AIB

Social Bonds Impact Methodology

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Method Note

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1 Introduction

Cambridge Econometrics (CE) was commissioned by AIB to provide (1) an impact assessment methodology, and (2) quantify the impacts of AIB's social bond portfolio in Ireland, the UK, and the OECD (excluding Ireland and the UK). This assessment follows the publication of AIB's Social Bond Framework dated March 2023, which will serve as a tool to create transparency around funds targeted to provide positive societal impact and/or mitigate social problems.[1] In addition, with its Social Bond Framework, AIB strives to further its focus on economic and social inclusion and being a responsible member of society.

AIB's Social Bond Framework has been established in accordance with the International Capital Market Association (ICMA) Social Bond Principles 2021 (SBPs) with June 2022 Appendix 1. In alignment with its social sustainability strategy and goals, the Framework focuses on the following Use of Proceeds categories, which will serve to achieve social benefits for targeted population groups, in alignment with National Policy Frameworks, where applicable:

- **Access to Healthcare**
  - Social benefits: (i) Increase access to quality, timely and accessible healthcare; (ii) Enhance quality and accessible care for an aging population; and (iii) Increase availability of quality medical equipment to healthcare facilities and individuals
  - Target population: (i) General public; (ii) Individuals with specific physical and/or mental conditions, including cognitive deficit(s); (iii) Elderly people; and (iv) Individuals in need of rehabilitation services
- **Access to Education**
  - Social benefits: (i) Increase access to quality and accessible education and vocational training; and (ii) Increase access to quality, safe and affordable student accommodation
  - Target population: (i) Students, including low-income students; and (ii) Adults benefitting from vocational training
- **Social and Affordable Housing**
  - Social benefits: (i) Allow for universal access to decent housing; (ii) Promote the social inclusion of all, including low-income people and groups with no or restricted access to housing or home ownership
  - Target population: Individuals and families, which due to income and/or affordability constraints and restricted access to finance, meeting the relevant social and/or affordable housing requirements as defined by local authorities, or authorised government bodies, in Ireland and the UK

[1] https://aib.ie/investorrelations/debt-investor/social-bond-framework

- **SME Financing**
  - Social benefits: (i) Employment generation and retention; (ii) Reduction of social and economic inequalities; and (iii) Foster economic growth in deprived areas
  - Target population: SMEs in socioeconomically disadvantaged areas in Ireland
- **Affordable Basic Infrastructure**
  - Social Benefits: (i) Allow for universal access to basic infrastructure (ii) Promote the social inclusion of all, including low-income people, vulnerable and marginalised people
  - Target population: (i) General population, including marginalised, rural and vulnerable populations (ii) Populations with limited or no access to the relevant infrastructure

In the context of the above Social Bond Framework, the purpose of this study is to assess, on a best-effort basis, the social impacts of AIB's loans.[2]

AIB and Cambridge Econometrics have a multi-year partnership to assess the impacts of AIB's loans in its social bond pool. As ESG reporting and data improve over time, the impacts of projects may be restated.

The scope of our assessment covers the following categories:

- Macro-category 1: Access to essential services including education, housing and healthcare. The focus of these impacts is on the estimated number of beneficiaries of these three services.
- Category 2: SME lending. The focus of these impacts is on the estimated number of jobs created and/or retained by lending to SMEs.

In performing this assessment, we considered alignment with the portfolio approach described in ICMA's '*Harmonised Framework for Impact Reporting for Social Bonds*'.[3]

A description of the approach, any underlying assumptions, and limitations for Macro-category 1 and Category 2 is provided in Chapter 2 and Chapter 3 respectively.

[2] As highlighted in the EU's Platform on Sustainable Finance, social impacts are more challenging to quantify than environmental impacts, as social impacts are often described in more qualitative terms (Draft Report by Subgroup 4: Social Taxonomy, July 2021: https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/sf-draft-report-social-taxonomy-july2021_en.pdf).

[3] Harmonised-framework-for-impact-reporting-for-social-bonds-June-2023-220623.pdf (icmagroup.org)

2 Macro-category 1 – Approach

2.1 Approach

Our analysis identifies the number of beneficiaries of projects to which the loans in AIB's social bond pool have contributed at least in part. In some cases, the total reported impacts may have been achieved in combination with funds from other (i.e. non-AIB) sources.

