The EU Taxonomy and the Syndicated Loan Market

Zacharias Sautner Jing Yu Rui Zhong Xiaoyan Zhou

Abstract

We provide first empirical evidence on the financial market effects of the EU Taxonomy for Sustainable Activities. Using international data from the syndicated loan market, we demonstrate that – *in the past* – firms with larger Taxonomy-aligned revenue shares paid lower interest rates. Business revenue is Taxonomy-aligned if it originates from "transitional activities" that substantially contribute to climate change mitigation. A one-standard-deviation increase in firm revenue from transitional activities is associated with six basis points lower loan spreads. Effects are more pronounced for firms in countries with greater climate risk exposure and more stringent environmental policies, and when lending institutions have green preferences. Our results indicate that financial markets already price in some of the intended effects of the EU Taxonomy.

Keywords: EU Taxonomy; Climate resilience; Syndicated loan spreads; Climate risk

JEL Classification: F34; G12; G32; M14; Q54;

Zacharias Sautner (z.sautner@fs.de) is from Frankfurt School of Finance & Management and ECGI, Jing Yu (jing.yu@sydney.edu.au) is from Business School, The University of Sydney, Rui Zhong (rui.zhong@uwa.edu.au) is from UWA Business School, The University of Western Australia, and Xiaoyan Zhou (xiao.zhou@smithschool.ox.ac.uk) is from The Smith School of Enterprise and the Environment, The University of Oxford.

1. Introduction

The EU Taxonomy on Sustainable Activities is probably the most far-reaching financial market regulation to combat climate change. Published on June 22, 2020, it is a cornerstone of the EU's Green Deal and its objective to reallocate capital flows from brown to green firms to achieve carbon neutrality by 2050. The Taxonomy establishes criteria that determine whether an economic activity is environmentally sustainable ("Taxonomy-aligned"). This is the case if the activity contributes substantially to one of six environmental objectives defined in the Taxonomy. Two of these objectives directly relate to climate change: climate change mitigation, and climate change adaptation.

The EU Taxonomy has major economic ramifications around the world.[1] Since 2022, financial institutions offering products in the EU are required to report to what extent their investments are Taxonomy-aligned, and from 2023 EU banks will have to disclose lending indicators directly related to the Taxonomy. Over the coming years, large EU firms will be required to disclose information about their Taxonomy-aligned activities; the EU's green bond standards will require reporting on whether the use of funds is Taxonomy-aligned; and the planned EU Ecolabel will only be awarded to financial products invested in firms with Taxonomy-aligned activities. The Taxonomy will likely also be used to identify climate-related risks of assets and to calculate associated bank capital requirements.[2]

The implications of the Taxonomy extend beyond the EU for several reasons. First, it is widely believed that the Taxonomy will serve as a benchmark for other countries developing similar classifications. Second, the scope of the regulation is defined such that it already now

[1] See "The EU's green-investing "taxonomy" could go global," *The Economist*, January 8, 2022.
[2] Already in 2017, the EU Executive Vice-President and Commissioner for Trade Valdis Dombrovskis discussed the idea of using the EU Taxonomy to amend bank capital requirement to incentivize climate-friendly bank lending (see Dombrovskis, 2017).

applies to many firms outside of the EU. Third, due to peer effects, it is expected that non-EU firms and investors outside of the Taxonomy's scope will need to apply the regulations' principles to attract capital.

Politicians, regulators, investors and firms have hotly debated about how the Taxonomy will affect capital allocation and the cost of capital. Two broad views have emerged. According to the first view, echoing the regulation's political intent, the Taxonomy will lead to significant reallocating of capital flows from brown to green firms, thereby sharply increasing (decreasing) the cost of capital for brown (green) activities. According to the second view, traditionally associated with Coase, the Taxonomy will have little effects on the allocation of capital and the cost of capital. The reason is that market participants already self-interestedly implemented the gist of the Taxonomy, either because risk management commands that brown (green) activities are more (less) risky, or because nonfinancial preferences lead to the preferential treatment of green firms. Both the risk management and the green preferences channel imply that investors by themselves started to reallocate resources from brown to green activities *prior to* the Taxonomy's compliance date, requiring a higher (lower) cost of capital for brown (green) firms.[3]

Understanding which of these two views holds true is challenging, as the Taxonomy was only introduced in 2021. That said, in this paper we are able to inform this important debate by leveraging new data on the extent to which firms' *past* economic activities were aligned with the EU Taxonomy. In particular, we are able to test whether – *in the past* – capital providers priced the Taxonomy-alignment of a firm's business activities. To perform this analysis, we turn to the global syndicated loan market and examine whether the pricing of syndicated bank loans reflect the Taxonomy-alignment of the borrowers business activities. Evidence on the

[3] Pastor, Stambaugh, and Taylor (2021) model how the risk management and green preferences channel affect the cost of capital.

role of the Taxonomy in this global market is crucial, as banks play a central role in the financing of the green transition; in fact, already the Paris Agreement highlights banks' financing role for the green transition.

Our data cover the years between 2005 and 2018 and contain 14,424 loan facilities with borrowers located in 36 countries. The unique feature of our data is that we can identify for each borrower the fraction of revenues that originates from Taxonomy-aligned "transitional activities." According to the Taxonomy, "transitional activities" must make a substantial contribution to climate change mitigation. These data were recently constructed by Trucost and have, to be the best of our knowledge, not been used in the literature.[4] Trucost advertise their data by stating that based on these new data, "*financial institutions can start the process of understanding, optimizing, and reporting in line with the EU Taxonomy*."[5]

Our main result is that firms with larger revenues shares from Taxonomy-aligned transitional activities pay lower loan spreads in the syndicated loan market during our sample period. A one-standard deviation increase in transitional revenue (scaled by total revenue) is associated with a loan spread reduction of approximately six basis points (bps), or 4% relative to the sample mean of 159bps. This negative relationship is robust, varies little in magnitude with the inclusion or exclusion of various fixed effects, and originates from a risk management channel and a green preferences channel (both channels are not mutually exclusive).

Our evidence on the first channel implies that transitional activities increase a firm's resilience to climate change risks, which boosts the credit worthiness and leads to lower cost

[4] We also use data on revenue shares from firms' "enabling activities," which are defined such that they must enable other firms to contribute to the EU's climate change objectives.

[5] https://www.marketplace.spglobal.com/en/datasets/trucost-eu-taxonomy-revenue-share-(193). The CEO of Trucost, Richard Mattison, further states that "*Trucost's EU Taxonomy Revenue Share dataset provides a granular assessment of the proportion of company revenues linked to sustainable business activities outlined in the Taxonomy, which help identify climate-linked risks and opportunities across companies and sectors*."

of debt financing. We derive this conclusion from the finding that the effect of transitional revenue on loan spreads is much stronger among borrowers located in countries with high regulatory and physical climate risks. Our evidence on the second channel suggests that lenders are willing to offer lower interest rates to firms with higher transitional activities because of their green preferences. This conclusion emerges from our observation that the loan-pricing effects are much stronger when at least one of the lenders in loan syndicate is a signatory of the Equator Principles.[6] We find similar results if we consider the Principles for Responsible Investments instead of the Equator Principles.

A series of further tests corroborate the risk management channel and offer additional insights into the precise mechanism at play. To zero in on the role of *regulatory* climate risks, we explore shocks to the importance of transitional revenues due to the staggered introduction of carbon taxes across countries. Carbon taxes considerably increase the cost of carbon emissions and provide incentives for firms to engage in green investments. For lenders, carbon taxes increase regulatory climate risks at high carbon emitters, and they provide incentives to support the financing of green activities. Consistent with these channels playing a role in lending practice, we observe that firms with higher transitional revenues can benefit from lower loan cost after the implementation of a carbon tax, relative to firms with lower transitional revenues.

If climate risk is indeed a channel through which the risk management results operate, then we expect to see improvements in real environmental outcomes among firms with high transitional activities. Indeed, we demonstrate that Taxonomy-aligned transitional revenue

[6] By 2022, a total of 128 financial institutions from 38 countries have adopted the Equator Principles. The Principles were launched in 2003 and require that "*financial institutions […] ensure that the projects they finance are developed in a socially responsible manner and reflect sound environmental management practices"*

positively correlates with firm's future emission reductions, and it also positively predicts higher future green innovations.

Finally, we shift our attention to the financial side of the borrowers, estimating whether green borrowers' financial policies change in light of the cost saving effect of transitional activities. We consider changes in two important financial policies, the use of long-term debt and financing through bank loans. We find a positive relationship between transitional revenue and the proportion of financing with long-term debt over total debt, and positive relationship with the percentage of bank loans over total debt. These findings provide suggestive evidence that firms recognize the debt benefit of green investments, and take out more bank loans when engaging in new (green) investments.

What do our results imply for the debate about the EU Taxonomy? First, they demonstrate that the Taxonomy captures meaningful heterogeneity across firms in terms of their climate-related risks and opportunities. Second, some of the intended effects of the Taxonomy may already be priced in, at least in the syndicated loan market. Third, the eventual effects of the Taxonomy, once fully rolled out and in effect, depend on how restrictive and broad it will be applied across firms and financial institutions. Notably, the eventual pricing effects of Taxonomy-aligned activities in the syndicated loan market may be stronger than what we document. Beyond contributing to the Taxonomy debate, our analysis provides more general insights into whether, and under what circumstances, green business activities are associated with lower costs of capital.

Our study extends the nascent literature on the bank lending effects of climate change. Kacperczyk and Peydro (2021) show that high-emission firms borrowing from banks committed to low-carbon lending subsequently receive less credit (even after controlling for a firm's credit risk). This finding is suggestive of a change in bank preferences for green

borrowers. Ivanov, Kruttli, and Watugala (2021) exploit exogenous shocks to carbon pricing due to cap-and-trade bills in the US, finding that carbon-intensive firms experience shorter debt maturities, lower access to permanent forms of bank debt financing, and higher interest rates following these regulatory mandates. Correa et al. (2020) find that banks anticipate climate change-related natural disasters and demand higher interest rates on bank loans given to the at-risk borrowers. Anginer et al. (2021) report that loans initiated by firms with adverse climate-related incidents including excess carbon emissions have higher spreads and more restrictive covenant requirements, and Kempa, Moslener, and Schenker (2021) document that the cost of debt of renewable energy firms is lower in countries with stringent environmental policies.[7] Focusing on the pricing of carbon emissions in the syndicated loan market, Ehlers, Packer, and de Greiff (2022) show that borrowers with higher emissions have to pay higher spreads. Similar evidence comes from Delis, de Greiff, and Ongena (2021).

