



Rialtas na hÉireann
Government of Ireland

Spending Review 2021

Executive Summaries – Tranche 6 Publications

NOVEMBER 2021

These papers has been prepared by IGEES staff across a number of Departments. The views presented in the papers do not represent the official views of each Department or Minister.

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Irish Government Economic and Evaluation Service

Contents

1. The Protection and Renewal of Ireland's Road and Railway Network <i>Produced by staff in the Department of Transport</i>	3
2. An Examination of the Cycle to Work Scheme <i>Produced by staff in the Department of Transport</i>	6
3. Examination of State Funding to the Aviation Sector during the Covid-19 crisis <i>Produced by staff in the Department of Public Expenditure and Reform</i>	8
4. Disability and Special Education Expenditure: Lifecycle of Supports <i>Produced by staff in the Department of Public Expenditure and Reform</i>	10
5. Evaluating the State-Supported Loan Schemes: a Framework <i>Produced by staff in the Department of Enterprise, Trade and Employment</i>	13

The Protection and Renewal of Ireland's Road and Railway Network

Executive Summary

- Land transport investment has fluctuated from €3bn in 2008 to €900m in 2013. In 2021, the allocated funding was €2.5bn.
- Current expenditure has remained relatively stable at around €550m annually from 2000 to 2021, although there has been a marked increase in 2020 and 2021 due to the need for increased Public Service Obligation subvention arising from COVID-19 public health measures. Capital expenditure has varied significantly across the period, with an annual average of €1.7bn.
- Supporting research for the forthcoming National Investment Framework for Transport in Ireland estimates that the level of Exchequer protection and renewal investment required to maintain the land transport network in steady state is €1.3bn. In 2020, €1.29bn was spent on protection and renewal.

National Roads

- Transport Infrastructure Ireland (TII) has overall responsibility for managing the national road network, which accounts for 5% of the total road length in the State but carries 46 percent of all road traffic.
- Protection and renewal is funded by the Department of Transport, with activity delivered by TII, local authorities and through public-private partnerships.
- Overall protection and renewal investment increased from €259m to €491m in 2007-2020.
- Pavement indicators show that the network is highly maintained and has consistently improved in quality in recent years. The total proportion of the network categorised as fair or better increased from 93% in 2014 to 97% in 2020.
- The number of fatal collisions on the network has decreased over time. However, peak hour travel time has increased arising due to increased traffic congestion in recent years.

Regional and Local Roads

- Local authorities are responsible for maintaining the network but receive Department of Transport grants to fund the work, which are intended to supplement realistic contributions from own resources.
- The Department of Transport does not have a direct oversight function for local authority own resource contributions.

- The overall value of Departmental grants fell from €608m in 2007 to €319m in 2015 before increasing to €565m in 2021. Approximately 90 percent of grants go towards protection and renewal.
- The length of network may increase for reasons outside the Department of Transport's control, such as local authorities taking charge of private roads and adding them to the public network, adding to the cost of protection and renewal.
- Local authorities' own resource expenditure categorised under roads is estimated to have increased from €225 million in 2014 to €282 million in 2019, but this is not exclusively used for protection and renewal.
- The average cost of maintenance per kilometre across all local authorities from 2016 to 2019 was €102,000.
- The annual average proportion of network maintained was 5.2% from 2018 to 2020.
- The proportion of local roads reported as having no defects increased from 15% in 2014 to 23% in 2019, while for regional roads the increase was from 24% to 38%.
- Since 2013 there has been a 24.3% decrease in fatal collisions on regional and local roads