In the ideal case, the number of beneficiaries of different projects would be apportioned/scaled to the amount of finance specifically provided by AIB. However, loan applicants could seek funds for a project from multiple sources. AIB's loan information does not provide detail on the extent to which the AIB loan specifically contributes to any given project (and there are a large number of projects across the various categories considered) compared to other sources of funds contributing to that project.

Instead, what AIB's data provide is information about the current value of an outstanding loan provided by AIB (see "Social Bonds Impacts - Results Portfolio Date: 31/12/2023) and the size/nature of the overall project (to which multiple financial institutions could have extended loans).[4]

Thus, based on the available information, it is only possible to estimate the total number of beneficiaries of projects that AIB has helped to fund. That is, the AIB loan might be one of multiple sources of funds to contribute to the final impact figures, rather than solely responsible.

The approach to estimating the beneficiaries described above is based on a series of logic frameworks, each consisting of three components:

- output indicators: value of loans, purpose of loans and any borrower-specific information, provided by AIB
- assumptions: assumptions researched and developed by CE to estimate the impact in each service category
- impact indicators: estimates of impact (i.e. number of beneficiaries) in each service category based on the previous two components

Where data are not available to estimate beneficiaries, summary figures are provided instead (as set out below, on limitations). The implication is that, depending on data availability, the numbers of beneficiaries of different projects may be estimated (and presented) in different ways in this report. This concerns, for example, the number of students benefitting from student accommodation being funded by loans compared to the number of students attending an educational institution which receives some form of loan(s). The two are not directly comparable and we make this distinction clear in the results. As such, the size of the estimated impacts across different projects in different countries can vary substantially. Any comparisons will need to be done with caution.

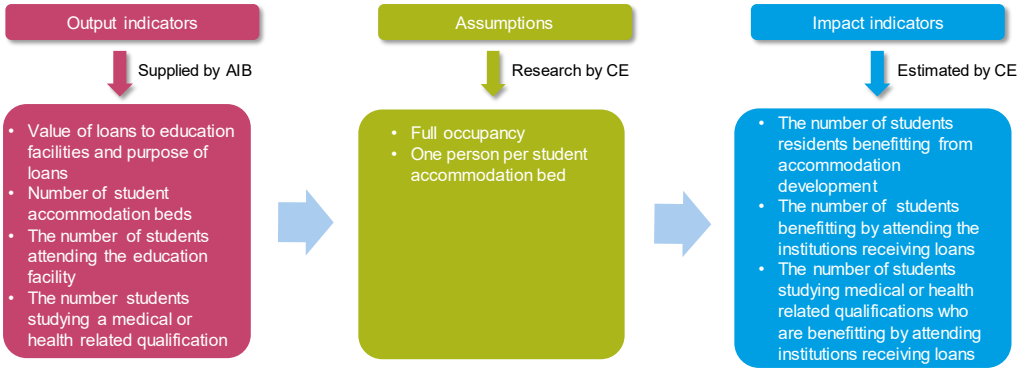
[4] https://aib.ie/investorrelations/debt-investor/social-bond-framework

The approach used for each category is outlined below.

Education

The logic framework used to estimate the number of beneficiaries of education services (here, students) is shown in Figure 2.1 below.