2. The EU Taxonomy

The EU Taxonomy is the first worldwide framework that provides a comprehensive, economy-wide classifications ("taxonomy") of sustainable business activities. Published on June 22, 2020, it is a cornerstone of the EU's Green Deal and the objective to achieve carbon neutrality by 2050. Eventually the result of political negotiations, the Taxonomy was developed with scientific and technical input from a technical expert group, which includes representatives from the industry, financial sector, academia, civil society, and public bodies.

[7] In earlier work, Chava (2014) demonstrates that banks charge a higher interest rate on bank loans provided to firms with environmental concerns measured by third-party environmental ratings. We also relate to a broader evidence that documents the pricing implications of climate risk for municipal bonds (Painter, 2020; Goldsmith-Pinkham et al., 2021) and corporate bonds (Huynh and Xia, 2021; Allman, 2021; Seltzer, Starks, and Zhu, 2021). Several studies explore the asset pricing consequences of climate risk in the stock or options market (Engle et al, 2020; Hsu, Li, and Tsou, 2021; Bolton and Kacperczyk, 2021; Choi, Gao, and Jiang, 2020; Ilhan, Saunter, and Vilkov, 2021).

The Taxonomy has major implications beyond the EU as it is widely believed that the EU Taxonomy will be the benchmark for other countries developing similar classifications. Further, as described below, the scope of the regulation is such that it applies to many firms located outside of the EU. Finally, many non-EU firms and investors outside of the Taxonomy's scope may have to apply the regulations' principles due to peer effects.

The Taxonomy establishes criteria to determine whether an economic activity is environmentally sustainable, which is the case if it contributes substantially to one of six environmental objectives defined in the Taxonomy (without doing significant harm to any of the other objectives). Two of these objectives directly relate to climate change: climate change mitigation and climate change adaptation. [8] Detailed rules specify what constitutes a Taxonomy-aligned activity that contributes to these two climate change objectives. To this end, the Taxonomy identifies 72 business activities that contribute to climate change mitigation, and 70 activities that help achieve climate change adaptation. At over 550 pages, the Taxonomy regulation specifies the NACE industry codes to which these activities relate to and derives additional technical screening criteria for activities in these industries that need to be met.[9] For example, the renovation of existing buildings (NACE codes F41, F43) is only Taxonomy-aligned "*if it leads to a reduction of primary energy demand (PED) of at least 30 %.*"

The EU provides a Taxonomy Compass that is intended to enable users to understand which activities are Taxonomy-aligned. Appendix B provides a screenshot from this Compass to illustrate the classification for "Freight rail transport".[10] At the top, the Compass defines the business activity ("Purchase, financing, leasing, rental and operation of freight transport on

[8] The other objectives are sustainable use and protection of water and marine resources; transition to a circular economy; pollution prevention and control; and protection of healthy ecosystems. For these objectives, details rules on Taxonomy-aligned activities have not yet been developed.
[9] NACE is a European industry standard classification system similar the SIC and NAICS classifications.
[10] See https://ec.europa.eu/sustainable-finance-taxonomy/tool/index_en.htm.

mainline rail networks as well as short line freight railroads"), and links it to specific NACE codes (H49.20 and N77.39). Below, the Compass provides technical screening criteria for freight rail transport to contribute to climate change mitigation (zero direct tailpipe carbon emissions and no transport of fossil fuel).

Important for our analysis, the Taxonomy splits aligned activities into two sub-categories: transitional and enabling activities. Transitional activities must contribute to climate change mitigation and a pathway to keeping global warming in line with Paris Agreement, while enabling activities allow *other* activities to make a substantial contribution to one of the Taxonomy's six objectives.[11] The difference between the two revenue types can be explained with a simple example. While using solar panels as a power source is viewed as a transitional activity, the production of solar panels themselves is an enabling activity.

Different from other classifications of sustainable activities, the Taxonomy has large and direct regulatory implications for financial institutions and firms around the world. In the course of 2022, financial market participants offering financial products in the EU are required to provide their first set of disclosures against the Taxonomy. In these disclosures, financial market participants have to report on which activities substantially contribute to climate change mitigation or adaptation as defined in the Taxonomy. Financial market participants are defined broadly, and include asset managers, financial advisors, pension funds and insurance firms. The Taxonomy will affect many non-EU financial market participants as long as they offer financial products in the EU (which is the case most major financial institutions).

[11] Transitional activities are only identified within the category "climate change mitigation," while enabling activities are in "climate change mitigation" and "climate change adaptation." Not all Taxonomy-aligned activities on climate change mitigation receive the transitional activity label (and accordingly for the enabling activities label).

As early as 2023, it is expected that large EU firms will be required to disclose information about their Taxonomy-aligned economic activities; this requirement will also apply to non-EU firms with affiliate firms within the EU.[12] Further, for the EU's green bond standards, which are currently developed, reporting on whether the use of funds is Taxonomy-aligned will likely also be required. Further, the EU plans that its EU Ecolabel will only be awarded to financial products if the firms they invest in carry out Taxonomy-aligned activities. Most relevant for our analysis, the EU is expected to use the Taxonomy to identify the climate-related risks of assets and as the basis of bank capital requirements (Dombrovskis, 2017). Moreover, already from 2023, large EU banks will have to disclose key performance indicators directly related to the Taxonomy, such as a "green asset ratio," calculated as a bank's taxonomy-aligned assets scaled by total assets.

3. Data and sample construction

Our sample is constructed in the intersection of the following three databases: (1) data on syndicated bank loans are from Refinitiv's DealScan database; (2) data on Taxonomy-aligned transitional and enabling revenue (and carbon emissions) are from S&P Global's Trucost Taxonomy Revenue Share dataset; and (3) data on firms' financial characteristics are from Refinitiv's Worldscope database. To create our sample, we first merge syndicated loans data from DealScan with financial data from Worldscope using ISINs, which provides use with 58,995 loan-facility observations. We then merge these data with the Trucost database (using ISINs) and obtain 15,210 observations. In a last step, we drop all observations from countries

[12] This will apply to firms with balance sheets greater than €20m, turnover greater than €40m, or more than 250 employees.

with less than 20 observations. Our final sample consists of 14,424 loan facilities between 2005 and 2018 with borrowers located in 36 countries.[13] Variables are defined in Appendix 1.

3.1 EU Taxonomy variables

Our key measure of Taxonomy-aligned business revenue comes from the Trucost EU Taxonomy Revenue Share dataset. Trucost identifies the share of revenues associated with a firm's transitional and enabling activities, as classified in the EU Taxonomy, going back in history until 2005.[14] To calculate these Taxonomy-aligned activities, Trucost takes two steps. It first matches the NACE codes of Taxonomy-aligned activities with the business activities classified by the North American Industry Classification System (NAICS). It then calculates the proportion of firm revenue generated by NAICS-based business segments with transitional or enabling activities. Trucost's data cover over 15,000 listed firms and represent, according to the data provider, 98% of global market capitalization.

We use two variables from the Trucost dataset that are constructed by applying the EU Taxonomy. *Transitional Rev* measures the fraction of a firm's revenue associated with economic activities that make a substantial contribution to climate change mitigation based on a firm's own activities (also labelled as green revenue for simplicity). *Enabling Rev* represents the revenue arising from economic activities that enable other firms to contribute to the EU's climate change objectives (i.e., they manufacture components or provide services that improve the environmental performance of other activities). Most of our tests focus on a firm's

[13] Trucost uses fiscal year-end information to calculate transitional revenues. Their sample coverage starts with fiscal years that end in 2005. We match fiscal year-ends to calendar years by treating a fiscal year-end date before July 1 of year t as belonging to calendar year t-1. Thus, our sample includes some Trucost data for calendar year 2004. Our regressions used lagged values of transitional revenues, implying that the sample period for the loan data is still 2005 to 2018.

[14] More precisely, the data coverage starts with fiscal years ending in 2005. As explained above, we match some of these fiscal years to calendar year 2004.

transitional revenue, as it most directly affects a firm's own climate risk (enabling activities reduce primarily other firms' climate risks).

3.2 Syndicated loan variables

We use data on syndicated loan facilities from DealScan, which provides comprehensive coverage of the global syndicated loans market. As in prior literature, we use the all-in-spread-drawn on a loan facility (*Loan Spread*) to measure the cost of a loan (e.g., Qian and Strahan, 2007; Campello and Gao, 2017). The all-in-spread-drawn is the annual interest rate spread paid over LIBOR plus upfront fees for each dollar drawn down from the loan. Our tests also use data on the loan amount, the loan maturity, the number of covenants, the number of lenders in a syndicated loan, information on performance pricing, whether a loan has a guarantor, whether the loan is revolver, the loan term, and whether a loan is secured.

3.3 Carbon emission variables

Business revenue arising from green investments may be motivated by a firm's need to reduce carbon emissions. To control for such firm-level demand for carbon risk mitigation, we follow Bolton and Kacperczyk (2021) and use data on firm-level carbon emissions from Trucost. *Scope 1 Emissions* is the natural log of carbon emissions from sources that are owned or controlled by a firm; this variable captures Scope 1 emissions. *Scope 2/3 Emissions* is the log of the sum of Scope 2 and 3 carbon emissions.

3.4 Firm-level control variables

Our regressions account for a battery of firm characteristics such as firm size (*Size*), return-on-assets (*ROA*), financial leverage (*Leverage*), asset tangibility (*Tangibility*), and stock market valuation (*Tobin's Q*). The selection of these controls centers around proxies for firm profitability and credit constraint for two reasons: (1) these factors are key determinants of loan

pricing (e.g., Sufi, 2007; Qian and Strahan, 2007; Saunders and Steffen, 2011); and (2) corporate environmental performance can be driven by credit constraints (e.g., Bartram, Hou, and Kim, 2022; Xu and Kim, 2021).

