



## REPORT IN BRIEF

# Transition risks in banks' lending portfolios

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4 June 2024

## Summary

There are climate-related transition risks associated with banks' lending to corporates. This is the result of an analysis Finansinspektionen (FI) conducted by linking credit data to emissions data from firms that are included in the EU Emissions Trading System. The analysis of the banks' exposures to transition risks covers a limited share of the banks' total lending, but shows that there are climate-related transition risks that the banks need to consider.

The analysis was conducted by matching firms with installations listed in the EU Emissions Trading System (EU ETS) with the Riksbank's credit database (KRITA), which contains detailed data on banks' lending to individual firms and the public sector.<sup>1</sup> The aim of the analysis was to identify potential transition risks in banks' lending portfolios.

Swedish banks and the branches in Sweden of foreign banks have lent a total of SEK 35 billion to 172 of the 200 firms with installations that had emissions in the EU Emissions Trading System in 2022.<sup>2</sup> These loans corresponded to a small share of the firms' total financing. Given the limitations in the data, however, it is probable that the total transition risks are larger than what our analysis shows.

The expanded requirements in the so-called Pillar 3 reporting will give FI better opportunities to analyse banks' exposures to environmental, social and governance (ESG) risks. This includes, for example, so-called financed emissions that capture the borrower's emissions throughout the entire value chain.

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<sup>1</sup> The Riksbank's credit database (KRITA) contains information about Swedish credit institutions' loans to corporates and the public sector, loan by loan.

<sup>2</sup> The 200 firms were identified in some cases by their installations' corporate identity numbers. See the Methodology section for more details.

## Introduction

Climate change can introduce climate-related risks, which in turn can have a financial impact on individual banks and the entire banking system. As a lender, banks need to understand how these risks impact the risk of credit losses and adapt their lending accordingly.

Climate-related risks include physical risks and transition risks. The physical risks are related to the effects of climate change, for example flooding, that affect the credit risk of some properties. Transition risks include the uncertainty about when and how quickly the transition must be completed. For a bank, this could be related to, for example, lending to firms that must transition to renewable energy. These risks can be driven by political decisions, technical advancements, and changes in consumer preferences, which places demands on the firms to transition.

FI is working to integrate sustainability into its supervision work in several ways.<sup>3</sup> In part we are integrating sustainability in our supervision of the traditional financial risk classes, primarily credit risk but also market risk, liquidity risk, operating risk and reputation risk. We have also integrated sustainability into our business model analysis. We are also doing this through our work in international groups under the European Banking Authority (EBA), the Bank for International Settlements (BIS), and the Network for Greening the Financial System (NGFS).

In Sweden, there are two previous analyses of credit risks linked to borrower-based transition risks. In the first analysis, FI and the Riksbank used the Paris Agreement Capital Transition Assessment (PACTA), a tool where the credit risk is measured based on climate scenarios and assumptions about the borrower's future production.<sup>4</sup> In the second, the Riksbank linked emissions to loans at the industry level.<sup>5</sup>

In this analysis, we focus on transition risks at the corporate level. The analysis is inspired by Finland's central bank, which has linked emissions in the EU Emissions Trading System (EU ETS) to individual loans.<sup>6</sup> The aim was to create awareness for potential transition risks in banks' lending portfolios.

The results will be used both internally within FI and in the supervisory dialogue with banks, in part in future reviews of the banks' transition plans.

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<sup>3</sup> For a summary of FI's sustainability work, see [FI's sustainability report](#).

<sup>4</sup> The Riksbank and Finansinspektionen 2022, [Omställningsrisker i bankernas låneportföljer](#).

<sup>5</sup> The Riksbank 2022, [Banking and climate-related risks](#).

<sup>6</sup> Bank of Finland 2023, [Assessing transition risks in bank's corporate loan portfolios](#).

## Data sources

We used primarily two sources of data in the analysis: The Riksbank's credit database (KRITA) and data from the EU Emissions Trading System (EU ETS). The advantage of the data from the EU ETS and KRITA is that it enables an analysis of individual firms' emissions and loans. It is a good complement to the banks' own estimates of emissions that they are exposed to through their lending.

### KRITA

KRITA is maintained by Statistics Sweden on behalf of the Riksbank. It contains data on Swedish credit institutions' lending to corporates and the public sector.<sup>7</sup>

More specifically, it includes

- Swedish banks' loans to corporates (also through branches abroad, but not through foreign subsidiaries), and
- lending from foreign banks' branches in Sweden.<sup>8</sup>

KRITA also contains data on the principal of the loan and the borrower's corporate identity number and industry. The KRITA data used for this analysis consists of lending to Swedish non-financial corporations, excluding tenant-owner associations, in December 2022. In total, it amounted to SEK 2,208 billion.

