The hidden truth: Ireland's role in the global fossil fuel industry

Detailed Methodology

This describes the research methodologies used for the financial flows research, and the financed and facilitated emissions research. This information is supplied by Profundo.

Financial research

This section details the methodology used for the financial research.

Scope of companies

This research focused on Ireland's financing for fossil fuel companies and forest-risk companies (companies active in agriculture commodities driving deforestation in forest-rich regions) both through financial institutions headquartered in Ireland, and through subsidiaries of international financial institutions based in Ireland.

The selection of fossil companies is based on those covered by *Banking on Climate Chaos (BOCC)* and *Investing in Climate Chaos (IICC)*. The selection of forest-risk companies is based on those covered by *Forests & Finance*.

Banking on Climate Chaos (BOCC)

BOCC is a dataset of financing provided by banks in the form of loans and issuance underwriting services to companies engaged in fossil fuels. The selection of companies is based on globally recognized lists of fossil fuel companies – Global Coal Exit List (GCEL) and Global Oil & Gas Exit List (GOGEL) - which are developed and maintained by urgewald. BOCC is developed by a group of partners including Rainforest Action Network, Profundo, Reclaim Finance, and urgewald.

Investing in Climate Chaos (IICC)

IICC is a dataset of investments in bonds and shares issued by companies engaged in fossil fuels in April/May 2024. The selection of companies is based on globally recognized lists of fossil fuel companies – GCEL and GOGEL. IICC is developed by a group of partners including urgewald, Profundo and Reclaim Finance.

Forests & Finance

The Forests & Finance database provides data on credit and investment flows going towards the 300 most important producers and traders of the six commodities which are responsible for most tropical deforestation: beef, palm oil, pulp & paper, rubber, soy and timber (forest-risk commodities). These flows were identified using commercial financing databases, company reports and other company publications, filings in company registers, media reports and

analyst reports. The BNDES Transparency portal and Brazil's Central Bank portal were used to identify additional financial flows to forest-risk companies in Brazil.

Data collection

Data on loans and underwriting services provided by Iris financial institutions to companies engaged in fossil fuels was extracted from the 2024 edition of BOCC. The dataset covers the period from January 2016 to December 2023.

Data on the investments in bonds and shares of companies engaged in fossil fuels by both Irish financial institutions, and the Irish subsidiaries of multinational financial institutions, were extracted from the 2024 edition of IICC. The dataset is up to date as of Q1 2024.

Irish financial institutions' loans and underwriting services to companies active in forest-risk activities were extracted from the Forests & Finance dataset. The dataset is up to date as of September 2024. Additionally, the investments in bonds and shares of companies engaged in forest-risk activities by both Irish financial institutions, and the Irish subsidiaries of multinational financial institutions, were extracted from the same Forests & Finance database.

Data sources

As mentioned in section 0, the focus financial institutions' credit to and investment in fossil fuels and forest-risk commodities was extracted from existing datasets. These three datasets used different dataset sources based on the scope of the research:

Banking on Climate Chaos (BOCC)

BOCC was developed using financial databases Refinitiv and Bloomberg and project finance databases IJGlobal.

Investing in Climate Chaos (IICC)

IICC was developed using financial databases Refinitiv and Bloomberg, as well as fund disclosures and SEC filings for a selection of pension and sovereign wealth funds.

Forests & Finance

Financial Databases Bloomberg, Refinitiv, TradeFinanceAnalytics, and IJGlobal, company reports (annual, interim, quarterly) and other company publications, company register filings, as well as media and analyst reports were used to identify corporate loans and underwriting facilities provided to the selected companies. Investments in bonds and shares of the selected companies were identified through Refinitiv, EMAXX, Bloomberg, as well as fund disclosures and SEC filings for a selection of pension and sovereign wealth funds at the most recently available filing date. The BNDES Transparency portal and Brazil's Central Bank portal were used to identify additional financial flows to forest-risk companies in Brazil.

