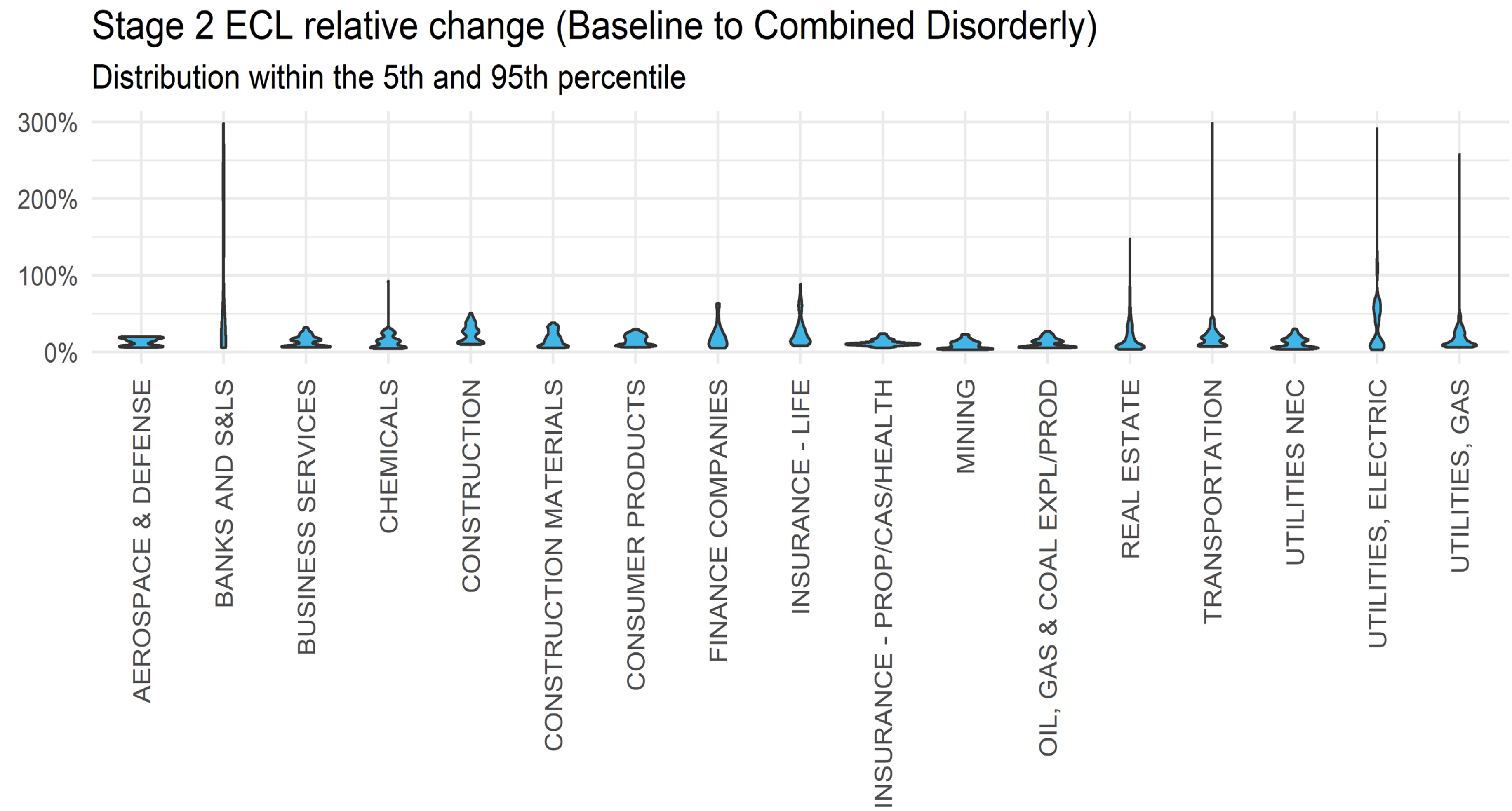


Expected Loss variability

Sector level results

Expected Loss differentials vary both across sectors and within each sector, with certain sectors exhibiting sizeable variability.