Heavy Rail

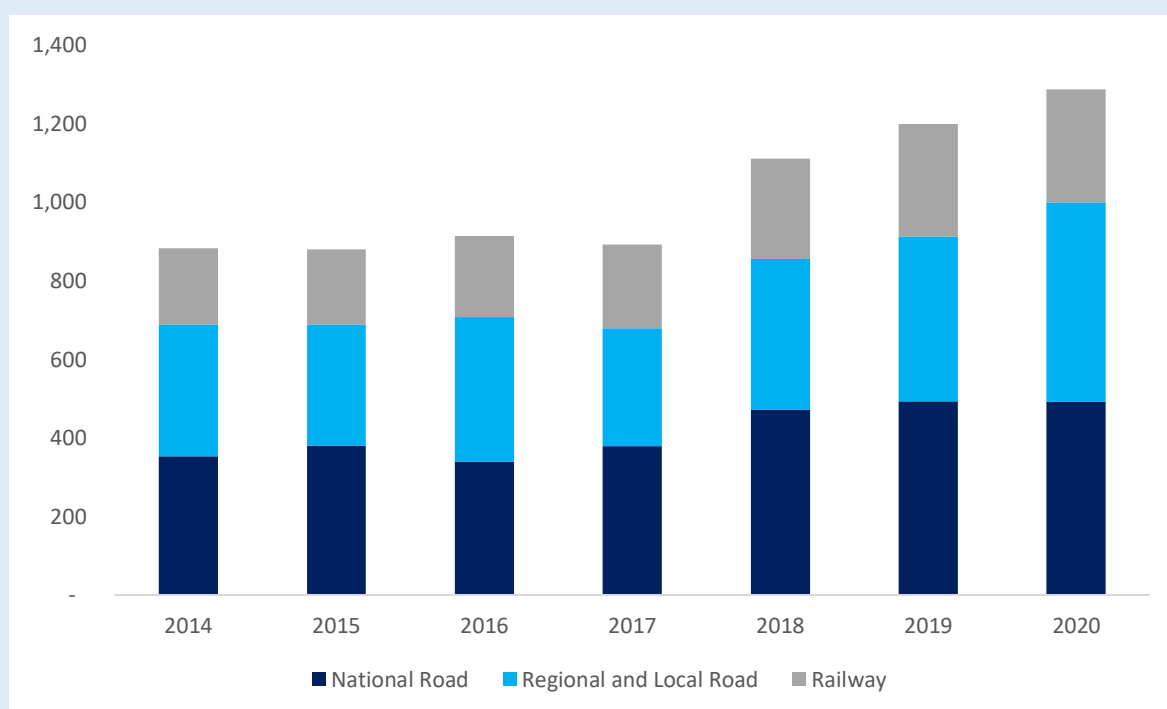
- The network comprises approximately 2,000km of operational track, 14 tunnels and over 4,400 bridges, all of which require ongoing maintenance to facilitate rail services.
- Exchequer funding for protection and renewal has been provided through the Infrastructure Manager Multi-Annual Contract (IMMAC) since 2014, which provides five-year funding certainty and establishes key performance indicators.
- Funding requirements for protection and renewal were recently examined as part of the development of the IMMAC 2020 to 2024, which ensures full funding of protection and renewal in the sector in the coming years. The annual Exchequer contribution will average €204m, with total funding, including access charges, increasing from €286m to €301m.
- Under the IMMAC from 2014 to 2018, protection and renewal investment grew from €191m to €248m, an increase of approximately 30%.
- There was a 49 percent increase in protection and renewal investment from 2014 and 2019 and a 33 percent reduction in infrastructure issues.
- Total delay minutes across connecting, commuter, and intercity services grew from 105,000 minutes in 2014 to 142,000 minutes in 2018.
- The performance of Irish Rail's Infrastructure Manager under the current IMMAC will be subject to comprehensive review in 2023 to inform the next iteration of the IMMAC.

Conclusion

- Total investment in protection and renewal in all three sectors increased from €880m in 2014 to c. €1.3bn in 2020—approximately steady state investment estimated by NIFTI.

- This increased investment is consistent with the IMF's PIMA Report recommendations and the NDP 2018-2027 commitment to achieve steady state requirements on most of the network by 2021
- Delivery and oversight of protection and renewal is complex, however, as it is not exclusively funded by the Exchequer and the Department of Transport does not have a direct oversight function for all relevant activities.
- An integrated approach to consistent protection and renewal road data collection, including by local authorities, and establishment of multi-annual funding certainty and targets, such as under the IMMAC structure, could help to improve the delivery and coordination of protection and renewal of the road network and increase transparency

Cumulative Land Transport Protection and Renewal Expenditure 2014 to 2020



An Examination of the Cycle to Work Scheme

Executive Summary

The Cycle to Work Scheme is a tax incentive scheme that seeks to increase the number of people travelling to work by bicycle by allowing an exemption from taxation on a benefit that takes the form of a bicycle or associated equipment provided by an employer to their employee for the purposes of cycle-commuting.

The scheme was introduced in 2009 as part of Government response to unsustainable transport trends, and in particular sought to promote active travel and its associated health benefits, reduce urban congestion, and reduce greenhouse gas emissions associated with car travel. Since then, Government policy has reinforced the importance of these goals in addressing issues in the transport sector, and a growing body of policy evidence has reaffirmed the benefits of active travel, demonstrating the continued need for intervention.