Types of finance

This section describes the types of finance included in the research. Financial institutions can invest in companies through a number of modalities. Financial institutions can provide credit to a company. This includes providing loans and the underwriting of share and bond issuances. Financial institutions can also invest in the equity and debt of a company by holding shares and bonds. This section outlines the different types of financing, how they were researched and the implications for the study.

Corporate loans

The easiest way to obtain debt is to borrow money. In most cases, money is borrowed from commercial banks. Loans can be either short-term or long-term in nature. Short-term loans (including trade credits, current accounts, leasing agreements, et cetera) have a maturity of less than a year. They are mostly used as working capital for day-to-day operations. Short-term debts are often provided by a single commercial bank, which does not ask for substantial guarantees from the company.

A long-term loan has a maturity of at least one year, but generally of three to ten years. Long-term corporate loans are in particular useful to finance expansion plans, which only generate rewards after some period of time. The proceeds of corporate loans can be used for all activities of the company. Often long-term loans are extended by a loan syndicate, which is a group of banks brought together by one or more arranging banks. The loan syndicate will only undersign the loan agreement if the company can provide certain guarantees that interest and repayments on the loan will be fulfilled.

Project finance

One specific form of corporate loan is project finance. This is a loan that is earmarked for a specific project.

General corporate purposes / working capital

Often a company will receive a loan for general corporate purposes or for working capital. On occasion while the use of proceeds is reported as general corporate purposes, it is in fact earmarked for a certain project. This is difficult to ascertain.

Share issuances

Issuing shares on the stock exchange gives a company the opportunity to increase its equity by attracting a large number of new shareholders or increase the equity from its existing shareholders.

When a company offers its shares on the stock exchange for the first time, this is called an Initial Public Offering (IPO). When a company's shares are already traded on the stock exchange, this is called a secondary offering of additional shares.

To arrange an IPO or a secondary offering, a company needs the assistance of one or more (investment) banks, which will promote the shares and find shareholders. The role of investment banks in this process therefore is very important.

The role of the investment bank is temporary. The investment bank purchases the shares initially and then promotes the shares and finds shareholders. When all issued shares that the financial institution has underwritten are sold, they are no longer included in the balance sheet or the portfolio of the financial institution. However, the assistance provided by financial institutions to companies in share issuances is crucial. They provide the company with access to capital markets, and provide a guarantee that shares will be bought at a pre-determined minimum price.

Bond issuances

Issuing bonds can best be described as cutting a large loan into small pieces, and selling each piece separately. Bonds are issued on a large scale by governments, but also by corporations.

Like shares, bonds are traded on the stock exchange. To issue bonds, a company needs the assistance of one or more (investment) banks which underwrite a certain amount of the bonds. Underwriting is in effect buying with the intention of selling to investors. Still, in case the investment bank fails to sell all bonds it has underwritten, it will end up owning the bonds.

(Managing) shareholdings

Banks can, through the funds they are managing, buy shares of a certain company making them part-owners of the company. This gives the bank a direct influence on the company's strategy. The magnitude of this influence depends on the size of the shareholding.

As financial institutions actively decide in which sectors and companies to invest, and are able to influence the company's business strategy, this research will investigate the shareholdings of financial institutions of the selected companies. Shareholdings are only relevant for stock listed companies. Not all companies in the study are listed on a stock exchange. The company selection has tried to take this into account by including the major companies in the relevant sectors. However, some ownership forms may dominate in certain sectors under analysis. Additionally, some ownership forms are more prominent in some countries.

Shareholdings have a number of peculiarities that have implications for the research strategy. Firstly, shares can be bought and sold on the stock exchange from one moment to the next. Financial databases keep track of shareholdings through snapshots, or filings. This means that when a particular shareholding is recorded in the financial database, the actual holding, or a portion of it, might have been sold, or more shares purchased. Secondly, share prices vary from one moment to the next.