3.4 Summary statistics

Table 1 reports descriptive statistics at the loan-facility level. Across the sample, the mean values of *Transitional Rev* and *Enabling Rev* are at 22.7% and 13.8%, respectively. Notably, more than half of all firms have zero transitional revenue aligned with the EU Taxonomy; this indicates that many firms are still at an early stage of climate transitioning. *Loan Spread* has a mean value of 159bps, with a one-standard deviation of 108bps. *Scope 1 Emissions* and *Scope 2/3 Emissions* have means (standard deviations) of 11.74 (2.88) and 12.63 (1.95), respectively.

IA Table 1 reports *Transitional Rev* and *Enabling Rev* by country. The average transitional revenue is highest in Luxembourg (66.4%), following by China (47.9%), Japan (47.8%), Singapore (44.4%), Spain (44.2%) and Hong Kong (43.1%). The low numbers in some countries, for example Denmark, are the result of our sample selection, and they are not representative of the economies as a whole. In terms of enabling revenue, Belgium, Bermuda, Denmark, and Indonesia rank highest with country averages of 46.3%, 38.4%, 33.3% and 30.7%, respectively.

IA Table 2 reports the distribution of the mean values of *Transitional Rev* and *Enabling Rev* over time. We do not observe particular time trends for both variables over time.

4. Empirical results

4.1 Transitional revenue and the cost of borrowing

We start the empirical analysis by establishing that firms with higher revenue shares from Taxonomy-aligned transitional activities pay lower loan spreads in the syndicated loan market. This negative relationship can originate from a financial (risk management) channel or a nonfinancial (green preferences) channel, both of which are not mutually exclusive. The first channel holds that transitional activities increase a firm's resilience to climate change risks, which boosts the credit worthiness and leads to lower cost of debt financing. The second channel instead holds that lenders are willing to offer lower interest rates because of their green preferences. Before exploring these channels, we establish the baseline relation between loan spreads and transitional activities by estimating the following regression at the loan-facility level:

$$Loan\ Spread_{i,j,c,t} = \alpha + \beta\ Transitional\ Rev_{j,c,t-1} + \delta' \boldsymbol{X}_{f,c,t} + \mu_j + \theta_t + \gamma_c + \varepsilon_{i,j,c,t}, \quad (1)$$

where $Loan\ Spread_{i,j,c,t}$ is the interest rate spread on loan facility i of firm j in country c and year t, and $Transitional\ Rev_{j,c,t-1}$ is firm j's revenue share from Taxonomy-aligned transitional activities in year $t-1$. The coefficient of interest is β, which measures the effect of transitional revenues on syndicated bank loan spreads. $\boldsymbol{X}_{i,j,c,t}$ includes a series of controls at the loan-facility and firm level. At the loan-facility level, we control for *Log Loan Amount*, *Log Loan Maturity*, *Log Loan Covenants*, *Log # Lenders*, *Performance Pricing*, *Guarantor*, *Revolver*, *Term Loan A/B*, *Secure*, and *SP Rating.* At the firm level, we control for *Size*, *ROA*, *Leverage*, *Tangibility*, *Tobin Q*. We saturate the model with different fixed effects at the loan purpose, year, country, and industry, and industry-by-year level, respectively. Standard errors are double clustered by country and year (results are unaffected if we cluster standard errors at the borrower level).

The estimation results of Equation (1) are presented in Table 2. In Column (1), the coefficient of *Transitional Rev* is -16.396 and highly statistically significant, after absorbing load purpose, country, and year fixed effects. The estimate indicates that banks charge lower spreads for firms with a higher proportion of transitional revenue. A one-standard deviation increase in *Transitional Rev* (0.379) is associated with a loan spread reduction of approximately 6bps, or 4% relative to the variable's sample mean (159bps). Using a back-of-the-envelope calculation, the estimated percentage decrease in loan cost can be converted to about $7.4bn cost savings (the total amount of syndicated loans in the sample is about $12.4tr).

In Column (2), we add for comparison purposes *Enabling Rev* to the estimation. While the coefficient of *Transitional Rev* remains negative, statistically significant, and largely unchanged in size, the coefficient of *Enabling Rev* is positive (but only marginally significant). One interpretation of this finding is that lenders focus on business activities that directly address a firm's own climate risk when pricing syndicated loans (this may be the case because of both channels). As certain industries tend to be inherently greener than others, in Column (3) we control for industry fixed effects. To further saturate the model, in Column (4) we account for industry-by-year fixed effects in the estimation, to ensure that transitional revenue does not simply pick up time-varying industry shocks. In both estimations, we find that the coefficient of *Transitional Rev* changes only slightly in size (to -15.777 in Column (3) and to -14.854 in Column (4)) and remains statistically significant. The fact that our estimates vary only within a relatively tight interval of [14.854, -16.396] across the different fixed effects specifications are comforting: unobserved heterogeneity correlated with these fixed effects dimension does not seem to unduly affect our point estimates.

The estimates of the control variables have the expected signs and line up with those documented in prior literature (e.g., Chava, 2014; Sufi, 2007; Qian and Strahan, 2007; Saunders

and Steffen, 2011). With respect to loan characteristics, we find that loan spreads tend to be lower for large loans, short term loans, loans with fewer lenders, loans with high-performance pricing, revolvers, and unsecured loans.[15] Larger firms and firms with higher credit rating firms tend to borrow with lower spreads. Loan spreads decrease with firm size (*Size*), profitability (*ROA*), and *Tobin Q*, but they increase with *Leverage*.

One may argue that the idea behind the EU Taxonomy, the development of green investments, and the global demand for climate risk mitigation among regulators and investors are nascent trends. If this were the case, then banks should not be concerned about climate risk in the early years of our sample, and one should not observe any effect of *Transitional Rev*. To consider this conjecture, we split the sample in Columns (4) and (5) into three sub-periods, the years 2005-2007, 2008-2011, and 2012-2018. Contrary to the conjecture, we observe a significant and negative coefficient on *Transitional Rev* across both subsamples. While the estimated magnitudes change slightly across the time periods, the differences are modest.

In Table 3, we perform a series of additional tests to ascertain the robustness of our baseline results. In Panel A, we investigate whether the loan cost advantage of transitional revenue originates from a transient or long-lasting effect. Our baseline regressions use the transitional revenue one year before the loan initiation date. However, these revenues might be driven by one-time shocks, while banks instead may focus on longer-term trends reflecting more fundamental green activities when deciding on loans, such as the firm's transitional revenues over the past three or five years. Thus, for robustness, we use the yearly average of a firm's transitional revenue over a three- or five-year window prior to loan initiation as alternative

[15] The finding that unsecured loans have lower spreads seems surprising at first glance. However, according to Strahan (1999), larger borrowers and borrowers with highly rated debt pay lower interest rates and are more likely to be able to borrow on an unsecured basis relative to smaller and less well-rated borrowers. Hence he finds that loans that are secured carry higher interest rates. Our results are consistent with his findings.

measures. The estimated coefficients on *Transitional Rev 3y* and *Transitional Rev 5y* support a longer-lasting effect of transitional revenue on a firm's borrowing cost.

In Panel B, we consider that borrowers may deploy green investments to reduce carbon emissions, that the cost effects we observe may be driven in part by a borrower's emission status. To account for the role of emissions, we add the logarithms of *Scope 1 Emissions* and *Scope 2/3 Emissions* to the estimation. In line with evidence on a carbon risk premium in the stock market (Bolton and Kacperczyk, 2021), we observe a positive and significant effect of direct and indirect emissions on loan spreads. Importantly, we continue to find a strong negative coefficient on *Transitional Rev*.

In Panel C, we separate the sample into borrowers from EU and non-EU countries. While the estimated effects are larger among EU borrowers, we continue to observe significant effects also among non-EU firms. A one-standard-deviation increase of transitional revenue is associated with a 9.3bp decline of syndicated loan spreads in EU countries, and a 5.2bp decline in Non-EU countries, respectively.[16]

Finally, in IA Table 3, we address concerns about potential sample misrepresentation due to the large number of US sample firms. However, we find a significant and negative effect of transitional revenue for both US and non-US borrowers.

4.2 Non-pricing loan terms

Qian and Strahan (2007) contend that while higher interest rates are an effective tool to price asymmetric information, higher rates may have adverse effect by worsening the moral hazard problem of borrowers selecting riskier projects. Yet, with restrictive debt terms, borrowers may have to forgo profitable but risky investment opportunities. Therefore, non-

[16] The standard deviations of *Transitional Rev* are 0.37 and 0.38 in EU and Non-EU countries, respectively..

price terms act as important control mechanisms to mitigate information asymmetry problems of lenders. Applied to our setting, this implies that non-pricing terms could be used as complements to loan spreads.

In Table 4, we therefore re-estimate Equation (1) and replace *Loan Spread* with a series of important non-pricing terms. In Columns (1) and (2), we find no significant associations between *Transitional Rev* and loan covenants or loan maturity. This evidence suggests that lenders impose similar loan terms on borrowers with transitional revenue compared with those without such revenue. Instead, Column (3) shows a negative and statistically significant relation between *Transitional Rev* and *Collateral,* suggesting that loans given to climate resilient borrowers are less likely to be collateralized. In Columns (4), *Transitional Rev* is negatively and significantly associated with *Loan Amount*. Hence, it appears that lender provide smaller loans to borrowers with a high level of transitional activities. A one-standard-deviation increase in *Transitional Rev* is associated with a 7% decline in the loan amount. This effect also highlights the importance of controlling for loan size in the estimation.

5. Economic mechanisms

We document that banks charge lower interest rates on loans issued to firms with higher revenues aligned with the EU Taxonomy. In this section, we perform a series of tests to explore the underlying economic mechanisms.