The scheme allows participating employers to provide a bicycle and associated equipment to their employees without generating benefit-in-kind taxation. The employee may repay the cost through regular salary deductions applied for no more than one year; these deductions are exempt of income tax and related charges. Due to its legislative basis, the scheme can only be applied in the context of an employer-employee relationship, which restricts eligibility. In the interests of simplicity, the scheme operates on a self-administration basis. As a result, oversight of the scheme is limited and there are no records centrally available concerning details of scheme operation, such as the numbers of people availing of the scheme, or the revenue foregone by the Exchequer in order to provide it.

The lack of available data makes it very difficult to formally evaluate the scheme. There are no official figures indicating the scheme costs or uptake, and estimates for both vary significantly. While an examination of Census data indicates an increase in cycle-commuters since the introduction of the scheme, the increase is modest considering the reported estimates of scheme uptake. However, limitations associated with the Census data mean that some aspects of cycle-commuting may not be fully represented, and so there is also insufficient evidence to determine that the scheme has failed to deliver a significant impact.

In general, those with higher incomes will enjoy greater savings as a result of participating in the scheme, although there are some exceptions to this. Restrictions on eligibility, while unavoidable given the scheme's current model, also reduce the equity of the scheme, while restrictions on the qualifying equipment may make it less attractive to parents of other caretakers that travel with children for some part of their commuting journey.

A survey of scheme participants provides evidence of some additionality; however, it also suggests that there may be significant deadweight associated with the scheme, and that the

equipment obtained through the scheme may frequently be used for leisure rather than commuting purposes.

Internationally, cycling mileage allowances introduced in France on a pilot basis, and operated in Belgium for a number of years have been shown in both jurisdictions to increase cycling mode share in commuting journeys. An evaluation of a scheme with a model similar to the Cycle to Work Scheme that has been in place in the UK since 2009 found limited evidence of impact on cycling activity generally, and cycle-commuting specifically, but did find an increase in the number of miles cycled in recent years.

The report also found only a modest increase in cycling achieved by a small proportion of participants was required to generate social benefits whose value would exceed estimated cost of the scheme. It acknowledged that there is also consistent evidence in the literature that public investment in measures to facilitate increases in cycling is generally cost effective with high benefit-to-cost ratios, and added that investments in cycling infrastructure appear to work most effectively when combined with direct efforts to increase cycling activity such as cycle to work schemes.

The scheme seeks to increase cycle-commuting by providing a financial incentive to facilitate bicycle ownership. However, survey data indicates that the cost of a bicycle does not represent a barrier to cycling for most people; rather, concerns in relation to physical safety, confidence in cycling skills and attitudinal barriers are much more commonly expressed. Revisiting the scheme rationale in light of the issues considered throughout the paper generates a number of questions concerning the type of cycling activity the scheme incentivises, the impact of eligibility restrictions, and how it addresses barriers to cycling or incentives desired behaviour. The rationale and motivation for the scheme should be fully re-examined, with due consideration given to identifying the ultimate motivation for supporting and promoting active travel.

It is likely that a combination of interventions would be most effective in delivering modal shift. Behavioural schemes such as the Cycle to Work Scheme should be combined with improvements in infrastructure and traffic management actions that would improve safety for cyclists. Educational and promotional initiatives may be as important as financial incentives in order to attract new cyclists. Any potential initiatives should be designed in a manner that ensures sufficient data can be easily collected in order to evaluate those initiatives, if implemented. Most crucially, initiatives must not be designed in isolation, but rather should form part of a systems approach to active travel where the interplay of different interventions has been explored and accounted for. Without careful planning and analysis, interventions may achieve small increases in active travel, but are unlikely to deliver the fundamental change in the nature of transport in Ireland conceived of in the Programme for Government.

Executive Summary

As a small open island economy, the Irish aviation sector is essential for tourism, international trade and for connecting Ireland with the rest of the world. The aviation sector is also a significant contributor to the Irish economy and provides employment for an estimated 143,000 people; 39,000 people directly and 105,000 employees indirectly in areas such as the supply chain and tourism. Prior to Covid-19, the sector had experienced prolonged and sustained growth, reflecting growth in the wider economy. **Passenger numbers coming through Irish airports grew significantly from almost 25 million people in 2013 to 38 million in 2019, an increase of 54 per cent.**