Figure 2.1: Logic framework for education service



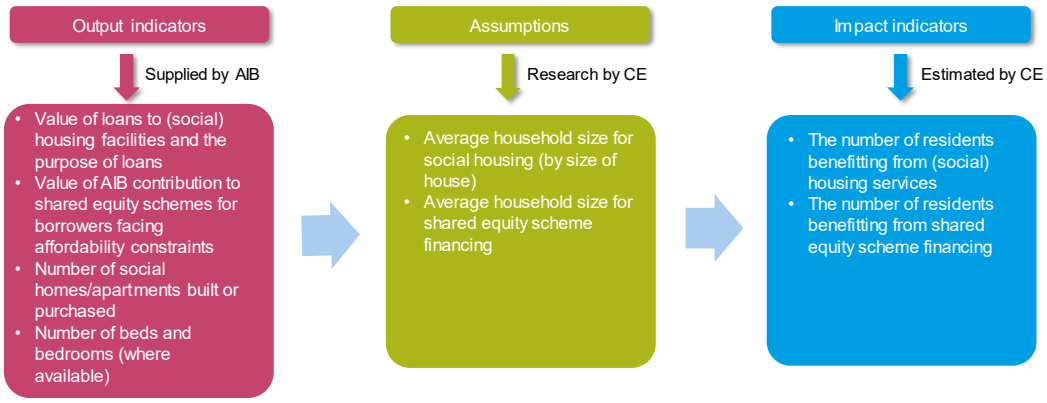
AIB's data provide the number of student accommodation beds supported by AIB loans. We assume that all new student accommodation is fully occupied, and so the number of beneficiaries is equal to the number of student accommodation beds.

In instances in which the loans were not funding a specific asset, but provided for more general purposes, the number of beneficiaries cannot be estimated in the same way. Instead, the number of students attending the institution has been provided. This is not the same as the number of beneficiaries and, instead, gives a sense of the scale of the recipient. An additional impact indicator considered in this report is the number of students attending institutions that have received loans from AIB that are studying towards a medical or health related qualification.

Social Housing

Figure 2.2 shows the logic framework used to estimate the number of beneficiaries (residents) of social housing services.[5]

Figure 2.2: Logic framework for social housing



In cases in which AIB's data provide the size of a housing unit (the number of bedrooms), we apply an assumption about the average household size (differentiated by number of bedrooms). Multiplying the number of housing units by the average household size gives an estimate of the number of beneficiaries. The assumptions for average household size are based on the England and Wales Census 2021 dataset, 'Tenure by household size by number of bedrooms'. England averages are used for the UK assumption, as all the developments are based in England. In the absence of any social housing data on household size by number of bedrooms for Ireland, we again use figures from the 2021 Census, using England and Wales (combined) as a proxy. For the First Home Scheme, an equity sharing programme in Ireland, we use the average household size from the 2022 Irish census.

In cases in which the size of a housing unit is not provided in AIB's data, the assumptions for average household size by bedroom are multiplied by the number of housing units of that size to estimate the number of beneficiaries, assuming:

- that all apartments provided in Ireland have two bedrooms – this is based on the size of apartments listed in the data provided by AIB
- that all houses provided in Ireland have three bedrooms – this is based on the size of houses listed in the data provided by AIB
- an average household size of 2.2 for social rented apartments in Ireland
- an average household size of 3.1 for social rented houses in Ireland

[5] There is a difference between Social and Affordable housing in the Irish context. Local authorities (or housing authorities) are the main providers of social housing for people who cannot afford their own accommodation. Local authority housing is allocated according to eligibility and need, and rents are based on the household's ability to pay. Housing organizations (associations and co-operatives) also provide social housing for people who cannot afford to buy their own homes. Affordable housing schemes are aimed to help lower-income households to buy their own homes. The schemes provide eligible first-time purchasers the chance to buy newly constructed homes and apartments at prices significantly less than their market value.

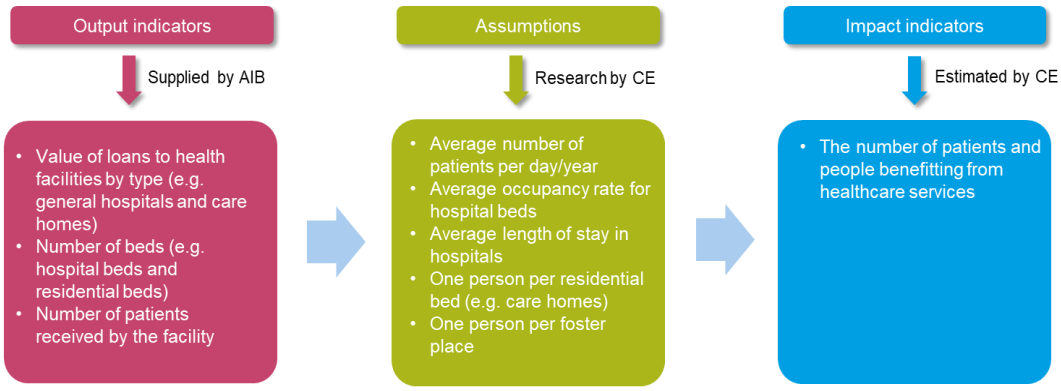
- an average household size of 2.74 for shared equity scheme financed homes (i.e. First Home Scheme[6]) – this is based on the average household size of all homes in Ireland from the Housing Agency[7], as a breakdown of homes by houses and apartments was not available
- an average household size of 2.9 for all social rented accommodation in the UK – the UK housing data provided by AIB do not distinguish apartments and houses, or provide information on the number of bedrooms per unit. Therefore, an average of all household sizes by number of bedrooms from the England and Wales Census 2021 was multiplied by the number of housing units to estimate the number of beneficiaries in the UK.[8]