(Managing) investments in bonds

Banks can also buy bonds of a certain company. The main difference between owning shares and bonds is that owner of a bond is not a co-owner of the issuing company; the owner is a creditor of the company. The buyer of each bond is entitled to repayment after a certain number of years, and to a certain interest during each of these years.

Calculated elements

The financial data used in this report includes a number of calculated elements:

Financial institution financing contributions

Financial databases often record loans and issuance underwriting when these are provided by a syndicate of financial institutions. Company reports and publications, company register filings, and the media will also provide information on loans provided bilaterally, i.e. between one bank and the company in question. The level of detail per deal often varies. Some sources may omit the maturity date or term of the loan, the use of proceeds, or even the exact issue date. Financial databases often do not report on the proportions of a given deal that can be attributed to the participants in deal. In such instances, this research calculated an estimated contribution based on the rules of thumb described below.

Loans & underwriting services

Individual bank contributions to syndicated loans and underwriting (bond & share issuance underwriting) were recorded to the largest extent possible where these details where included in financial database, or company or media publications.

In many cases, the total value of a loan or issuance is known, as well as the number of banks that participate in this loan or issuance. However, often the amount that each individual bank commits to the loan or issuance has to be estimated.

In the first instance, this research attempted to calculate each individual bank's commitment on the basis of the fee they received as a proportion of the total fees received by all financial institutions. This proportion (e.g. Bank A received 10% of all fees) was then applied to the known total deal value (e.g. 10% x US$ 10 million = US$ 1 million for Bank A).

Where deal fee data was missing or incomplete, this research used the bookratio. The bookratio (see formula below) is used to determine the spread over bookrunners and other managers.

Bookratio: $\frac{number\ of\ participants - number\ of\ bookrunners}{number\ of\ bookrunners}$

0 shows the commitment assigned to bookrunner groups with our estimation method. When the number of total participants in relation to the number of bookrunners increases, the share that is attributed to bookrunners decreases. This prevents very large differences in amounts attributed to bookrunners and other participants.

Commitment to assigned bookrunner groups

1.	**Bookratio**	**2.**	**Loans**	**3.**	**Issuances**
4.	<1/3	5.	No differentiation*	6.	No differentiation*
7.	> 1/3	8.	75%	9.	75%
10.	> 2/3	11.	60%	12.	75%
13.	> 1.5	14.	40%	15.	75%
16.	> 3.0	17.	< 40%**	18.	< 75%**

* No differentiation between bookrunners and participants. Deal value is attributed equally among all participants.

** In case of deals with a bookratio of more than 3.0, we use a formula which gradually lowers the commitment assigned to the bookrunners as the bookratio increases. The formula used for this:

$$\frac{\frac{1}{\sqrt{bookratio}}}{1.443375673}$$

The number in the denominator is used to let the formula start at 40% in case of a bookratio of 3.0. As the bookratio increases the formula will go down from 40%. In case of issuances the number in the denominator is 0.769800358.

Shareholding

The number and values of shares held by financial institutions are reported in financial databases, they were not subject to adjustment.

Bondholding

The number and values of bonds held by financial institutions are reported in financial databases, they were not subject to adjustment.

Segment adjusters

The Forests & Finance data includes segment adjusters. Segment adjusters are an estimated percentage of a company's operations in a specific activity (here: XXX), in order to estimate how much financing is directed towards this activity.

Sources

Segment adjusters were developed using the segment reporting in annual reports to the fullest extent possible, complemented by further information from company publications and websites and estimations where necessary.

Calculation

Segment adjusters were developed for all companies and every year for which financing was identified. Where no data could be identified for one or multiple years, the segment adjuster from the most recent previous year was applied.

Where financing was identified at the subsidiary level, this research identified the segment activities using company publications. Where financing was identified for a financing vehicle, the group level adjuster was applied.

The following financial indicators were used in order of preference: segment capital expenditures / additions to non-current assets, segment liabilities, segment assets, segment revenues, and segment profit/loss.

Example

This sub-section illustrates how a segment adjuster is developed for a company and applied to identified financing.