01



Expected Loss variability

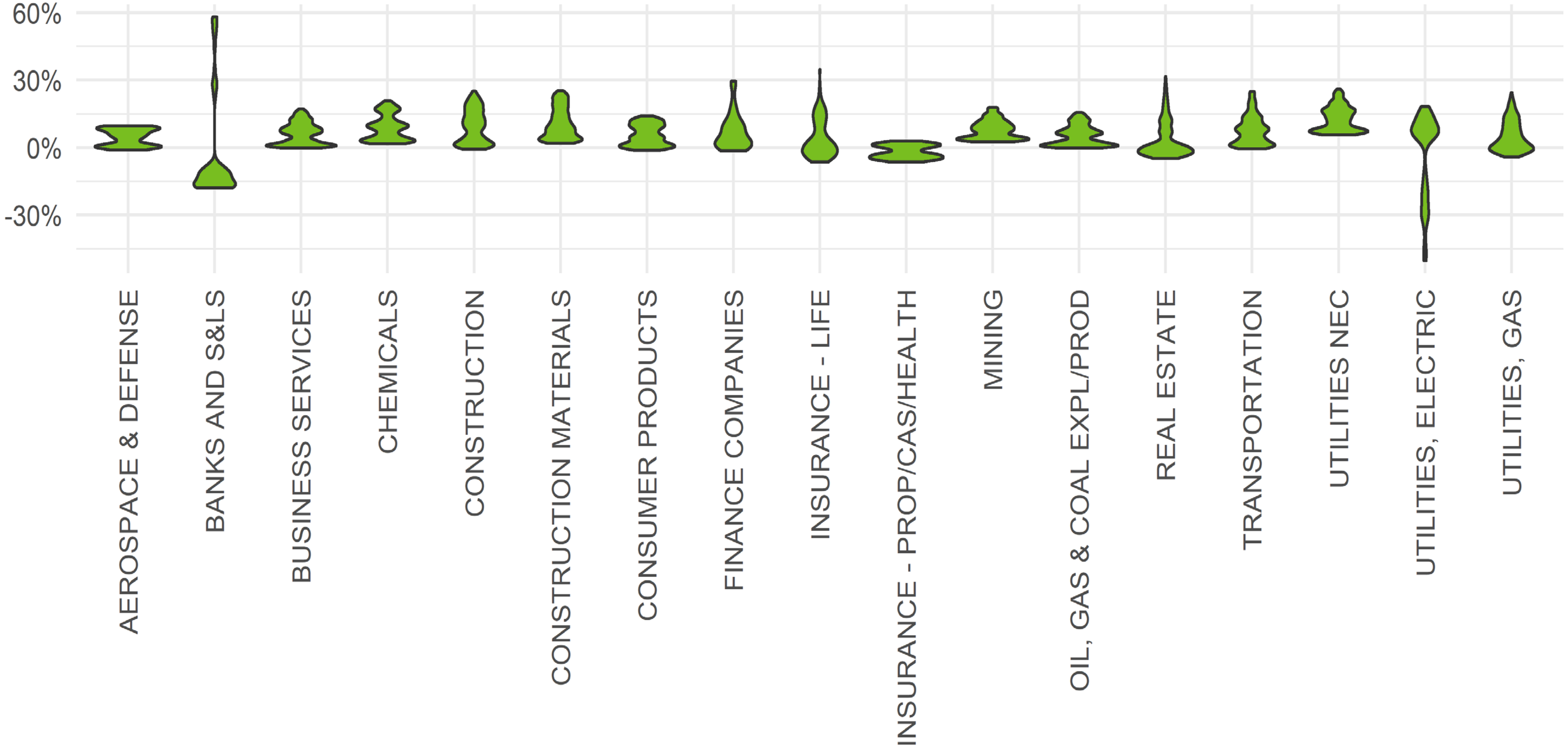
Sector level results

Across and within sector variability are also observed under the Orderly scenario, although the overall effect is more muted

01

Stage 2 ECL relative change (Baseline to Combined Orderly)