It is important to note that there is a difference in the nature of the social housing projects financed in Ireland and the UK, and AIB's overall role in those projects. In Ireland, with the exception of the First Home Scheme, AIB is the sole financier of a smaller number of projects whereas, in the UK, AIB's contribution is in relation to larger syndicated facilities that finance a larger number of social housing units. As a result, the ratios of beneficiaries to loan volume for social housing can seem disproportionate when comparing Ireland and the UK.

Healthcare

The logic framework that is used to estimate the number of beneficiaries by type of healthcare services (e.g. patients and people in nursing homes and schools providing specialist education and care to patients) is shown in Figure 2.3.

Figure 2.3: Logic framework in healthcare service



For residential and care facilities, AIB's data provide the number of beds supported by AIB loans in these facilities. In these instances, we assume that all beds are occupied such that the number of beneficiaries equals the number of beds.

[6] Lending to the First Home Scheme is used to fund the gap between the price of a home and the combine value of a borrower's down payment and mortgage acquired from a participating lender. To access this equity sharing scheme borrowers must satisfy a number of eligibility criteria established by the Department of Housing, Local Government and Heritage: Home (firsthomescheme.ie).

[7] https://www.housingagency.ie/data-hub/population-households

[8] See Table A.1 in Appendix A.

For hospitals and clinics, the number of beneficiaries have been estimated as the number of patients received by these facilities. The estimates of the number of patients received by these facilities are based on a combination of patient numbers provided by AIB and published annual reports.

There may be instances in which the number of patients treated by a hospital is estimated based on a series of assumptions (rather than based on patient numbers provided by AIB and published annual reports). In these cases, the number of beds in the hospital is multiplied by 365 (the number of days in a year) to calculate the bed capacity in a year. This is divided by the average length of stay in hospitals, and then multiplied by hospital bed occupancy rates to estimate the total number of patients treated.[9]

Affordable Basic Infrastructure

This year a section detailing loans to enhance access to affordable basic infrastructure has been introduced in the report. A summary of the number and value of loans in the affordable basic infrastructure category is provided. The number of beneficiaries has not been calculated, due to insufficient available data.

2.2 Limitations

As well as the aforementioned limitations in identifying the number of beneficiaries specifically attributed to AIB loans, other limitations are listed below.

We have not provided estimates of the number of beneficiaries in cases in which:

- the borrowers are pure players, and their services are not directly associated with providing services to users of facilities or creating more capacity at a facility (e.g. companies that manufacture and sell healthcare-related products or services)
- the purpose of the loan is not directly associated with providing services to users of a facility or creating more capacity at a facility (e.g. loans to fund general capital expenditure for a facility)

In these instances, we present the total value of the loans provided by AIB and, where applicable, the number of people using the services enabled, in part, by AIB financing (e.g. the number of students attending a university), based on information provided by AIB and supplemented by published information such as provider websites and reports.

[9] See Table A.3 and Table A.4 in Appendix A.

3 Category 2 – Approach

The purpose of the Category 2: SME lending analysis is to estimate the impact of AIB's SME loans on the economy in terms of jobs created and/or retained.[10] This chapter presents the approach used to estimate these jobs, accounting for jobs in the SMEs themselves (direct jobs) as well as the wider economy (indirect and induced jobs; explained below). The process by which the geographical location of these loans was identified, in areas of socioeconomic disadvantage, was addressed separately by AIB.