In July 2012, Rimbunan Hijau Group subsidiary Jaya Tiasa Holdings issued shares worth US$104 million which were underwritten by CIMB Group and RHB Banking. CIMB underwrote US$78 million, while RHB Banking underwrote US$26 million.

Jaya Tiasa has four reportable operating segments: Logs Trading; Manufacturing; Oil Palm, and; Others. The timber adjusters is based on Logs Trading and Manufacturing segments, as the latter is purely focused on wood products. The palm oil adjuster is based on the Oil Palm segment. Details for the segment additions to non-current assets / capital expenditures were available and thus used. Using these segment definitions and figures, 77% of Jaya Tiasa's capital expenditures were in palm oil in 2012, while 23% were in timber.

Therefore, US$80 million of the US$104 share issuance was attributed to palm oil, with the remaining US$24 million attributed to timber. At the individual financial institution level, US$60 million of CIMB's US$78 million contribution was attributed to palm oil, while US$18 million was attributed to timber. For RHB Banking US$20 million was attributed to palm oil, while US$6 million was attributed to timber.

Geographic adjusters

The Forests & Finance data includes geographic adjusters. Several of the selected companies are active in more than one geography. To account for this, geographic adjusters were developed for all companies and every year for which financing was identified. A similar approach for calculating geographic adjusters was used as with segment adjusters (see section 7).

Where financing was identified at the subsidiary level, this research identified the location of its activities using company publications. Where financing was identified for a financing vehicle, the group level adjuster was applied.

Sources

Geographic adjusters were developed using the segment, geographic and general reporting in annual reports to the fullest extent possible, complemented by further information from company publications and websites and estimations where necessary. Geographic adjusters were applied to segment adjusters.

Calculation

The following financial indicators were used in order of preference: geographic capital expenditures / additions to non-current assets, geographic liabilities, geographic assets, geographic revenues, and geographic profit/loss.

The combined segment and geographic adjusters were applied to each identified financial relationship identified.

Global South adjusters

For the fossil fuel companies Irish financial institutions, and Irish subsidiaries of multinational financial institutions provided loans & underwriting services to, or invested in the bonds and shares, this research calculated the proportion of business activities attributable to the Global South. The methodology was similar to that described above.

For companies headquartered in the Global South, the adjuster was set at 100%. For non-Global South companies, Global South adjusters were developed using the segment, geographic and general reporting in annual reports to the fullest extent possible, complemented by further information from company publications and websites and estimations where necessary. Geographic adjusters were applied to segment adjusters. The following financial indicators were used in order of preference: geographic capital expenditures / additions to non-current assets, geographic liabilities, geographic assets, geographic revenues, and geographic profit/loss.

Global South adjusters were calculated for the most recent year for which data was available. The adjusters were applied to the financing data, and to the financed and facilitated emissions data.

The following countries identified in the financing research are considered Global South countries:[i]

- Algeria
- Angola
- Argentina
- Bahrain
- Bangladesh
- Bhutan
- Bosnia-Herzegovina
- Botswana
- Brazil
- Chile
- China
- Colombia
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- Ghana
- Guam
- Guyana
- India
- Indonesia
- Iraq
- Jamaica
- Kenya
- Kuwait
- Lesotho
- Madagascar
- Malaysia
- Marshall Islands
- Mauritius
- Mongolia
- Morocco
- Mozambique
- Nigeria
- Oman
- Pakistan
- Panama
- Papua New Guinea
- Peru
- Philippines
- Qatar
- Saudi Arabia
- Singapore
- South Africa
- Sri Lanka
- Suriname
- Tanzania
- Thailand
- Trinidad and Tobago
- United Arab Emirates
- Venezuela
- Vietnam
- Yemen
- Zambia
- Zimbabwe

Data limitations

The financial research is subject to a number of limitations:

Loans

Information from the financial databases used primarily includes syndicated lending, i.e. two or more financial institutions providing a loan to one company together. The financial databases do not have data on bilateral lending, i.e. direct loans between one bank and one company.