5.1 Risk management channel: Regulatory and physical climate risks

We start by exploring the risk management channel. Firms are exposed to regulatory and physical climate risks. Regulatory climate risks have substantially increased over the past two decades (TCFD 2017). Over 80% of high to middle-income countries have introduced environmental regulations and policies that support renewables directly, such as feed-in tariffs

and power purchase agreements (IRENA, 2018). Moreover, climate-related policies, such as carbon taxes or cap-and-trade policies, are imposed increasingly across countries to price the climate externalities of carbon emissions. Krueger, Sautner, and Starks (2020) document that institutional investors widely believe that regulatory climate risks have begun to materialize, and Ilhan, Vilkov, and Sautner (2021) provide evidence consistent with this from the options market.

To understand the role of climate-related regulatory risk as a driver behind the negative relationship between *Transitional Rev.* and *Loan Spread*, we analyse how this relationship varies based on a country's environmental policy stringency. The value of green activities should be particularly large in countries where climate regulation targets brown activities. In other words, if transitional revenue indeed reflects business activities that contribute to climate change mitigation, then it should be most valuable in reducing risks in countries with stringent environmental regulation.

We measure this stringency using an index from the OECD Statistics database, which provides an internationally comparable measure of the stringency of environmental policy with a broad time and country coverage.[17] Specifically, the OECD EPS index covers 28 OECD and 6 non-OECD countries for the period from 1990 to 2015. The index has not been updated since 2015, but – considering the usually slow-changing nature of most environmental policies – we follow Cojoianu et al. (2020) and use a country's 2015 index value to fill in the last three years

[17] The EPS index is constructed through two steps: (1) selecting and scoring individual policy instruments, and (2) aggregating this information. Individual policy instruments primarily related to the climate and environmental are selected and scored between 0 to 6 to reflect the relative stringency across countries of a particular policy instrument. Next, the instrument-specific indicators are aggregated into five policy categories: taxes, trading schemes, feed-in tariff schemes, emission standards, and government R&D subsidies. The Netherlands (3.14), Sweden (2.98), and Denmark (2.66), on average, have the highest EPS scores, whereas Brazil (0.45), Russia (0.64) and South Africa (0.70) have the lowest scores. The full methodology behind the index construction can be found in Botta and Koźluk (2014).

in our sample. We partition our sample into two subsamples based on the median value of the index, and re-estimate Equation (1) within each of these two subset.

The results are reported in Table 5, Panel A. In Column (1), the coefficient on *Transitional Rev* is -34.854 and highly statistically significant among borrowers in countries with stringent environmental policies. The size of effect is economically significant. A one-standard deviation increase in *Transitional Rev* is associated with a 13.6bp decrease in loan spreads, representing 8.49% of the corresponding subsample mean. In contrast, the effect is insignificant among borrowers in countries with lax environmental policies (Column (2)). This suggests that banks value climate resilience more under the fear of climate-related regulatory cost and corroborates that cost advantage of transitional revenue is operative through a risk mitigation channel.

Transitional activities may also be particularly valuable in countries with high physical climate risk exposure. Transitional activities may not directly affect a firm's exposure to extreme weather, storms, or draughts, but banks may perceive them as particularly valuable in countries with high physical climate risks. Moreover, a country with high physical climate risk may face more public pressure to raise the regulatory costs on polluting activities and to reward green activities. Consequently, one should also expect stronger pricing effects of transitional revenue among firms located in countries most vulnerable to physical climate risk. To test this prediction, in Table 5, Panel B, we partition the sample into two subgroups based on the median value of the country-level climate change vulnerability index from Closset et al. (2018).

When we re-estimate the regression from Equation (1) within each of these subset, the coefficient estimate of *Transitional Rev* is almost twice as large among borrowers in countries most vulnerable to climate change. This result is consistent with Painter (2020)'s evidence on municipal bonds, which suggests that investors demand a higher rate of return when holdings bonds of counties with higher sealevel rise risk.

5.2 Risk management channel: Introduction of carbon taxes

Carbon taxes are widely perceived as the main policy tool through which carbon emission reductions will be achieved (Stroebel and Wurgler, 2021), and they therefore constitute one way through which regulatory climate risks materialize in practice. As carbon taxes considerably increase the cost of firms' carbon emissions, they increase the climate-RELATED risks at brown firms relative to those at green firms. Carbon taxes also provide incentives for green innovation, which should benefit firms with large transitional activities.

To examine the effects of carbon taxes, we test how the relationship between *Transitional Rev* and bank loan spreads varies from around the introduction of a carbon tax. The treatment sample consists of firms in tax adopting countries, while the control sample comprises firms in non-adopting countries in the same world region.[18] IA Table 4 lists the countries in the sample that adopt carbon tax regimes before during our estimation period. We collect data on carbon taxes from the Tax Foundation[19] and multiple internet sources.

Before estimating the results, Figure 1 compares the evolution of the mean values of *Transitional Rev* between treated and the control firms from five years before to five years after the carbon tax adoption. While the level of *Transitional Rev* in the treatment group hovers above that of the control sample in the entire event window, the increase in *Transitional Rev* in the treatment group is considerably greater than in the counterfactual control group after the adoption of a carbon tax. Hence, carbon taxes are associated with a sharp and persistent increase in *Transitional Rev* in treated firms.

[18] We consider the regions Asia, Europe, and South America. North America is not included in the identification test because no countries in this region adopted the carbon tax regime during our sample period.
[19] https://taxfoundation.org/carbon-taxes-in-europe-2020/

In what follows, we estimate the differential impact of carbon taxes on the relation between *Transitional Rev* and *Loan Spread* in the two-sided five-year window around a country's carbon tax introduction (i.e., we include eleven years in total):[20]

$$\begin{aligned} Loan\ Spread_{i,j,c,t} = \ & \alpha + \beta_1\ Transitional\ Rev_{j,c,t-1} \times Treat_c \times Post_{c,t} + \beta_2 \\ Transitional\ Rev_{j,c,t-1} \ & \times Treat_c + \beta_3\ Transitional\ Rev_{j,c,t-1} \times Post_{c,t} + \beta_4\ Treat_c \times Post_{c,t} + \\ \beta_5\ Transitional\ Rev_{j,c,t-1} \ & + \beta_6\ Treat_c + \beta_7\ Post_{c,t} + \delta'\ \boldsymbol{X}_{f,c,t} + \mu_j\ + \theta_t + \gamma_c + \varepsilon_{i,j,c,t}, \end{aligned} \quad (2)$$

where $Loan\ Spread_{i,j,c,t}$ is the interest rate spread on loan facility i from firm j in country c, year t. *Treat* equals one when a borrower is from a country that introduced a carbon tax, and zero otherwise. $Post_{c,t}$ equals one for observations after the introduction of a carbon tax, and zero otherwise. We include loan purpose, year, and industry fixed effects, respectively. The coefficient of interest is β_1, which reflects the differential effect of transitional revenue on loan spreads between treated and control groups following the introduction of a carbon tax.

Table 6 displays the regression results. In Column (1), the triple DiD coefficient on *Transitional Rev* × *Treat* × *Post* is -72.758 and statistically significant, suggesting that higher transitional revenue is associated with larger loan cost reductions after the implementation of a carbon tax.[21] The sizes of the estimated effect are economically significant. Compared with control firms with no carbon tax, a one-standard deviation increase in *Transitional Rev* (0.379) is associated with a 27bps larger loan spread reduction at treated firms from before to after the adoption of a carbon tax, which corresponds to 17.3% of the sample mean (159bps).

[20] IA Table 5 presents a balance test that compares mean values of various observables between treatment and control firms in the year in which a carbon tax is introduced. Consistent with Figure 1, the mean values of *Loan Spread* and *Transitional Rev* among treated firms are higher, though the differences are not statistically significant. Loan characteristics are mostly statistically different between the two groups, whereas firm characteristics are similar. This comparison prompts us to control for loan and firm characteristics.

[21] The magnitude and statistical significance of the effect remains unchanged when we use a two-sided three-year event window.

If transitional revenue reduces loan cost by reducing climate-related risk, we expect to see stronger effects among firms with generally higher base-level credit risk. To verify this conjecture, Columns (2) and (3) partition the sample into two groups based on whether treated firms are rated below or above BBB by S&P. In Column (2), among firms rated below BBB, the triple interaction coefficient on *Transitional Rev*× *Treat* × *Post* increases strongly in size and remains statistically significant. To the contrary, in Column (3), the effect is statistically insignificant for the firms rated BBB and above. This suggests that the introduction of carbon tax helps to lessen the cost of loan financing at green firms, particularly for firms with higher credit risk.

5.3 Green preferences channel

Kacperczyk and Peydro (2021) show that banks that make public commitments to carbon neutrality reduce credit supply in part because of their green preferences (a nonfinancial motive). Motivated by this evidence, we examine whether the loan cost advantage of transitional revenue varies across banks depending on their distinct green preferences.

To quantify banks' green preferences, we exploit two widely adopted initiatives, the Equator Principles (EP) and Principles for Responsible Investment (PRI).[22] We classify loan-facility observations based on whether one or multiple lenders of a syndicated loan complies with the EP or PRI. We expect that lending banks affiliated with these global initiatives demonstrate their green commitments by financing green investments at more favorable terms. (IA Table 6 shows that both initiatives exhibit sufficient variation across loan observations in our sample.)

[22]Hoepner, Majoch, and Zhou (2021) show that PRI signatories are more committed to incorporating ESG issues into their decision-making and ownership practices.

The results in Table 7 lend support to our expectation. When we divide in Panel A the sample into loans from EP signatory and non-signatory banks, the coefficient of *Transitional Rev* is -20.440 and significant for loans undertaken by EP signatory banks, suggesting that a one-standard-deviation increase in *Transitional Rev* is associated with a 7.56bp decline of the all-in-drawn loan spreads. For loans undertaken by the non-EP signatory banks, a one-standard-deviation increase in *Transitional Rev* is associated with a 4.57bp decline only. Results become even stronger in Panel B as we partition the sample on basis of the PRI signatory institutions. A one-standard deviation increase in *Transitional Rev* is associated with a 18.3bp (5bp) loan spread decline for PRI (Non-PRI) signatories. The significant effect of *Transitional Rev* for signatory banks points to a nonfinancial channel that helps explain the loan cost advantage of climate resilient firms.