3.1 Input-output (I-O) analysis

An input-output (I-O) analysis approach was used to estimate the employment and gross value added (GVA) impacts of supporting SMEs in the Irish economy. These impacts arise from the SME's operations (expenditures), which creates further spending in the Irish economy. The companies' payments to other organisations for goods and services generate receipts for other Irish organisations which, in turn, generate a requirement for (further spending on) inputs further up the supply chain. The I-O approach captures these expenditures in order to quantify the total operational economic impacts on the Irish economy (in terms of GVA) of the SMEs supported by AIB loans. Employment impacts were then consistently estimated using the same data and sources by applying assumptions about productivity (the ratio of GVA to employment). This gives a measure of the SMEs' economic footprint and reflects the 'multiplier effect' by which an initial set of purchases generates further purchases elsewhere in the economy to support production.

I-O analysis is a standard technique in economic impact work to understand the relationships between different sectors of the economy and how activity in one sector might generate activity elsewhere, through supply-chain effects. It is frequently applied to shed light on how interventions in one sector can have wider economic implications.

An I-O economic impact tool was developed based on the 2020 Ireland Input-Output table produced by the Central Statistics Office. This table captures the linkages between 60 sectors and between different agents in the Irish economy and the rest of the world. The sectoral detail is important because different sectors have different supply-chain requirements and productivity assumptions (which were used to calculate the employment impacts). The tool was used to calculate the employment and GVA impacts from providing loans to SMEs, identifying:

- the direct impact as that arising specifically from the lending to SMEs by sector. These data were provided by AIB in the form of the balance of loan by company and an associated sector code of the sector the SME operates in, based on AIB's sector classifications. Each SME was mapped to an I-O sector (of which there are 60) and the balance of loan figures were used as the inputs to the I-O tool

[10] AIB advised that the pool of loans provided represents a portion of those loans extended to SMEs in economically disadvantaged (as defined for Social Bond Framework purposes) areas of Ireland.

- indirect impacts as those generated when suppliers of goods and services must themselves purchase inputs from other sectors of the economy – these follow from the I-O tool (so-called Type I impacts)
- induced impacts as the impacts of people working in sectors where the direct and indirect impacts take place, spending their additional wages and salaries on consumer products and services – these also follow from the I-O tool (Type II impacts)

3.2 Assumptions

Type of loan

The economic and employment impacts of AIB's SME lending on the economy were estimated separately by type of loan to distinguish the impacts in terms of jobs created and/or retained. Specifically, AIB's financing can be classified into:

- Term Loans – loans which support SME's capital investments, which are taken to finance new activities and thus generate new jobs
- Revolving Credit Facilities (RCFs) – loans typically associated with Working Capital-type credit facilities, and assumed to retain existing jobs

Inflation and productivity

The I-O economic impact tool was developed based on the most recent detailed Ireland Input-Output table, for 2020. The table describes the structure of the Irish economy in that year in terms of supply chains (links between industries) and final expenditure (e.g. households, government, trade etc) as well as aspects of income (notably employees' wages and salaries).

Given the 2020 vintage of the economic data that underpins the tool, it is necessary to account for two factors which may have changed in the intervening period (between then and now): inflation and productivity (the ratio of GVA to employment).

For the purpose of this analysis, adjustments for inflation and changes in productivity over time are based on the following assumptions:

- Inflation – inflation rates by sector between 2022 and 2023 were calculated using the latest price index data from Ireland's Central Statistics Office (CSO)[11].
- Productivity – the relevant productivity figures were estimated based on the latest (2022) GVA[12] and employment[13] data by sector from the CSO. After inflating GVA values from 2022 to 2023 prices, productivity was then calculated based on the inflated GVA and 2022 employment.