Bilateral lending was researched using company reports, company registries, and media archives, among others. However, these sources still have data gaps. Many companies do not disclose their bankers, or not in sufficient detail to include in the analysis. This is the result of different requirements in different jurisdictions, and whether or not the company is listed on the stock exchange.

Bond & shareholdings

The financial databases collect data on bond and shareholdings from fund filings, company reports and stock exchanges. As a result, generally the coverage of bond and shareholding data is more complete for asset managers, and the asset management arms of insurance companies and banking groups.

Other financial institutions, such as pension funds and insurance companies that do not offer asset management activities, are not required to publish their investment portfolios. Those that do publish their portfolios, aren't always covered by the financial databases.

Profundo maintains a database of pension fund portfolio disclosures. These are updated at least once a year.

For all bond and shareholdings, actual positions are constantly changing. Bond and shareholders identified during the course of this research may have sold their position, or in other ways changed the composition of their portfolio.

Financed and facilitated emissions

This section details the methodology used to estimate Irish financial institutions' and Irish subsidiaries of multinational financial institutions' financed and facilitated emissions through their financial relationships with companies engaged in fossil fuels and forest-risk commodities.

This section is organized as follows: Sub-section 0 presents the methodology used to calculate the attribution factor for financial institutions (i.e., what proportion of company emissions are attributable to a specific financial institution); Sub-section 0 outlines the data sources used for emissions data; and Sub-section 0 details the limitations of the financed and facilitated emissions estimation methodology.

Attribution methodology

This research used the Partnership for Carbon Accounting Financial (PCAF) methodology to calculate financed and facilitated emissions. PCAF was developed and is used by financial institutions around the world to measure and disclose their financed emissions, i.e. the emissions financed by their loans and investments (so far, no financial institution headquartered in Ireland is a signatory to PCAF).

Scope 3 emissions are corporate value chain emissions. For the financial sector, the GHG Protocol (GHGP) classifies the Scope 3 corporate value chain emissions as Category 15 investment activities.

Financed emissions

Financed emissions are those generated from loans, and from investments in bonds and shares.

To calculate the emissions attributable to a financial relationship with a borrower or issuer, PCAF suggests the calculation of an attribution factor, i.e., a factor with which to calculate the proportion of emissions generated by a specific company that can be attributed to a given financial institution based on the value and nature of the financial relationship.[ii] The

denominator used in the formulas of this calculation varies slightly between types of companies. For listed companies, enterprise value (EV) is used based on market capitalization + total borrowings + minority interest, i.e., enterprise value including cash (EVIC). For non-listed companies, the denominator is equity + total borrowings + minority interest.

Attribution factor calculation for listed companies:

$$Attribution\ factor = \frac{Outstanding\ amount}{Enterprise\ value\ including\ cash\ (EVIC)}$$

Attribution factor calculation for non-listed companies:

$$Attribution\ factor = \frac{Outstanding\ amount}{Total\ equity + debt}$$

PCAF states that using EVIC helps to avoid issues with negative enterprise values due to the inclusion of cash (not deducting cash as in the regular enterprise value definition) as well as issues with attributing more than 100% of a company's emissions to financial institutions.

This attribution factor is then multiplied by the emissions of the borrower or issuer to estimate attributable emissions financed by a given financial institution through its financial relationship with the company.

For example, Bank A has US$ 1 million loans outstanding to Company B on 31 December 2022. At year-end 2022, Company B has an EVIC of US$ 100 million (US$ 25 million equity + US$ 75 million debt). Therefore, the attribution factor is 1%. The emissions of Company B are: Scope 1 at 100 metric tons CO2e, Scope 2 at 300 metric tons CO2e, and Scope 3 at 1,000 metric tons CO2e. Bank A has 1% attributable financed emissions of each Scope: Scope 1 are 1 metric ton CO2e, Scope 2 are 3 metric tons CO2e, and Scope 3 are 10 metric tons CO2e. This would total 14 metric tons CO2e financed emissions through the bank's relationship with this specific borrower/issuer.