6. Real and financial responses to transitional revenue

In a final analysis, we ask whether there are any real effects of transitional business activities on the corporate side. If there is indeed a risk management channel through which our results operate, then we expect to see that improvements in real environmental outcomes are correlated with transitional revenues.

In Table 8, we measure positive environmental outcomes using two indicators from Refinitiv's Asset4 database: (1) a variable which captures a firm's emission reduction (*Emission Reduction*); and (2) a variable which measures whether a firm has produced environmental innovations (*Green Innovation*). More specifically, *Emission Reduction* measures a firm's commitment and effectiveness towards reducing environmental emission in the production and operational process. Higher values indicates a stronger commitment and effectiveness towards reducing environmental emission. *Green Innovation* reflects a firm's capacity to reduce the environmental costs and burdens for its customers, thereby creating new

market opportunities through new environmental technologies and processes or eco-designed products. Higher values indicate a stronger capability of green innovations.

Using regressions at the firm level, we relate these two variables to a firm's transitional revenue after controlling for firm characteristic and fixed effects. In Column (1), we find that *Transitional Rev* is positively and significantly correlated with a firm's future emission reduction. A one-standard-deviation increase in *Transitional Rev* is associated with a 2% increase in the emission reduction score.[23] In Column (2), these results extend to environmental innovations, where a one-standard-deviation increase of transitional revenue is associated with a 2.4% increases in the green innovations score. While our tests cannot eliminate the concern over the endogenous relationship between a firm's corporate environmental policies and its transitional economic activities, the significant correlations between the two factors provide suggestive evidence for the existence of a real climate risk mitigation effect of a firm's transitional economic activities.

Finally, we examine effects on the financial side, examining whether firms' financial policies change in light of the cost saving effect of transitional revenue. We consider change in two important financial policies, the use of long-term debt, and financing through bank loans. Using data from S&P Capital IQ database to measure these financial policies, Table 9 shows a positive relationship between transitional revenue and the proportion of long-term debt over total debt in Column (1), and with the percentage of bank loans over total debt in Column (2), respectively. These findings provide suggestive evidence that firms recognize the debt benefit of green investments and take out bank loans when engaging in new green investments.

[23] The standard deviation of transitional revenue is 0.36, and the unconditional means of future emission reduction score and environmental innovation score are about 0.52 and 0.51, respectively. A one-standard-deviation increase of transitional revenue is associated with 0.36*0.026/0.52≈2% and 0.36*0.034/0.51≈2.4% increases of the emission reductions and green innovation scores, respectively.

The finding also implies that lenders tend to invest in firms with higher transitional revenue in the form of long-term debt. In addition, compared to other lenders, banks are more likely to intergrade the green factor in assessing the risk of an investment opportunity.

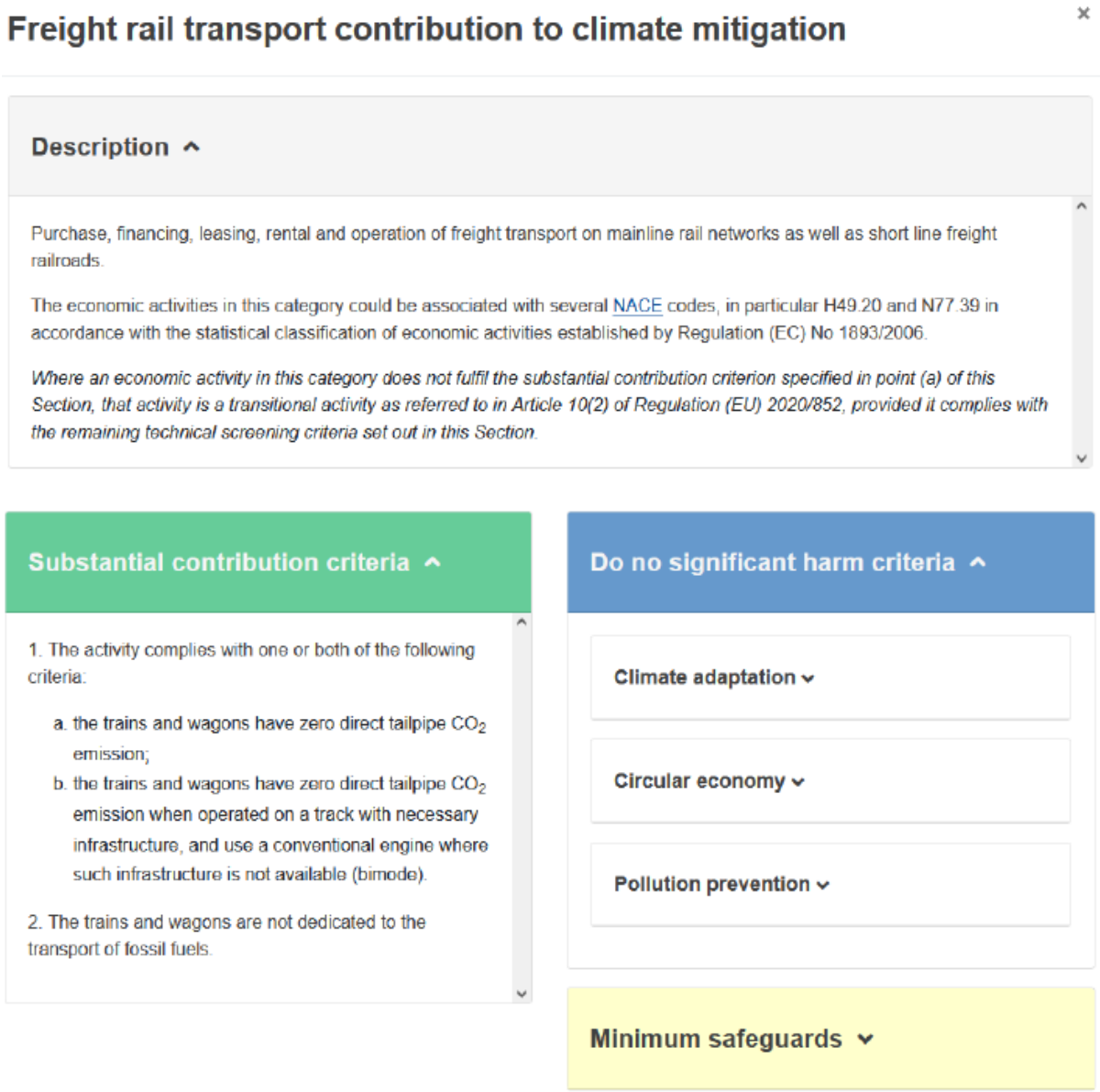
7. Conclusion

In this paper, we provide some first empirical evidence on the financial market effects of the EU Taxonomy. Using international data from the syndicated loan market, we demonstrate that, in the past, firms with larger revenue shares of Taxonomy-aligned transitional activities paid lower interest rates. Transitional activities have to make a substantial direct contribution to climate change mitigation. Economically, a one-standard-deviation increase in firm revenue from transitional activities is associated with six basis points lower loan spreads. Effects are more pronounced for firms in countries with greater regulatory and physical climate risk exposure, and when lending institutions have green preferences.

Appendix A: Variable Definition

Variable	Definition
Loan Spread	Annual interest rate spread paid over LIBOR plus upfront fee for each dollar drawn down from the loan
Transitional Rev	The ratio of revenue associated with transitional activities and the total revenue of a firm in a fiscal year. The transitional activities are defined by EU taxonomy (2020).
Enabling Rev	The ratio of revenue associated with enabling activities and the total revenue of a firm in a fiscal year. The enabling activities are defined by EU taxonomy (2020).
Scope 1 Emissions	Carbon emissions (scope 1) from a company's own business activities.
Scope 2/3 Emissions	Carbon emissions (the sum of scope 2 & scope 3) from direct suppliers.
Loan Amount	Total amount of a loan facility.
Loan Maturity	Loan maturity in term of months.
Loan Covenants	Number of covenants of a loan facility.
# Lenders	Number of lenders who participated in a syndicated loan.
Performance Pricing	An indicator that equals one if there is at least one performance pricing metric for a syndicated loan facility, and zero otherwise.
Guarantor	An indicator that equals one if there is a guarantor in a syndicated loan, and zero otherwise.
Revolver	An indicator that equals one when a loan facility is a revolver, and zero otherwise.
Term A	An indicator that equals one when a loan facility is term A, and zero otherwise.
Term B	An indicator that equals one when a loan facility is term B, and zero otherwise.
Secure	An indicator that equals one when a loan facility is secured, and zero otherwise.
SP Rating	An indicator that equals one when the borrower of a loan facility is rated by S&P, and zero otherwise.
Size	The logarithm of the total assets of a syndicated loan's borrower.
ROA	The return on assets of a syndicated loan's borrower.
Leverage	The ratio of total debt over total assets of a borrower in a loan facility.
Tangibility	The tangible assets over total asset of a borrower in a loan facility.
Tobin Q	Market value of equity plus book value of debt, scaled by total assets.
Emission Reduction	Environmental emission index from the Asset4 database. It measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational process. A higher value of environmental emission reduction indicates a stronger commitment and effectiveness towards reducing environmental emission.
Green Innovation	Environmental innovation index from Asset4. It reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. A higher value of environmental innovation indicates a stronger capability of environmental innovations.
Long Term Debt	The ratio of long-term debt over total debt in a firm-year.
Bank Loans	The ratio of bank loans over total debt in a firm-year.

Appendix B: Examples of Classification of Business Activity from the EU Taxonomy



Freight rail transport contribution to climate mitigation

Description

Purchase, financing, leasing, rental and operation of freight transport on mainline rail networks as well as short line freight railroads.

The economic activities in this category could be associated with several NACE codes, in particular H49.20 and N77.39 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, that activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Substantial contribution criteria

1. The activity complies with one or both of the following criteria:

   a. the trains and wagons have zero direct tailpipe CO_2 emission;
   b. the trains and wagons have zero direct tailpipe CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode).