### EU Emissions Trading System

To measure transition risks, we use emissions data from the EU ETS. The EU ETS includes installations in manufacturing industries, facilities that produce electricity and heat, and domestic aircraft operators.<sup>9</sup> A list of emissions per installation is published by the Swedish Environmental Protection Agency and includes approximately 750 installations in Sweden.<sup>10</sup> The EU ETS includes Scope 1 territorial emissions; in other words, emissions within Sweden's borders that arise from a firm's own production.<sup>11</sup> In 2022, emissions from the installations included in the EU ETS amounted to 18 million tonnes Co<sub>2</sub>e (36 per cent of Sweden's territorial emissions that year).<sup>12</sup>

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<sup>7</sup> <https://www.scb.se/lamna-uppgifter/undersokningar/Riksbankens-kreditdatabas-KRITA/>

<sup>8</sup> Foreign branches with limited lending can be exempted from the reporting obligation.

<sup>9</sup> A list of installations included in the EU ETS is provided in [Certain Emissions of Greenhouse Gas Emissions Ordinance \(2020:1180\)](#).

<sup>10</sup> Emissions from domestic air traffic are not published per company and therefore are not used in this analysis. See also the Swedish Environmental Protection Agency: [Vilka deltar? \(naturvardsverket.se\)](#)

<sup>11</sup> Emissions can be estimated as territorial (within country borders), production-based (emissions from Swedish actors both in and outside Sweden), and consumption-based (emissions that consider the climate impact that Sweden consumption causes in Sweden and other countries). Source: [Naturvårdsverket.se](#).

<sup>12</sup> Swedish Environmental Protection Agency: [Statistik och uppföljning \(naturvardsverket.se\)](#).

## Limitations

It is important to keep in mind that the data that is used for this analysis only captures firms' direct emissions (Scope 1) for certain installations and territorial emissions. Indirect emissions caused by production of purchased energy (Scope 2) and emissions that are generated in other parts of the value chain (Scope 3), in other words, are not captured. Potential emissions that a firm has abroad are also not included in this analysis. This also means that important industries such as Swedish banks have large exposures to industries that are not captured, for example the commercial real estate industry.<sup>13</sup> Another limitation is that the KRITA data does not cover loans from Swedish banks' foreign subsidiaries.

It is also worth noting that this analysis only focuses on the potential transition risks linked to industries with high emissions. However, there can also be transition risks in what is usually called "green", for example through lending to firms that work with renewable energy sources.

## Methodology

We matched the firms that had emissions in the EU ETS in 2022 with firms that had loans registered in KRITA in December 2022. This enabled the identification of loans to Swedish emitters as well as the size of the loan and the bank behind the loan. The firms were matched using their corporate identity number.

Emissions trading data from the Swedish Environmental Protection Agency did not contain corporate identity numbers. This data was instead identified using two other data sources: data from the European Commission<sup>14</sup> and manually via the name of the organisation's installation on the Swedish Environmental Protection Agency's website.<sup>15</sup> In total, we identified the corporate identity number of 460 of the 494 installations that released carbon dioxide in 2022. This corresponded to 200 unique firms and covered 99 per cent of the emissions from installations in the EU ETS.<sup>16</sup> We also supplemented the analysis by identifying loans at the consolidated level, i.e., when a company is in the EU ETS but has loans in another company in the same group.

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<sup>13</sup> However, in cases where a commercial real estate firm owns an installation that is listed in the EU ETS, emissions from the installation will be included in the analysis.

<sup>14</sup> <https://ec.europa.eu/clima/ets/account.do?languageCode=en>.

<sup>15</sup> <https://utslappisiffror.naturvardsverket.se/sv/Sok/>.

