Social Bond Interim Impact Report

Estimation of Job Creation

Methodological Note

1. Introduction

In November 2019 we proudly issued our inaugural Social Bond from NatWest Group – the first exclusively Social Bond from a UK financial institution under the International Capital Market Association's Social Bond Principles. The full proceeds of the Social Bond were allocated to SMEs in the most deprived 30% of our filtered loan-book, corresponding to some of the most deprived parts of the UK.

We opted to leverage Office for National Statistics (ONS) data to determine the relative deprivation of our filtered loan book, utilising a bespoke ranking based on the Gross Value Added per head (GVA) and Unemployment Claimant rates (UCP) relevant to each loan. This method was deemed superior to the use of the extant 'Deprivation Index' which is lagging, and typically published in 5 year cycles.

The economic impact of COVID-19 has prompted a very substantial increase in Universal Credit claimants, the geographic pattern of which reflecting the early phase of lockdown. We took the decision to temporarily freeze UCP data as at March-20 to avoid introducing volatility in the overall deprivation ranking. We will review this decision periodically. The full set of criteria used to select eligible loans is described in our *Green, Social and Sustainability Bond Framework*, available on our website.

The purpose of this note is to describe the methodology deployed for estimating the number of FTE jobs created as a result of the loans to SMEs included in the eligible loan portfolio. We have developed a methodology to calculate the number of FTE jobs created throughout the whole duration of the Social Bond, based on the new analytical industry by industry UK-wide Input-Output (IO) tables, published by the ONS[1].

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[1] UK analytical industry by industry Input-Output tables
https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/datasets/ukinputoutputanalyticaltablesinduustrybyindustry

Generally, lending can have two types of effect on employment. If loans are intended for investment (e.g. term loans), we assume that they create new jobs. If loans are intended for working capital (e.g. Revolving Credit Facilities) we assume that they allow a company to retain existing jobs. Currently only investment type loans are included in the eligible loan portfolio and thus here we concentrate on estimation of jobs created. If, in the future, the composition of the type of loans included in the eligible loan portfolio changes, we will expand this note to include the methodology to estimate the number of jobs retained.

The IO tables provide a complete picture of the flows of goods and services in a country's economy for a given year. They detail the relationship between producers and consumers and the interdependencies of industries. IO modelling is a well-established methodology routinely applied at estimating impacts of investments.

2. Estimation of the number of jobs created

From the IO tables it is possible to calculate how many FTE jobs are created as a result of additional investment, which generates additional output. There are three effects that we capture in our analysis.

- **Direct effect** shows increase in FTE jobs enabled by investment financed through the loans to SMEs.
- **Indirect effect** shows increase in FTE jobs throughout the supply chain.
- As a result of the direct and indirect effects the level of household income throughout the economy will increase as a result of increased employment. A proportion of this increased income will be re-spent on final products and stimulate further increase in FTE jobs – this is the **induced effect**.

The analytical IO tables can be used to derive employment effects. Employment effects show the *direct + indirect + induced* employment change associated with the direct output change. In other words, if you have the change in output for an industry, the employment effect can be used to calculate the change in FTE employment for the economy as a whole. Employment effects are published by the ONS alongside the analytical IO tables.

To be able to use Employment effects we need to calculate the total amount of investment funded though loans included in the eligible loan portfolio by industry, and estimate change in output associated with this investment. We calculate output/capital ratios for each industry. Output data comes from the IO tables while capital by industry is published by the ONS[2].

3. Calculation

To calculate the change in employment in industry *i* we need:

$$\Delta empl_i = empl\ effect_i * \Delta output_i$$

where

$$\Delta output_i = investment_i * (output/capital)_i$$

Input variables are:

- investment – the value of our Social Bond loans by industry;
- industry-specific employment effects from the UK IO tables (ONS);
- capital stock by industry (ONS);
- output by industry from the UK IO tables (ONS).

Applying this methodology to each industry means we can estimate FTE jobs created in each. The estimated total number of FTE jobs created is therefore calculated by adding together results for each industry.

For more information, please refer to our Green, Social and Sustainability Bond Framework.

Alternatively, email us at sustainablebonds@natwest.com.

[2] Gross and net capital stocks for total UK economy, by industry and asset
https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/datasets/grossandnetcapitalstocksfortotaleconomybyindustryandassetincurrentpricesandchainedvolumemeasures

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