2. The trains and wagons are not dedicated to the transport of fossil fuels.

Do no significant harm criteria

Climate adaptation

Circular economy

Pollution prevention

Minimum safeguards

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Table 1: Descriptive Statistics

This table reports the summary statistics at the loan-facility level of the variables used in the main analysis. Variable definitions are reported in Appendix A.

Variables	# Obs.	Mean	Std. Dev	5%	Median	95%
Loan Spread$_{i,j,c,t}$	14,424	159.1	107.1	30.0	137.5	370.0
Transitional Rev$_{j,c,t}$	14,424	0.227	0.379	0.000	0.000	1.000
Enabling Rev$_{j,c,t}$	14,424	0.138	0.309	0.000	0.000	1.000
Log Scope 1 Emissions$_{j,c,t}$	12,910	11.750	2.878	7.453	11.442	17.167
Log Scope 2/3 Emissions$_{j,c,t}$	12,910	12.635	1.953	9.443	12.655	15.864
Log Loan Amount$_{i,j,c,t}$	14,424	19.762	1.379	17.287	19.856	21.822
Log Loan Maturity$_{i,j,c,t}$	14,424	3.814	0.612	2.565	4.111	4.443
Log Loan Covenants$_{i,j,c,t}$	14,424	0.714	1.073	0.000	0.000	3.000
Log # Lenders$_{i,j,c,t}$	14,424	2.271	0.724	0.693	2.303	3.367
Performance Pricing$_{i,j,c,t}$	14,424	0.228	0.420	0.000	0.000	1.000
Guarantor$_{i,j,c,t}$	14,424	0.111	0.314	0.000	0.000	1.000
Revolver$_{i,j,c,t}$	14,424	0.532	0.499	0.000	1.000	1.000
Term A$_{i,j,c,t}$	14,424	0.065	0.247	0.000	0.000	1.000
Term B$_{i,j,c,t}$	14,424	0.334	0.472	0.000	0.000	1.000
Secure$_{i,j,c,t}$	14,424	0.286	0.452	0.000	0.000	1.000
SP Rating$_{i,j,c,t}$	14,424	0.519	0.500	0.000	1.000	1.000
Size$_{j,c,t}$	14,424	22.900	1.592	20.491	22.750	25.742
ROA$_{j,c,t}$	14,424	0.060	0.076	-0.023	0.053	0.166
Leverage$_{j,c,t}$	14,424	0.322	0.187	0.040	0.304	0.633
Tangibility$_{j,c,t}$	14,424	0.325	0.271	0.008	0.256	0.843
Tobin Q$_{j,c,t}$	14,424	1.658	1.012	0.905	1.352	3.371

Table 2: Transitional Revenue and Syndicated Loan Spread: Baseline Results

This table reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) and enabling revenue (*Enabling Rev*) to syndicated loan spreads. Variable definitions are reported in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Dependent Variable	*Loan Spread*$_{i,j,c,t}$						
	Full Sample	Full Sample	Full Sample	Full Sample	2005-2007	2008-2011	2012-2018
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Transitional Rev$_{j,c,t-1}$	-16.396***	-15.110***	-15.777***	-14.854**	-13.817***	-18.327***	-17.073***
	(3.119)	(3.202)	(5.130)	(6.671)	(5.109)	(5.181)	(3.966)
Enabling Rev $_{j,c,t-1}$		6.102*					
		(3.598)					
Log Loan Amount$_{i,j,c,t}$	-2.905***	-2.926***	-4.578***	-3.812***	-5.338**	-4.334***	-2.508**
	(0.997)	(1.000)	(1.009)	(1.018)	(2.379)	(1.214)	(1.177)
Log Loan Maturity$_{i,j,c,t}$	7.748***	7.624***	7.110***	9.564***	8.854***	9.368***	10.573***
	(1.841)	(1.838)	(1.782)	(1.953)	(2.426)	(3.365)	(2.550)
Log Loan Covenants$_{i,j,c,t}$	0.900	0.915	1.112	1.592	2.421	1.818	2.806**
	(1.269)	(1.262)	(1.383)	(1.253)	(2.076)	(2.248)	(1.178)
Log # Lenders$_{i,j,c,t}$	-6.826***	-6.779***	-7.148***	-9.375***	-4.275	-5.768**	-9.524***
	(1.715)	(1.706)	(1.672)	(1.846)	(2.654)	(2.773)	(2.349)
Performance Pricing$_{i,j,c,t}$	-6.938**	-6.901**	-6.392**	-7.476***	-10.201**	-5.368	-14.588***
	(2.989)	(2.981)	(3.164)	(2.819)	(4.527)	(4.625)	(2.917)
Guarantor$_{i,j,c,t}$	-0.725	-0.723	-1.294	2.184	2.239	1.335	-5.283
	(3.301)	(3.295)	(3.141)	(3.441)	(5.618)	(5.354)	(3.750)
Revolver$_{i,j,c,t}$	-28.329***	-28.614***	-27.953***	-26.644***	-8.535	-29.274***	-46.472***
	(6.183)	(6.175)	(5.705)	(4.535)	(7.032)	(7.705)	(8.708)
Term A$_{i,j,c,t}$	-21.029***	-21.145***	-22.702***	-21.558***	5.172	-22.463**	-35.900***
	(6.590)	(6.596)	(5.740)	(5.274)	(6.726)	(10.158)	(8.646)
Term B$_{i,j,c,t}$	8.993	8.749	9.306*	6.873	14.642**	9.062	-0.493
	(5.856)	(5.856)	(5.175)	(4.554)	(7.211)	(7.536)	(9.441)
Secure$_{i,j,c,t}$	56.527***	56.552***	47.609***	46.182***	58.533***	57.366***	54.764***
	(3.548)	(3.557)	(3.684)	(3.475)	(7.697)	(6.049)	(5.137)
SP Rating$_{i,j,c,t}$	-9.214***	-9.178***	-11.658***	-12.770***	-3.162	-14.870***	-11.044***
	(2.461)	(2.457)	(2.580)	(3.202)	(3.681)	(4.158)	(3.294)
Size$_{j,c,t}$	-11.419***	-11.419***	-12.184***	-11.571***	-7.049***	-12.939***	-9.353***
	(1.036)	(1.039)	(1.511)	(1.410)	(1.234)	(1.898)	(1.838)
ROA$_{j,c,t}$	-75.052***	-75.313***	-78.523**	-65.380	-69.173	-39.833	-79.727*
	(28.373)	(28.355)	(31.691)	(46.004)	(45.115)	(45.062)	(47.011)
Leverage$_{j,c,t}$	64.391***	63.273***	73.647***	78.802***	54.800***	69.034***	74.282***
	(5.532)	(5.488)	(6.168)	(8.426)	(7.628)	(10.220)	(7.381)
Tangibility$_{j,c,t}$	-1.030	-1.425	-14.387*	-11.851	6.980	10.123	-8.846
	(4.466)	(4.462)	(8.096)	(8.839)	(6.061)	(7.214)	(6.129)
Tobin Q$_{j,c,t}$	-11.402***	-11.359***	-11.050***	-11.014***	-1.702	-16.678***	-13.307***
	(1.837)	(1.821)	(1.946)	(2.154)	(1.696)	(3.452)	(2.798)
Loan Purpose Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	No	No	Yes	Yes	No	No	No
Industry x Year Fixed Effects	No	No	No	Yes	No	No	No
# Obs.	14,424	14,424	14,424	14,424	2,699	5,156	7,737
Adj. R2	0.496	0.496	0.559	0.669	0.540	0.491	0.462

Table 3: Transitional Revenue and Syndicated Loan Spread: Robustness Analysis

This table reports the regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to syndicated loan spreads (*Loan Spread*). Panel A reports regressions using the average of *Transitional Rev* in the previous 3 years (*Transitional Rev 3y*) and 5 years (*Transitional Rev 5y*) before the initiation of a syndicated loan. Panel B reports regressions after controlling for direct and indirect carbon emissions generated by the borrowing company in the previous year. Panel C reports regressions for EU and Non-EU borrowing firms, respectively. The dependent variable in all regressions is the syndicated loan spread. Variable definitions are reported in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

	Panel A: Long Term Effect of Transitional Revenue		Panel B: Controlling for Carbon Emissions		Panel C: EU and Non-EU Countries	
Dependent Variable	*Loan Spread*$_{i,j,c,t}$		*Loan Spread*$_{i,j,c,t}$		*Loan Spread*$_{i,j,c,t}$	
	Full Sample	Full Sample	Full Sample	Full Sample	EU	Non-EU
	(1)	(2)	(3)	(4)	(5)	(6)
Transitional Rev 3y$_{i,j,c,t}$	-16.319***					
	(3.154)					
Transitional Rev 5y$_{i,j,c,t}$		-16.480***				
		(3.186)				
Transitional Rev$_{i,j,c,t}$			-14.307***	-12.957***	-25.056***	-13.757***
			(3.485)	(3.512)	(7.326)	(3.338)
Log Scope 1 Emissions$_{j,c,t}$			2.414***			
			(0.478)			
Log Scope 2/3 Emissions$_{j,c,t}$				1.425*		
				(0.732)		
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
# Obs.	14,424	14,424	12,910	12,910	2,356	12,068
Adj. R2	0.496	0.496	0.502	0.5	0.537	0.507

Table 4: Transitional Revenue and Loan Contracting Characteristics

This table reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to the number of loan covenants (*Loan Covenants*), the loan term (*Loan Maturity*), whether the loan is collateralized (*Collateral*), and the loan amount (*Loan Amount*). We control for other loan and firm characteristics as in Table 3. Variable definitions are reported in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Dependent Variable	$Loan\ Covenants_{i,j,c,t}$	$Loan\ Maturity_{i,j,c,t}$	$Collateral_{i,j,c,t}$	$Loan\ Amount_{i,j,c,t}$
	Full Sample	Full Sample	Full Sample	Full Sample
	(1)	(2)	(3)	(4)
$Transitional\ Rev_{j,c,t-1}$	0.064	0.339	-0.113***	-161.881***
	(0.049)	(1.079)	(0.016)	(33.139)
Other Controls	Yes	Yes	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
# Obs.	14,424	14,424	14,424	14,424
Adj. R2	0.378	0.287	0.263	0.426