The PCAF methodology currently requires financial institutions only to report on the financed Scope 1 and 2 emissions of the companies with which they have financial relationships. However, while PCAF currently only requires the reporting of Scope 3 emissions attributable to companies engaged in energy (oil & gas) and mining (including coal), this analysis reports on Scope 3 emissions attributable to all sectors.

For Scope 3 emissions, PCAF is following a phased-in approach where reporting of Scope 3 emissions from companies in certain sectors is required in 2021 (oil & gas, and mining), with additional sectors in 2024 (transportation, construction, buildings, materials, and industrial activities) and all sectors in 2026. Where Scope 3 financed emissions of companies are reported, these are reported separately. This separate reporting allows for the reporting of these figures, while acknowledging the potential of double counting issues with Scope 1 and Scope 2 emissions of financial institutions' other borrowers and investees.

Facilitated emissions

PCAF recognizes that financial institutions also contribute to emissions through their capital markets activities — bond and share issuance underwriting services. They have, therefore, developed a methodology for these facilitated emissions.[iii]

Similar to the financed emissions methodology, an attribution factor is calculated. However, in contrast to financed emissions, the facilitated emissions methodology includes a weighting of 33% as the role of facilitating capital markets activities is considered different from that of a lender or investor.

Attribution factor calculation for listed companies:

$$Attribution\ factor = \frac{Facilitated\ amount}{Enterprise\ value\ including\ cash\ (EVIC)}\ x\ \text{weighting factor of } 33\%$$

Attribution factor calculation for non-listed companies:

$$Attribution\ factor = \frac{Facilitated\ amount}{Total\ equity + debt}\ x\ \text{weighting factor of } 33\%$$

The PCAF facilitated emissions methodology allows financial institutions to also report on their facilitated emissions additionally without the weighting factor.

It is important to note that facilitated emissions should generally be reported separately from financed emissions to avoid double counting.

EVIC data

Financial relationships between the focus financial institutions and fossil fuel companies were identified for 837 companies. For all these companies, EVIC figures were calculated, identified, or estimated at the subsidiary level where possible, or the corporate group level where not.

EVIC data was retrieved from Refinitiv where available, or from company publications where EVIC figures were not available in Refinitiv. For 35 companies, no EVIC figures could be identified. These companies are, therefore, excluded from financed and facilitated emissions analyses.

Emissions data

Emissions data used for the financed and facilitated emissions analyses was retrieved from Refinitiv and includes company self-reported emissions data.

This research retrieved the identifiers (such as Organization PermIDs) used by Refinitiv for the borrowers and issuers identified with relationships to the focus financial institutions. The identifiers were then used to retrieve scope 1-3 emissions of the borrowers and issuers captured by the research from Refinitiv. Refinitiv primarily gathers emissions data from company publications. Additionally, Refinitiv uses its own methodology to estimate emissions per company (Scope 1-3) when reported values are not available.

Refinitiv states that it uses three models in order of preference to estimate emissions values where these are not reported: CO2 model, Energy model, and Median model.[iv]

The CO2 model uses emissions data for the company for the previous year(s), adjusting for changes in revenue and number of employees, to estimate the emissions for the current year.

