



Irish Government Economic & Evaluation Service



Spending Review 2017

The Irish Government Economic and Evaluation Service (IGEES): Selection of IGEES Output

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This paper has been prepared by IGEES staff in the Department of Public Expenditure & Reform in the context of the Spending Review 2017. The views presented in this paper do not represent the official views of the Minister for Public Expenditure and Reform or the Department of Social Protection, Department of Health, Department of Education & Skills, Department of Justice & Equality, Department Transport, Tourism & Sport, Department of Agriculture, Food & the Marine, Department Children & Youth Affairs and the Department Communications, Climate Action & Environment.



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Summary of Key Messages

- *Irish Government Economic and Evaluation Service (IGEES) resources are deployed across Government Departments to provide an analytical capacity to assist in building the evidence base for policy making and decision making. IGEES economists build the evidence base by identifying key trends, gathering data and evaluating project and programme expenditure. This work builds on existing technical analysis to answer more sophisticated and complex questions.*
- *The work selected for review is not exhaustive. The Service has produced a significant amount of work covering a variety of expenditure areas including Social Protection, Health, Education & Skills, Justice & Equality, Transport, Tourism & Sport, Agriculture, Food & the Marine, Children & Youth Affairs and Communications and Climate Action & Environment. This paper illustrates the breadth of IGEES work across a variety of sectors, methodologies and formats. A selection of sectors have been reviewed across aspects of spending dimensions including; Trend and Composition, Cost and Efficiency, Effectiveness, Sustainability and Structural Issues. IGEES analysis is produced in a variety of formats using a variety of methodologies; Output selected for this review include Staff Papers, Value for Money Policy Reviews, Focused Policy Assessments, Cost Benefit Analysis, Scenario Analysis etc. IGEES output takes the format of published and non-published output to inform policy making in the Civil Service. The work selected for review provides a strong platform for discussion in the context of the Spending Review, budget negotiations and the wider policy discussion domain.*
- *Within different expenditure areas, the body of work is not evenly distributed across all dimensions of expenditure. It has been observed that differing sectors have a differing focus on the type of analysis conducted. It is envisaged that over time the body of analytical work completed for each sector will provide evidence across all dimensions of expenditure.*

Key Messages: Linking IGEES Output to Policy

Below are case studies that provide a selection both published and non-published IGEES output. These case studies have been selected across a range of sectors to demonstrate how IGEES output has fed into and/or impacted on Departmental and Government policy/strategy.

Department of Public Expenditure and Reform - Pharmaceutical Costs

- *Analysis of Irish state pharmaceutical expenditure demonstrated the need to deliver greater value for money and identified a range of levers which could be developed to achieve this outcome.*
- *Expenditure forecasting and savings scenario analysis informed the foundation of a new cost containment strategy. Working alongside other stakeholders, a new pricing and supply agreement with the pharmaceutical industry was negotiated. The agreement is estimated to save €750 million over the next 4 years with the strategy ensuring the sustainability of this significant area of expenditure in the medium term.*

Department of Public Expenditure and Reform - Labour Market Series

- *In order to assist policy development in tackling unemployment, IGEES has undertaken a synopsis series on the labour market setting out: a general overview of the labour market, a composition analysis of the long-term unemployed; statistical profiling of the long-term unemployed for both age and duration; and the cost of the Live Register. By outlining the composition of unemployment; in terms of duration it allows for better understanding of the client population and the examination of the activation programmes in the context of different client groups.*
- *This analysis is important as increasing exit rates for those in long-term unemployment requires well-resourced and targeted policies.*

Department of Transport, Tourism and Sport - Investment in Land Transport (SFLIT)

- *The DTTaS IGEES unit worked on the Strategic Framework for Investment in Land Transport (SFILT), published in August 2015. The SFILT established the necessity of investing in the transport system to deliver Ireland's economic and environmental goals and also set out a series of high level principles to guide future investment decisions.*
- *The first priority for investment identifies the need to appropriately fund maintenance of the existing "steady state" transport network; the second is to invest in managing congestion in urban centres, and the third is to improve access to international gateways and to poorly served parts of the country. The SFILT formed the basis of the DTTaS submission to the 2016-21 Capital Plan, and assisted in securing an increase in the levels of capital investment, particularly for maintaining the existing network.*

Department of Public Expenditure and Reform - Demographic Scenario Analysis: Education Sector

- *IGEES undertook a scenario analysis, using Department of Education and Skills statistics, to assess the expenditure implications of educational demographics up to 2033. This scenario analysis on primary and secondary level education looked at different combinations of fertility and migration patterns, to provide six scenarios for demographic change in the school system. These scenarios highlighted the key costs drivers regarding teaching staffing schedules and school funding, for each budget year the analysis includes projections for extra primary school pupils, extra secondary school pupils, and extra primary and secondary school teachers.*
- *This analysis has informed the school demographic component of the multi-annual budgeting process.*