Impact of COVID-19 on the Aviation Sector

The outbreak of Covid-19 has had a significant negative impact on the aviation sector, with passenger air travel particularly affected. The number of passengers handled in the main airports fell to 8.3 million in 2020, a decline of 78 per cent on 2019 levels. The impact of Covid-19 continued in 2021. The number of passengers handled in the first half of the year was just over 1 million, a fall of 94 per cent on the same period in 2019. Recognising the impact of Covid-19 on the aviation sector, the State has provided significant resources to support the sector. To date, €254 million has been provided to the aviation sector in the form of sector specific supports while the sector has also benefited from an estimated €267 million in 'horizontal' or non-sector specific business supports to end June including wage subsidy schemes. In terms of the sector specific supports:

- The majority of this support is in the form of grants (four supports, €64 million).
- The sector has also been supported by loans at commercial rates from the Pandemic Stabilisation and Recovery Fund (PSRF) with €190 million provided (two supports). The majority of this, €150 million, has been provided to Aer Lingus in the form of a debt facility while €40 million has been provided to Dublin Airport Authority (daa) PLC in the form of bond issues.

International Response to Covid-19 for Aviation

The paper also compares supports for the sector across countries, excluding horizontal supports. Of countries considered in the analysis, airlines have been the main focus for these supports and in particular airlines of national interest to countries. Ireland is the only country of the countries under consideration which has given the majority of support, in terms of the number of supports, to airports rather than airlines, reflecting the relative strength of Irish based airlines pre-Covid. Of the supports offered to airlines across countries, loans and recapitalisation measures are the most common. The majority of countries have granted favourable loans with low interest rates and/or state guarantees. In contrast, Ireland has afforded aviation enterprises a considerable number of non-reimbursable supports in the form of grants.

Future Outlook

Looking forward, Eurocontrol's forecast shows that Irish air traffic levels are likely to return to 2019 levels by 2025. The rate of recovery of the sector is likely to be positively impacted by factors such as increasing vaccination levels as well as pent up consumer demand for foreign travel. Negative factors such as financial uncertainty and emerging Covid-19 variants could also impact the rate of recovery. Recovery is also expected to take place in the context of structural change in the sector with continued investment in environmentally friendly business practices required to lower emissions in line with the Paris Agreement 2015. In addition to this, it is not yet clear what impact increased remote working may have on business related travel. Furthermore, there may also be a 'twin-track' recovery in the Irish aviation sector, with Dublin airport recovering strongly and regional airports less strongly. In the short term to continue to support the sector, it may be necessary for access to horizontal business supports to continue in 2022 and may also require additional future funding under the Regional Airports Programme, particularly for Cork and Shannon Airport. Under Budget 2022, Regional Airport Programme funding has increased from €21 to €36 million to facilitate the temporary inclusion of both Cork and Shannon airports in the programme.

Executive Summary

- The aim of this paper is to provide an overview of disability and special education related supports and expenditure. The main objective of disability policy is to ensure that people with disabilities are supported to lead full and independent lives, to participate in work and society and to maximise their potential. One of the main objectives in special needs education is to ensure that education is inclusive and that each child receives an education appropriate to his/her needs. The summary of the landscape of supports in this paper will help to add to the evidence base to improve outcomes for people with disabilities.
- This paper includes supports specifically for people with disabilities only and does not include supports which may be used by people with disabilities but are not specifically for them (e.g. carer's supports). 43 disability and special education related supports are examined in this paper. Supports include income payments, grants, employment supports, education supports, specialist disability social care services and taxation measures that span several Departments including Departments of Social Protection; Health; Education; Housing, Local Government and Heritage (DHLGH); Further and Higher Education, Research, Innovation and Science (DFHERIS) and Children, Equality, Disability, Integration and Youth (DCEDIY).
- A total of €7.1 billion was spent on disability and special education related supports in 2020. Over the period 2011 to 2020, total expenditure on disability and special education related supports has increased by €2.4 billion or 51 per cent.
- A large number of people are in receipt of disability and special education related supports while the number of people supported has increased over time. Over the period 2011-2020:
 - The number of people accessing Social Protection income supports has increased from 194,061 to 279,757, an increase of 85,696 or 44 per cent;
 - The number of HSE-funded residential places declined from 9,124 to 8,065 (8,297 in 2019) primarily due to changes in policy and regulations while the number of people in receipt of adult day services increased from 21,224 to 27,084 in 2019 before declining to 17,930 in 2020. The change in numbers of day service users in 2020 may reflect more accurate data on number of service users and not necessarily a reduction in the volume of services.
 - The number of pupils with significant care needs who are being supported by special needs assistants in school has increased from 22,284 (2.7 per cent of school population) to 39,840 (4.2 per cent of school population).