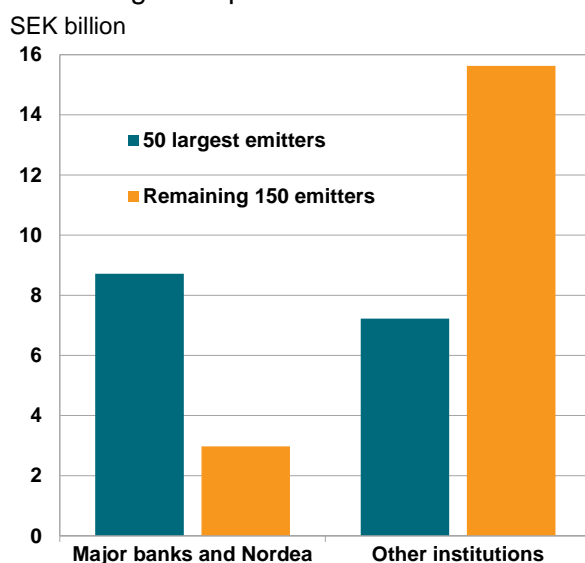
<sup>16</sup> There were 494 installations with carbon emissions registered in 2022. The corporate identity number for 390 of them was identified via the European Commission by matching the variables Account Holder Name and Principal. The remainder were then handled with a manual search for the installation's name. We identified 45 corporate identity numbers using this method. In cases where several installations had the same principal according to the Swedish Environmental Protection Agency, they were assumed to belong to the same firm and thus have the same corporate identity number.

## Results and discussion

The total value of the loans in KRITA issued to non-financial corporations, excluding tenant-owner associations, was SEK 2,208 billion in December 2022. Most of the installations in the EU ETS are owned by firms with NACE codes C–E, which overall borrowed 12 per cent of the loans in KRITA.<sup>17</sup> The majority of the loans in KRITA (56 per cent) went to commercial real estate-related businesses<sup>18</sup> that typically do not run installations included in emissions trading.

Of the 200 firms with installations that had emissions in 2022, the 50 largest emitters stood for 93 per cent of the emissions from installations for that year. Of the 200 firms, 172 had a loan in KRITA. In total, SEK 35 billion was lent to these companies. Diagram 1 shows that the three major banks and Nordea together had lent SEK 9 billion to the 50 largest emitters and SEK 3 billion to the remaining 150 emitters. Other institutions had lent SEK 7 billion and SEK 16 billion to these groups, respectively. Of the total SEK 35 billion, the major banks, including Nordea, represented 33 per cent of the lending. This is somewhat less than their share of the total loans in KRITA at the same point in time (50 per cent).<sup>19</sup>

### 1. Lending to corporates in the EU ETS



Source: EU ETS, KRITA. Finansinspektionen's calculations.

Note: Includes the SEK 35 billion that we could link to KRITA. Nordea refers here to Nordea Bank Abp filial in Sverige, Nordea Finans Sverige AB, and Nordea Hypotek AB.

<sup>17</sup> These sectors are C, manufacturing, D supply of electricity, gas, heating and cooling, and E water supply (sewage treatment, waste management, and decontamination).

<sup>18</sup> The percentage is based on loans that had information about sector affiliation. In December 2022, there was information related to 95 per cent of the loans' value.

<sup>19</sup> Of the SEK 2,208 billion, there was no information about the lender's institution number for SEK 2 billion. These loans are not included in the percentages. None of the loans that were missing an institution number went to firms with emissions in the EU ETS.

In addition to the SEK 35 billion lent to individual firms, we were able to identify additional loans that went to other companies in the same group.

This is also relevant for placing lending and emissions in relation to a firm's total balance sheet total in order to understand how important the bank loan is as a source of financing. Using information from the annual reports, we were able to see that loans in KRITA correspond to only a small share of these firms' total financing.<sup>20</sup> Loans from credit institutions at the consolidated level were also a limited share of the group's total financing. These results indicate that the banks overall had limited lending to firms that are included in the emissions trading. However, it is important to remember the data-related limitations.

## Next step for FI

The aim of this analysis was to identify potential transition risks in banks' lending portfolios. However, analyses of transition risks are challenging because there is limited data. This analysis therefore focuses on a limited portion of the transition risk in banks' lending.

FI welcomes the stricter Pillar 3 reporting requirements in terms of emissions within Scopes 1–3.<sup>21</sup> They will make it possible to analyse climate risks in a more accurate manner than an analysis of Scope 1 emissions. One measure that captures how large the lending is in relation to the balance sheet total and the borrower's emissions in all three scopes is so-called *financed emissions*, which are part of the expanded reporting requirements in Pillar 3.<sup>22</sup>

It is important for banks to have sound risk management in the loans that have been identified and that they are working with transition plans for these firms. FI intends to follow up the results of this analysis in its supervision dialogue with affected banks in work related to the transition plans.

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<sup>20</sup> Data from annual reports is compiled in a database called [Serrano](#).

<sup>21</sup> European Commission Implementing Regulation (EU) 2022/2453. Also contains information about financed emissions.

<sup>22</sup> Financed emissions can be calculated, for example, by using [PCAF's method](#) for enterprise  $e$ :  $Financed\ emissions_e = \frac{Principal_e}{Equity\ \&\ Liabilities_e} * Emissions\ Scopes1 - 3_e$