Table 5: Transitional Revenue and Loan Spreads: Role of Climate Risks

Panel A reports the regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to loan spreads (*Loan Spread*) depending on a country's environmental policy stringency (EPS). EPS is measured using an index from the OECD Statistics database. We split the sample into two subsamples according based on the median values of the index. The sample is limited to countries covered in this database. Panel B reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to syndicated loan spreads (*Loan Spreads*) depending on a measure of a country's physical climate risk. We partition the sample based on the sample median of the country-level climate change vulnerability index from Closset et al. (2018). In both tables, we control for other loan and firm characteristics as in Table 3. At the bottom of each table, we report the Chi-square test-statistic for a test of the differences of the coefficient estimates of *Transitional Rev* across the two subsamples. Variable definitions are shown in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Panel A: Regulatory Climate Risks

	High Environmental Policy Stringency	Low Environmental Policy Stringency
Dependent Variable	$Loan\ Spread_{i,j,c,t}$	$Loan\ Spreads_{i,j,c,t}$
	(1)	(2)
$Transitional\ Rev_{i,j,c,t-1}$	-34.854***	-12.159
	(7.056)	(4.306)
Other Controls	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
# Obs.	2,700	7,854
Adj. R2	0.520	0.561
Chi2 Test Statistic	8.67***	
(*p*-value)	(0.003)	

Panel B: Physical Climate Risks

	High Climate Change Vulnerability	Low Climate Change Vulnerability
Dependent Variable	$Loan\ Spreads_{i,j,c,t}$	$Loan\ Spreads_{i,j,c,t}$
	(2)	(1)
$Transitional\ Rev_{i,j,c,t-1}$	-21.925***	-11.703**
	(3.479)	(5.923)
Other Controls	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
# Obs.	8,841	4,357
Adj. R2	0.545	0.502
Chi2 Test Statistic (*p*-value)	4.90** (0.0268)	

Table 6: Transitional Revenue and Loan Spreads: Role of Carbon Taxes

This table reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to syndicated loan spreads (*Loan Spread*) before and after the introduction of a carbon tax in a country. *Loan Spread* is the loan spread on the loan facility *i* of borrowing firm *j* located in country *c* in year *t*. *Treat* equals one for firms located in countries adopting a carbon tax, and zero otherwise. *Post* equals one after the adoption of a carbon tax regime in the treated country, and zero otherwise. We control for other loan and firm characteristics as in Table 2. Variable definitions are reported in Appendix A. Standard errors, reported in parentheses, are double clustered by industry and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Dependent Variable	$Loan\ Spread_{i,j,c,t}$	$Loan\ Spread_{i,j,c,t}$	$Loan\ Spread_{i,j,c,t}$
	Full sample	Credit rating < BBB	Credit rating >= BBB
	(1)	(2)	(3)
$Treat_c \times Post_{c,t} \times Transitional\ Rev_{j,c,t-1}$	-72.758***	-100.815***	12.780
	(26.402)	(25.652)	(66.153)
$Transitional\ Rev \times Post_{c,t}$	31.386**	25.216**	-19.235
	(12.611)	(12.237)	(15.446)
$Treat_c \times Post_{c,t}$	38.297***	54.452***	22.495
	(11.224)	(15.276)	(16.063)
$Treat \times Transitional\ Rev$	12.342	1.242	60.745
	(22.499)	(30.971)	(53.907)
$Transitional\ Rev_{j,c,t-1}$	36.967**	44.569***	-76.744***
	(14.355)	(16.991)	(27.742)
$Post_{c,t}$	-6.483	-3.424	4.697
	(6.131)	(6.716)	(4.810)
$Treat_c$	-3.302	40.329**	-43.295*
	(10.644)	(20.110)	(21.792)
Other Controls	Yes	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
# Obs.	1,893	1,340	547
Adj. R2	0.697	0.751	0.789

Table 7: Transitional Revenue and Loan Spreads: Role of Green Preferences

Panel A reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to loan spreads (*Loan Spread*) depending on whether the lending institutions are signatories of the Equator Principle (EP), global climate-related initiatives. We split the sample into two subsamples based on whether or not at least one lender in the loan facility is a signatory of the EP. Panel B reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to loan spreads (*Loan Spread*) depending on whether or not at least one lender in the loan facility is a signatory of the United Nations Principles for Responsible Investing (PRI). In both tables, we control for other loan and firm characteristics as in Table 2. At the bottom of each table, we report the Chi-square test-statistic for a test of the differences of the coefficient estimates of *Transitional Rev* across the two subsamples. Variable definitions are shown in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Panel A: Signatories of the Equator Principle (EP)

	EP Lenders	Non-EP Lenders
Dependent Variable	$Loan\ Spread_{i,j,c,t}$	$Loan\ Spread_{i,j,c,t}$
	(1)	(2)
$Transitional\ Rev_{i,j,c,t-1}$	-20.440***	-12.200**
	(3.132)	(5.732)
Other Controls	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
# Obs.	8,602	5,822
Adj. R2	0.510	0.512
Chi2 Test Statistic	1.07	
(*p*-value)	(0.301)	

Panel B: Signatories of the UN PRI

	PRI Lenders	Non-PRI Lenders
Dependent Variable	$Loan\ Spread_{i,j,c,t}$	$Loan\ Spread_{i,j,c,t}$
	(1)	(2)
$Transitional\ Rev_{i,j,c,t-1}$	-53.800***	-13.441***
	(13.344)	(3.166)
Other Controls	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
# Obs.	1,234	13,190
Adj. R2	0.500	0.505
Chi2 Test Statistic	7.35***	
(*p*-value)	(0.007)	

Table 8: Transitional Revenue and Environmental Performance

This table reports regressions at the firm level relating transitional revenue (*Transitional Rev*) to the borrowing firm's future environmental performance. Future environmental performance is proxied by whether a firm reduces its carbon emissions (*Emission Reduction*) and adopts environment-related innovations (*Green Innovation*). We control firm characteristics as in Table 2. Definitions of all the variables are shown in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Dependent Variable	*Emission Reduction*$_{j,c,t}$	*Green Innovation*$_{j,c,t}$
	Full Sample	Full Sample
	(1)	(2)
Transitional Rev$_{j,c,t-1}$	0.026***	0.034***
	(0.006)	(0.005)
Other Controls	Yes	Yes
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
# Obs	30,508	30,508
Adj. R2	0.295	0.151

Table 9: Effect of Transitional Revenue on Firm Financial Policies

This table reports regression at the firm level relating transitional revenues (*Transitional Rev*) to the proportion of long term debt over total debt *(Long Term Debt*) and to the proportion of bank loans over total debt (*Bank Loans*). Variable definitions are reported in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Dependent Variable	$Long\ Term\ Debt_{j,c,t}$	$Bank\ Loans_{j,c,t}$
	(1)	(2)
$Transitional\ Rev_{i,j,c,t-1}$	0.034***	0.009*
	(0.006)	(0.005)
$Size_{j,c,t}$	0.031***	-0.040***
	(0.002)	(0.003)
$ROA_{j,c,t}$	-0.003	0.018
	(0.017)	(0.020)
$Leverage_{j,c,t}$	0.322***	-0.059***
	(0.013)	(0.014)
$PPE_{j,c,t}$	0.117***	0.024**
	(0.010)	(0.010)
$Tobin\ Q_{j,c,t}$	-0.006***	-0.005**
	(0.002)	(0.002)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
# Obs	48,921	48,921
Adj. R2	0.293	0.261

Internet Appendix

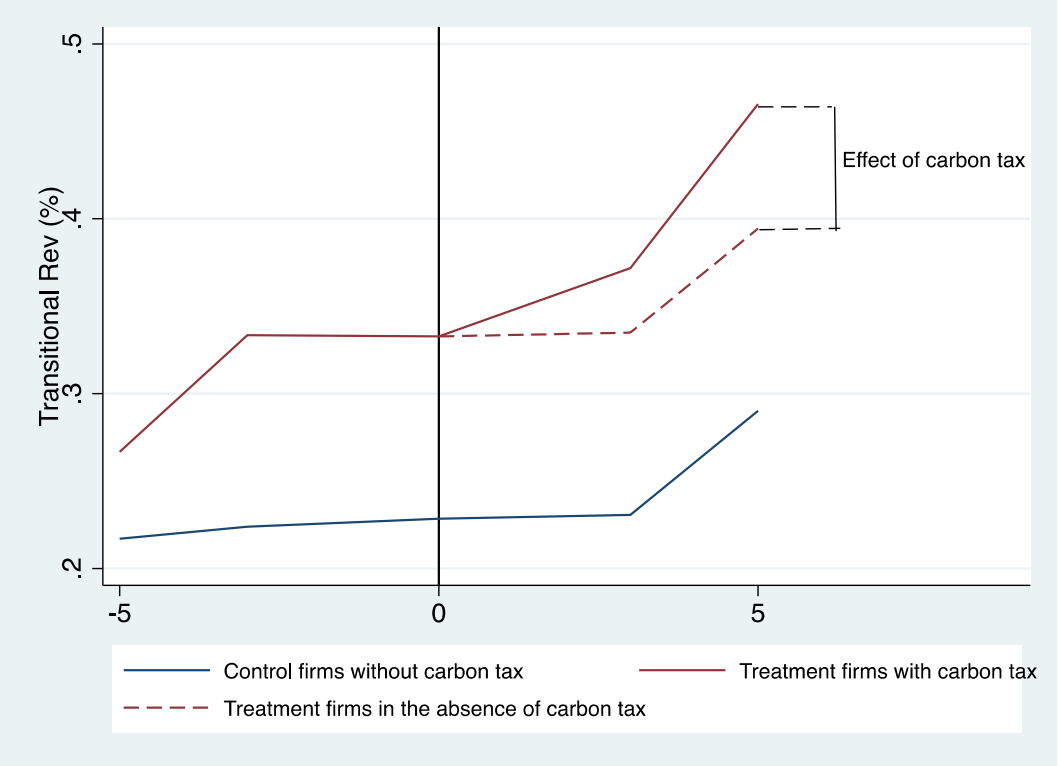
for

The EU Taxonomy and the Syndicated Loan Market

Zacharias Sautner Jing Yu Rui Zhong Xiaoyan Zhou

IA Figure 1: Effect of Carbon Tax on Corporate Transitional Revenue

This figure presents the effect of carbon tax on corporate transitional revenue between treatment and control firms in the five-year window from five years before to five years after the adoption of carbon tax. The treated group includes firms in a country that imposed a carbon tax during our sample period, while the control group includes firms located in countries that did not impose a carbon tax but located in the same geographic region as the carbon tax adoption country. The red-solid line shows the change of the means of treated group's transitional revenue scaled by total revenue (*Transitional Rev*) while the blue-solid line shows the change of the means of control group's transitional revenue over the total revenue. The dash line indicates the counterfactual level of transitional revenue in the absence of the carbon tax program in the treated countries. The X-axis shows the number of years pre and post the introduction of carbon tax. Time 0 indicates the first year in which the carbon tax is introduced in the treated countries.