Support by Type

- The most frequent type of supports under consideration are services (14 supports, 33 per cent of the total). At 19 per cent each, the next most frequent type of supports are; employment supports and grants (8 supports). Taxation supports and income payments accounted for 16 per cent and 14 per cent of the total number of supports under consideration (7 and 6 supports respectively).
- In terms of expenditure, services accounted for €4.1 billion or 58 per cent of total disability and special education related expenditure in 2020. The next largest category is that of income payments which accounted for €2.9 billion or 41 per cent of total disability and special education related expenditure in 2020. Taken together services and income payments accounted for 98 per cent of total disability and special education related expenditure in 2020.
- Expenditure on disability and special education related supports is concentrated amongst five supports which together accounted for approximately 80 per cent of total disability and special education related expenditure in 2020 (€5.6 billion). In terms of expenditure in 2020, the largest supports are Disability Allowance (€1.8 billion), Residential Disability Services (€1.2 billion), pay for Special Education Teachers (€1.2 billion), Invalidity Pension (€760 million) and pay for special needs assistants (SNAs) (€614 million).

Support by Age

- Of the total disability and special education related expenditure in 2020, €2.2 billion (31 per cent) relates to expenditure on children, €2.8 billion (39 per cent) relates to expenditure on adults and €2.1 billion (29 per cent) relates to disability related expenditure where there is no specific age range of recipients, which in this case is housing adaptation grants and specialist disability social care services which for example support people with intellectual disabilities of all ages.
- There has been significant growth in disability and special education related supports for children over the last decade. In particular, expenditure on special needs education has increased from €1.2 billion in 2011 to €2 billion in 2020, an increase of over €800 million, driven primarily by increases in pay for special education teachers and SNAs (€760 million). Drivers of growth in special education needs provision can be attributed to the underlying change in the school age population, changes in policy, the increasing proportion of children who are qualifying for SNA and special educational needs supports as well as increased diagnoses of autism. Recent years have seen the introduction of a number of changes in the area of Special Educational Needs including a number of changes in resource allocation and the removal of the requirement for diagnosis in order to access these

supports. Supports for children further expanded with the establishment of the Access and Inclusion Model (AIM) in early years education in 2016 while the development of Children's Disability Network Teams have changed the way in which disability services are provided to children.

- Looking at expenditure on working age adults in 2020, the majority of expenditure (€2.7 billion) was for weekly income supports while expenditure on disability specific employment supports, excluding expenditure on supports such as the Public Employment Services which may be used by people with disabilities, amounted to €32 million. In the future, it is crucial that Government policy continues to support those people with disabilities, who are able to and want to, engage with employment, training and education opportunities. This in combination with the commitments set out in the Pathways to Work Strategy 2021-2025, the National Disability Inclusion Strategy 2017-2021 and the Comprehensive Employment Strategy for People with Disabilities 2015-2024 could help to improve labour market outcomes for people with disabilities.
- Reflecting on the significant level of support provided by the State to people with disabilities it is important that future Government policy should:
 - Enable greater coordination of supports from the point of view of service users. This would enable supports to be more targeted, flexible and have the right mix of activation.
 - Support people with disabilities to engage with training, education and employment opportunities in so far as possible in order to improve their overall standard of living and participation in society through utilising supports which encompass a number of areas.
- Potential future research could examine:
 - Transitions between schemes by age to examine how demand for certain supports may change over time as well as the use of supports by particular cohorts of the population.
 - An international comparison of disability and special education expenditure and supports.
 - The potential impact of changing demographics on disability and special education related expenditure to identify future expenditure pressures.
- Improved data collection and information on the use of supports by people with disabilities would be beneficial for future policy development and evaluation to ensure better outcomes for those in receipt of supports.

Evaluating the State-Supported Loan Schemes: a Framework

Executive Summary

This paper attempts to provide a framework for the evaluation of the state-supported loan schemes.

Currently the Department of Enterprise, Trade and Employment (DETE) has responsibility for six state-supported loan schemes, comprised of five credit guarantee schemes and one direct lending scheme. These are: the Credit Guarantee Scheme; Covid-19 Credit Guarantee Scheme; the SBCI Working Capital Scheme across two products, the Brexit Loan Scheme and the Covid 19 Working Capital Loan Scheme; the Future Growth Loan Scheme; the Brexit Impact Loan Scheme and the Micro-Enterprise Loan Fund.