GVA to output ratio

In the latest Input-Output table for Ireland (2020), 'Air transport, warehousing and support activities for transportation' (NACE sectors 51 & 52), which were particularly exposed to the effects of the COVID-19 pandemic and economic

[11] Ireland CSO: Prices https://www.cso.ie/en/statistics/prices/

[12] Ireland CSO: Output and Value added https://data.cso.ie/table/OVA05

[13] Ireland CSO: Persons aged 15 years and over in employment https://data.cso.ie/table/QES06

lockdowns, recorded a negative GVA value, and so the ratio of GVA to output (used to calculate output impacts) was also negative. For these sectors, the GVA to output ratio from the 2015 Ireland Input-Output table was used.

3.3 Limitations

The limitations of the approach for the SME analysis are listed below.

- Jobs retained (safeguarded) versus jobs created – there is a distinction between the new jobs created by new (additional) activity supported by AIB's loans and any existing jobs retained (safeguarded) by the financial support provided by AIB's loans. In cases in which the SMEs would not have been able to survive in the absence of AIB financing, all the existing jobs would have been lost. The importance of AIB's loans is further highlighted as, in general, SMEs are financed by just one bank. AIB is unlikely to be one of multiple banks financing an SME, and so AIB is more likely to be the sole, significant provider of finance to SMEs relying on loans.

  By the above logic, we estimate the number of jobs supported by the value of AIB loans, distinguishing whether the loans are term funding (capital investment), which are assumed to create jobs; or the loans provide revolving credit, which is assumed to safeguard existing jobs.

  In the absence of access to SMEs' employment data (the number of jobs in each SME), we are unable to comment on the total number of people employed by the SMEs. Our approach can only estimate the number of jobs implied by the value of the loans themselves, and so cannot estimate the total number of jobs safeguarded in instances in which AIB's loans are keeping an SME afloat. The number of retained jobs could therefore be higher than that implied by the approach.

- Interpreting what the loans represent – in the absence of more detailed information on the purpose of the loan and a breakdown of how the loan is used (e.g. expenditure categories), the analysis assumes that the loan value equals the direct impact. The value of each loan was applied to the relevant sector to form the inputs to the I-O tool. The tool then estimates the total impacts of the loan based on how firms in that sector operate on average. In reality, the SME's expenditure could differ from the sector average, but this cannot be reflected in the analysis without having access to more detailed expenditure data. This limitation applies to I-O exercises of this form.

- The impact of the location of the SME – the location of an SME can affect the size of the employment impact its operational activities are likely to have. Average incomes are known to be lower in more deprived areas, and so SMEs located in these areas are likely to have different employment impacts than would otherwise be implied by using national averages for the productivity assumptions.

  In addition, the social impacts of an SME are known to be greater in more deprived areas (money invested in a more deprived area can have more of an impact than the same amount of money being invested in a less deprived area). This could not be captured in the approach within the

scope of this project, owing to a need for highly detailed data (which are unlikely to be available). It is however worth noting the issue and that the impacts estimated and reported here are likely to represent a lower-bound estimate.

Appendices

Appendix A Assumptions

Table A.1: Average household size by number of bedrooms in England and Wales

	1 bed	2 beds	3 beds	4 beds	5 beds	Average
Tenure - Social rented	1.2	2.2	3.1	4.1	4.0	2.9

Note(s): Figures are calculated by dividing the reported number of people by the reported number of households.
In the absence of any social housing data on household size by number of bedrooms for Ireland, these figures from the England and Wales 2021 Census are used as a proxy for Ireland.
Source(s): Census 2021: Tenure by household size by number of bedrooms.

Table A.2: Average household size in Ireland

	Ireland
Average Household size	2.74

Source(s): The Housing Agency: Average Household Size of Ireland [Census] (https://www.housingagency.ie/data-hub/population-households)

Table A.3 : Average length of stay in hospital in France and Germany (days)

	Average length of stay in hospital
France (2021)	5.6
Germany (2021)	7.4

Source(s): OECD, 2022 (https://data.oecd.org/healthcare/length-of-hospital-stay.htm).

Table A.4: Hospital bed occupancy rates in France and Germany (%)

	Hospital bed occupancy rate
France (2020)	71.9
Germany (2020)	69.9

Source(s): Statista (https://www.statista.com/statistics/1116612/oecd-hospital-acute-care-occupancy-rates-select-countries-worldwide/).