IA Table 1: Country Distribution

This table reports the country distribution of key variables (mean values) in our sample. Statistics are calculated at the loan-facility level. Variable definitions are reported in Appendix A.

Country	# Obs.	*Loan Spread$_{i,j,c,t}$*	*Transitional Rev$_{j,c,t}$*	*Enabling Rev$_{j,c,t}$*	*Log Scope 1 Emissions$_{j,c,t}$*	*Log Scope 2/3 Emissions$_{j,c,t}$*
AUSTRALIA	519	157.155	0.248	0.100	11.337	12.092
AUSTRIA	20	87.630	0.322	0.257	14.808	14.192
BELGIUM	42	213.440	0.091	0.463	10.858	12.031
BERMUDA	34	173.471	0.029	0.384	7.635	9.909
BRAZIL	81	119.173	0.336	0.024	13.393	13.843
CANADA	412	176.094	0.280	0.091	12.909	13.056
CHILE	31	111.290	0.196	0.132	10.420	10.804
CHINA	140	241.720	0.479	0.048	11.012	12.485
DENMARK	24	168.313	0.000	0.333	10.196	12.242
FINLAND	30	160.750	0.244	0.138	11.910	12.774
FRANCE	379	142.925	0.230	0.182	12.247	13.471
GERMANY	345	138.607	0.211	0.256	13.073	13.756
HONG KONG	371	141.183	0.431	0.056	11.444	12.077
INDIA	344	136.906	0.207	0.120	12.243	12.600
INDONESIA	65	245.300	0.106	0.307	11.657	12.311
IRELAND	115	153.183	0.000	0.096	10.696	11.921
ITALY	108	141.708	0.153	0.245	12.782	13.615
JAPAN	299	84.098	0.478	0.099	11.359	12.503
SOUTH KOREA	307	134.697	0.319	0.243	12.917	13.213
LUXEMBOURG	54	142.423	0.664	0.074	14.900	14.860
MALAYSIA	47	144.096	0.179	0.139	12.838	12.130
MEXICO	73	190.514	0.323	0.176	15.101	14.879
NETHERLANDS	123	180.911	0.259	0.034	11.693	12.798
NORWAY	38	174.408	0.193	0.263	12.060	13.060
PHILIPPINES	39	162.344	0.222	0.114	11.510	12.184
POLAND	28	150.268	0.142	0.357	11.340	12.211
RUSSIAN FEDERATION	111	219.167	0.415	0.040	16.695	15.493
SINGAPORE	97	142.477	0.444	0.020	11.778	13.051
SOUTH AFRICA	90	175.583	0.167	0.025	11.497	12.803
SPAIN	266	188.316	0.442	0.258	13.489	13.436
SWEDEN	50	105.490	0.108	0.131	10.768	12.522
SWITZERLAND	118	143.102	0.095	0.101	12.636	13.614
TAIWAN	821	92.588	0.311	0.177	11.115	11.979
TURKEY	350	117.927	0.003	0.084	9.321	11.043
UNITED KINGDOM	937	210.477	0.199	0.054	10.659	11.869
UNITED STATES	7,516	165.462	0.193	0.145	11.719	12.682

IA Table 2: Transitional Revenue across Years

This table reports summary statistics (mean values) of *Transitional Rev* across years. Trucost uses fiscal year-end information to calculate transitional revenues. Their sample coverage starts with fiscal years that end in 2005. We match fiscal year-ends to calendar years by treating a fiscal year-end date before July 1 of year t as belonging to calendar year t-1. Thus, our sample includes some data matched to calendar year 2004. Our regressions used lagged values of *Transitional Rev*, implying that the sample period for the tests using loan data is 2005 to 2018.

Year	# Obs	Means of *Transitional Rev*	Means of *Enabling Rev*
2004	182	35.00%	8.51%
2005	1254	23.11%	15.56%
2006	1344	23.38%	12.46%
2007	914	22.29%	11.69%
2008	651	22.91%	14.40%
2009	1042	20.54%	14.07%
2010	1376	22.37%	12.55%
2011	1092	24.61%	13.06%
2012	1155	22.05%	12.82%
2013	1104	20.57%	13.23%
2014	980	23.06%	14.48%
2015	900	19.78%	15.80%
2016	1318	23.76%	16.48%
2017	1043	24.30%	13.81%
2018	69	10.75%	18.54%

IA Table 3: Transitional Revenue and Syndicated Loan Spread: US versus Non-US Effects

This table reports regressions at the loan-facility level relating transitional revenue (*Transitional Rev*) to syndicated loan spreads. We report regressions for US and Non-US borrowing firms, respectively. Variable definitions are reported in Appendix A. Standard errors, reported in parentheses, are double clustered by country and year. *, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

	US	Non-US
Dependent Variables	$Loan\ Spread_{i,j,c,t}$	$Loan\ Spread_{i,j,c,t}$
	(1)	(2)
$Transitional\ Rev_{j,c,t-1}$	-18.437***	-14.086***
	(2.440)	(4.944)
Other Controls	Yes	Yes
Loan Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
Industry Fixed Effects	No	No
# Obs.	7,516	6,908
Adj. R2	0.564	0.476

IA Table 4: Carbon Tax Adopting Countries

The table outlines the list of countries in our sample that adopted a carbon tax before or during our sample period from 2005 to 2018. We also report the adoption year and geographic region.

Country	Adoption Year of Carbon Tax	Geographic Region
FRANCE	2014	Europe
JAPAN	2012	Asia
MEXICO	2014	South America
NETHERLAND	1990	Europe
NORWAY	1991	Europe
SOUTH KOREA	2015	Asia
SPAIN	2014	Europe
SWITZERLAND	2008	Europe
UNITED KINGDOM	2014	Europe

IA Table 5: Variable Balance for Difference-in-Difference Analysis

This table reports means and standard deviations of the variables used in the DiD analysis at the firm loan transaction level. Variables are measured in the year in which a carbon tax was introduced in the tax-adopting. The treatment group consists of firms located in the carbon tax adoption countries during our sample period, whereas the control group comprises firms located in countries that are from the same geographic region as the treatment country but did not experience a carbon tax during the sample period. We present a balance test in the last column by conducting t-tests for differences in means between treatment and control group.

	Treatment Group			Control Group			*t*-test for (2) - (5)
	# Obs	Mean	Std. Dev	# Obs	Mean	Std. Dev	
	(1)	(2)	(3)	(4)	(5)	(6)	
Loan Spread$_{i,j,c,t}$	114	163.618	118.760	336	161.968	91.688	1.650
Transitional Rev$_{j,c,t}$	113	0.303	0.419	336	0.299	0.41847	0.004
Log Loan Amount$_{i,j,c,t}$	114	19.511	1.387	336	19.252	1.4106	0.259*
Log Loan Maturity$_{i,j,c,t}$	114	4.025	0.573	336	3.796	0.50326	0.230**
Log Loan Covenants$_{i,j,c,t}$	114	0.219	0.635	336	0.741	1.37404	-0.522***
Log # Lenders$_{i,j,c,t}$	114	1.946	0.756	336	2.330	0.71065	-0.384***
Performance Pricing$_{i,j,c,t}$	114	0.070	0.257	336	0.048	0.21328	0.023
Guarantor$_{i,j,c,t}$	114	0.017	0.132	336	0.170	0.37588	-0.152***
Revolver$_{i,j,c,t}$	114	0.561	0.498	336	0.321	0.46772	0.239***
Term A$_{i,j,c,t}$	114	0.018	0.132	336	0.00000	0.00000	0.018**
Term B$_{i,j,c,t}$	114	0.289	0.456	336	0.59524	0.49158	-0.305***
Secure$_{i,j,c,t}$	114	0.219	0.416	336	0.20238	0.40237	0.017
SP Rating$_{i,j,c,t}$	114	0.360	0.482	336	0.29464	0.45656	0.065
Size$_{j,c,t}$	114	22.588	1.749	336	23.0955	1.53488	-0.508**
ROA$_{j,c,t}$	112	0.063	0.083	332	0.04847	0.06478	0.014*
Leverage$_{j,c,t}$	114	0.314	0.167	336	0.3129	0.15254	0.001
Tangibility$_{j,c,t}$	114	0.301	0.273	336	0.28697	0.22442	0.014
Tobin Q$_{j,c,t}$	114	1.519	0.798	334	1.25557	0.68514	0.264***

IA Table 6: PRI and Equator Principles: Distribution of Observations

To quantify banks' green preferences, we exploit two widely adopted initiatives, the Equator Principles (EP) and Principles for Responsible Investment (PRI). We classify loan-facility observations based on whether one or multiple lenders of a syndicated loan complies with the EP or PRI. In this table, we cross-tabulate the number of loan-facility observations subject to one or both of these initiatives.

	Non-Equator Principles	Equator Principles	# Obs
Non-PRI	4,761	7,568	12,329
PRI	238	1,857	2,095
# Obs	4,999	9,425	14,424