The Micro-Enterprise Loan Fund administered by Microfinance Ireland is a direct lending scheme, rather than a credit guarantee scheme but many aspects of the fund can be assessed on a similar basis to the credit guarantee schemes which are the focus of this paper.

The paper examines the relevant literature on the evaluation of credit guarantee schemes as undertaken in a selection of countries running similar initiatives. A general theory of change for credit guarantee schemes (CGS) set out by the European Investment Fund is identified as a useful way of understanding how a CGS is intended to make an impact and as a way of identifying appropriate areas for evaluation. The paper sets out the main objectives common to evaluations of credit guarantee schemes and describes the data and methodologies used to evaluate the schemes.

In particular, the review focuses on three core areas as identified in the OECD (2017) review 'Evaluating Publicly Supported Credit Guarantee Programmes for SMEs': financial additionality, economic additionality and financial sustainability. These are the common objectives which feature in the evaluation of credit guarantee schemes internationally. Financial additionality focuses on whether the credit guarantee has improved the availability of credit to firms. Economic additionality, examined in all the studies reviewed, refers to the evaluation of the impact of the credit guarantee on firm performance and on the wider economy. Financial sustainability refers to the ability of the programme to cover the costs of its operations and the defaults and the direct impact on public finances in presence of a high rate of default. While all three areas are not considered in every evaluation, reviews primarily focus on economic and financial additionality as indicators of the effectiveness of schemes. Financial sustainability can be an important aspect which considered to a greater extent in reviews sponsored or carried out by the State – where there may be concerns around value for money and risk to State finances arising through default.

Drawing on lessons from the literature the paper makes recommendations on the evaluation of credit guarantee schemes in Ireland. These include a consideration of the appropriate data available to assess Irish schemes; the broad objectives of the evaluation including the necessary variables to assess programme impact across the areas of economic additionality, financial additionality and sustainability; and a discussion on the timing of evaluations. This is set out in a step-by-step manner in line with previous Forfás¹ guidance on the evaluation of enterprise funding. Key points include:

- An evaluation of credit guarantees scheme should include:
 - an assessment of the continued relevance and appropriateness of the intervention
 - an evaluation of the effectiveness of the intervention as measured through the scheme's economic and financial additionality
 - an assessment of progress/achievement of wider scheme objectives where appropriate
 - an assessment of the efficiency of the scheme through an assessment of its financial sustainability
 - the evaluation of the scheme inclusive of the elements directly above will allow for a full assessment of the costs and benefits of a credit guarantee scheme
- Appropriate variables to measure the impact across the areas of economic additionality and financial additionality and sustainability are important for a robust evaluation. The main indicators for each are set out below:
 - economic additionality: employment in the firm, expenditure on wages, annual sales/turnover, firm profits, exports, firm productivity, impact on total and intangible assets (investment intensity), firm survival
 - financial additionality: bank debt, ratio of debt to assets, growth of financial burden (interest payments), access to collateral, beneficiary's views on access to finance
 - financial sustainability: scheme funding, loan premium/fee, other relevant revenues to the Exchequer, administration costs, default rate on loans/cost of default, scheme uptake.
- There are a range of potential data sources available to inform an evaluation of the performance and impact of credit guarantee schemes in Ireland. While a single data source may not be sufficient, linking these sources could better enable counterfactual evaluation, though significant challenges would still be expected. Potential data sources include:
 - administrative data collected through loan applications
 - data available through the Central Statistics Office from the Business Register, the Annual Services Inquiry, and the Census of Industrial Production

¹ Forfás was the national policy advisory board for enterprise, trade, science, technology and innovation in Ireland. The agency was established in January 1994 under the Industrial Development Act, 1993 and was run by a board appointed by the Minister for Enterprise, Trade and Employment, to whom the agency was responsible. Forfás was dissolved on 1 August 2014 and its functions were transferred to the Department of Enterprise, Trade and Employment.

- firm data available through commercial databases
- directly collected survey data for purpose of evaluation
- A robust evaluation of the impact of the schemes will require counterfactual impact evaluation – which will involve comparing the performance of scheme beneficiaries with an appropriate control group of firms who have not accessed the scheme. This would require strong coverage in the above data sources, and at a minimum will involve the linking of separate data sets using company identifiers to identify scheme beneficiaries.
- Evaluations of credit guarantee schemes generally allow for a minimum of three years – and more commonly five years – performance data to be made available before proceeding. This should be considered when planning evaluations in the Irish context.
- The appendices provide some more methodological details on how to assess the three core areas, and an overview of the main findings of the evaluation of the credit guarantee schemes in other countries