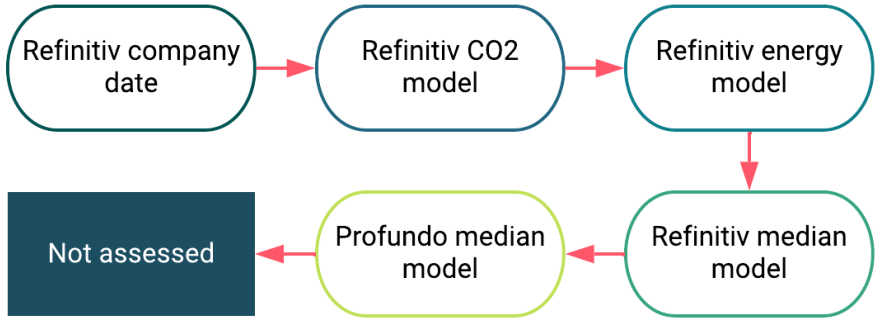
When it is not possible to apply the CO2 model, the Energy model is used. The Energy model uses energy consumed (or energy produced for electric utility companies), adjusted for number of employees and revenue, compared with sector peers based on 8-, 6-, 4- or 2-digit The Refinitiv Business Classification (TRBC) codes. Selection of TRBC level depends on number of available energy consumption ratios per relevant level. If there is an insufficient number of energy consumption level ratios at the 8-digit level, then the 6-digit level is used. If there is an insufficient number of energy consumption level ratios at the 6-digit level, then the 4-digit level is used. And so on.

When it is not possible to apply the Energy model, the Median model is used. The Median model is similar to the Energy model as it bases its estimations on sector peers. Firstly, the CO2 emissions per employee are calculated for all industry peers based on 8-, 6-, 4- or 2-digit TRBC codes. Selection of TRBC level depends on number of available energy consumption ratios per relevant level. The median of all these companies is then applied to the company for which CO2 emissions are missing. The same process is then carried out for CO2 emissions per revenue, i.e., CO2 emissions per dollar revenue are calculated for all industry peers on the basis of 8-, 6-, 4- or 2-digit TRBC codes. The median of all these companies is then applied to the company for which CO2 emissions are missing. The average of these two figures – estimated CO2 emissions for total employees and estimated CO2 emissions for total revenues – is then taken as the estimated CO2 emissions for the company in question.[v]

Where there was no emissions data available from Refinitiv, Profundo used the Median model approach described above based on the available data in Refinitiv. Profundo calculated the CO2 emissions per employee and per euro revenue ratios calculated for all companies for which there was data available in the dataset built using Refinitiv data. These ratios were then applied to companies for which emissions data was missing at the TRBC 8 or 6 levels – industry or industry group – depending on the number of available ratios. If there were 10 or more ratios then TRBC 8-digit level was used, otherwise the 6-digit level was used. The 4 and 2 levels – business sector and economic sector – were not used as these are considered far too broad to make reasonably accurate estimations of CO2 emissions at the company level.

0 provides a visual representation of the emissions data estimation methodology.

Emissions data estimation methodology



Source: Refinitiv (2019, January), *Thomson Reuters ESG Carbon Data and Estimate Models*, p. 2-3, Profundo.

In cases where there was insufficient data to estimate the missing emissions, financed and facilitated emissions were not assessed.

Limitations

The sections above have already indicated a few limitations of the research methodology. Most prevalent among them is the issue that some data points necessary to calculate attribution factors (EVIC) and/or emissions were not available for each borrower/issuer. In some cases, the EVIC data or the components of the EVIC data used to calculate the attribution factor generated unreasonably high attribution factors (i.e. above 20%, or even over 100%). These factors were then adjusted where there were sufficient data indicators to do so or excluded from the analysis.

The actual financed and facilitated emissions are likely higher than could be identified, however, the figures should be considered as indicative within the context of data paucity.

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[i] Finance Center for South-South Cooperation, n.d. *Global South Countries*. http://www.fc-ssc.org/en/partnership_program/south_south_countries.

[ii] Partnership for Carbon Accounting Financials, 2022. *The Global GHG Accounting and Reporting Standard Part A: Financed Emissions*. Second Edition. https://carbonaccountingfinancials.com/standard.

[iii] Partnership for Carbon Accounting Financials, 2023. *The Global GHG Accounting and Reporting Standard Part B: Facilitated Emissions*. https://carbonaccountingfinancials.com/standard.

[iv] Refinitiv, 2019. *Thomson Reuters ESG Carbon Data and Estimate Models*.

[v] Ibid.