Distribution within the 5th and 95th percentile



Asset level Expected Loss

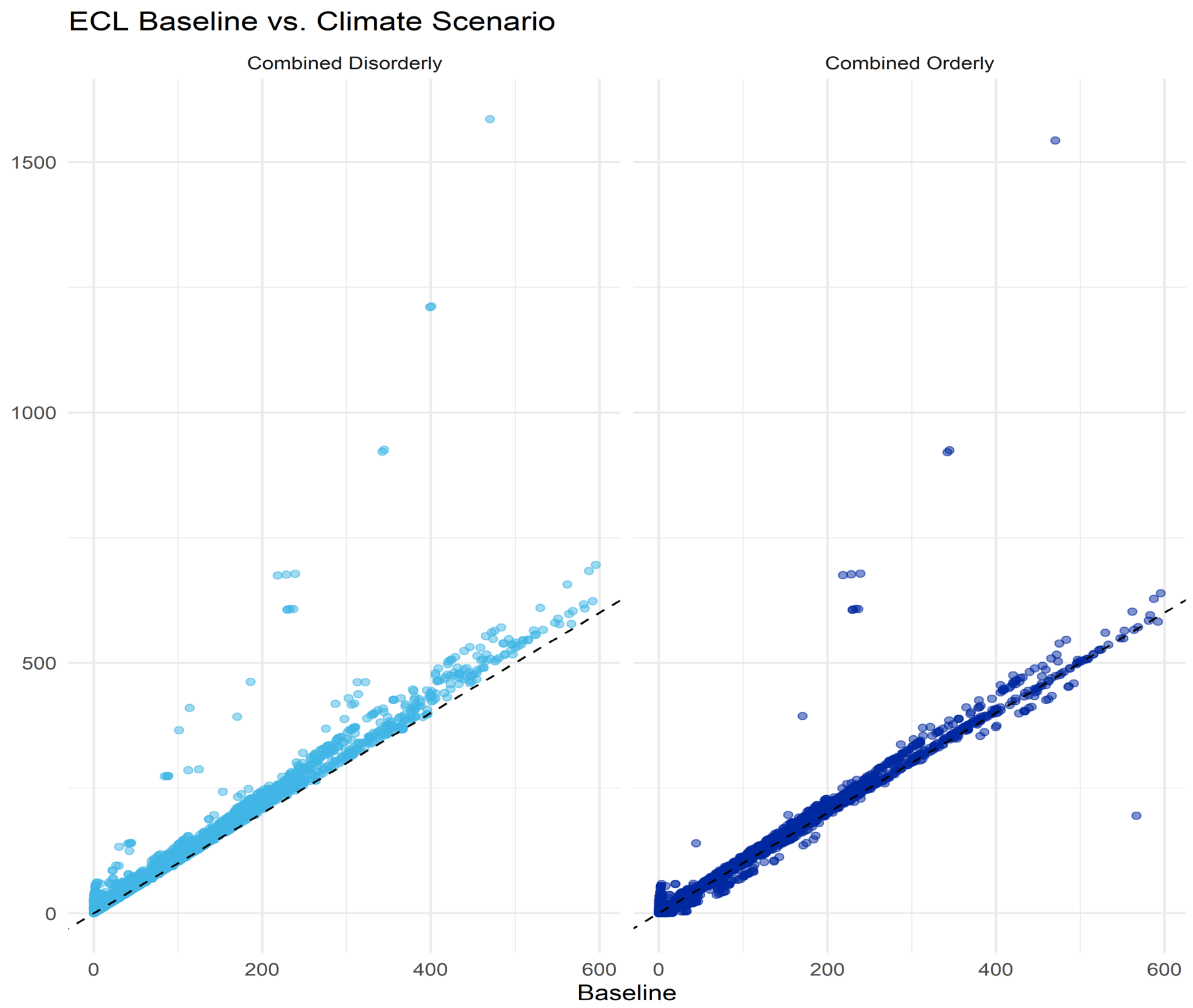
Instrument level results

For the majority of instruments, transition scenario expected loss is higher than baseline. The effect if more profound under the Disorderly scenario.

01

Under the Orderly transition scenario, there is a subset of instruments that generate lower Expected Loss than baseline.

02



Concluding thoughts

1

Summary.

Our analysis illustrates the negative impact potential of Net Zero transition scenarios on Expected Loss for a synthetic corporate credit portfolio. While stylized in nature and therefore not representative of an actual bank portfolio, it provides insights into climate effects on credit.

2

Implications.

Loan level analysis can enable exploration of possible heterogeneity within portfolio concentrations (e.g. industry or credit quality). Otherwise similar looking loans can have different sensitivities to climate change, allowing identification of obligors with higher risk.

3

Future.

Enhancing models with additional climate data can facilitate additional impact granularity and enable better loan decisioning and customer engagement, facilitating resilience through decarbonization and adaption planning.

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