	Trend and Composition	Cost and Efficiency	Effectiveness	Sustainability	Structural Issues
Social Protection	Highlighted variance between profile and outturn of Jobseekers Allowance (JA) and Jobseekers Benefit (JB); overview of the Labour Market and Labour Market activation programmes; Labour Market Synopsis series. Replacement rate analysis of the Live Register.	Outlined cost of the Live Register (LR). Comparison of the Quarterly National Household Survey Unemployment and the LR; estimates of potential target retirement income replacement rates by income level and modelling potential retirement outcomes. Survey of Class S contributors, generated new data on Class S and their preference to pay additional PSRI for greater range of benefits. Randomised control trial to test different types of invitation letters for attendance rates at group information sessions in Intreo centres. Actuarial review of the Social Insurance Fund.	Pathways to Work (PtW) research and evaluation. PtW evaluation includes three Counterfactual Impact Evaluation studies. Evaluation of JobPath. Assessment of the Financial Incentive to Work for Recipients of Illness and Disability Schemes. Evidence on the move from a passive to an active welfare system. Analysis on the replacement rate regarding the Back to Work Family Dividend (BTWFD), the regional disparity in the ratio of LR to UE and the entitlements and disincentive to work. Review of the Partial Capacity Benefit.	Outline of options for reform of disability, illness and carer's schemes, state pensions and related supplementary benefit schemes. Evidence base for the development and disability and illness policies. Examination on the impact of the Social Insurance Fund (SIF).	Evidence on Structural Issues within the LM and the Irish Social Welfare System. Evidence on the characteristics and implications of Irish household joblessness. Assessment of the Financial Incentive to Work of Recipients of Illness and Disability Schemes; evidence to assist management of the Social Insurance Fund. Analysis on new universal retirement savings system.
Health	Trend analysis on rising life expectancy in Ireland. Analysis on trends and key cost drivers arising from the Primary Care Reimbursement Service (PCRS).	Methodologies for costing the impacts of proposed policy changes, impacts of variable costs through staffing, medical appliances, pharmaceutical expenditures. New pricing and supply agreement on pharmaceutical costs. Analysis on health agency expenditure.	The National Patient Experience Survey resulted in recommendations to facilitate higher response rates and a single streamlined approach. Evidence on effectiveness of workplace wellbeing programmes.	Assessment of demographic pressures on the long-term sustainability of the Nursing Home Support Scheme. National bed capacity review.	Structural Assessment of Hospital Groups and Community Healthcare Organisations. Medical Workforce Analysis regarding the supply and demand of nurses. Policy proposal of a sugar sweetened drinks (SSD) tax.
Education and Skills		Focused Policy Assessment on Special Needs Assistants (SNA's).	Economic Impact of International Students in Higher Education in Ireland	Demographic scenario analysis on the sustainability of future expenditure implications for primary and secondary education. Technical analysis to assess expenditure implications for the higher education sector.	
Justice and Equality	Size and composition analysis of the Justice sector in Ireland. The Justice Vote Section reviewed the distribution of expenditure, trends of recorded crimes, crime detection rates, prisons capacity and current numbers in Irish prisons and trends in Garda numbers.	The Department developed a 'Cost of Crime' model to quantify the monetary impact of different crimes on victims.	Development of an 'End to End' model of the criminal justice system (scenario modelling). Evidence on impact and effectiveness of the Immigrant Investor Programme.	Development of a sectoral Justice and Equality evaluation framework for programmes and interventions; contributes to the measurement of programme results and maximising programme benefits.	Application of Behavioural Economics tools and nudge theory to a range of policy areas.

Transport, Tourism and Sport

Transport trend analysis provides an overview of the key developments that are evident from the Irish transport data.

Review of the Green Schools Travel programme. Sectoral Guidelines developed to assist with economic and appraisal processes for transport projects and programmes via the Common Appraisal Framework (CAF).

Review of the National Road Maintenance Programme. Adherence to obligations under the Public Spending Code, such as completion of annual Quality Assurance (QA) reports.

Evaluation of the Smart Travel Area programme. Research into the role the transport sector should play in the future development of the Irish economy, published in 'Investing in our future: A strategic framework for investment in land transport'.

Development of a Data Strategy which identifies a number of areas for improvement and sets out an action plan.

Agriculture, Food and the Marine

Collated reports including trend and performance indicators for the agriculture, fisheries, and forestry and food sectors.

Review of the contribution of the biosector to Ireland's net foreign earnings from exports of merchandise in 2008. The biosector comprises agriculture, forestry and fishing industries, as well as the processing of their products including the food and beverages industries.

Growth projections arising from the food wise 2025 plan.

Agri-taxation review to examine critical elements of Government support to the sector in preparation for the abolition of dairy quotas and the Food Harvest 2020 strategy.

Children and Youth Affairs

Analysis to capture outcomes for children in key policy and service areas. This analysis is published in the State of the Nation's Children Report. Responsibility and management of the Growing Up in Ireland (GUI) dataset - the largest national dataset on children in Ireland.

Modelling costs of a new Guardian Ad Litem service. An exercise costing various scenarios was undertaken to assist in the formulation of policy around the expansion of childcare funding programmes.

A Value for Money Policy Review (VFMPR) of all Youth Programmes on a national basis. Development of key indicators for children and young people aligned to the five outcomes in 'Better Outcomes Brighter Futures'.

Examination into whether a Social Impact Bond would be an appropriate way to fund a Bail Supervision Programme for young people in the youth justice system.

Communications, Climate Action and Environment

Trend analysis on high levels of evasion and non-compliance with payment of the TV licence fee.

Cost analysis of energy transitions to assist with Ireland's transition to a low carbon energy future.

Value for Money Policy Review (VFMPR) to measure the effectiveness of the Tellus Border Project.

Contribution to market failure assessment and cost benefit analysis for the National Broadband Plan.

Introduction

The Irish Government Economic and Evaluation Service (IGEES) is an integrated cross-Government service driving the implementation of the value for money principles in public service delivery by contributing to evidence based policy making. The service supports cross-Government reform and the professionalisation and strengthening of the Irish Civil Service with the development of an analytical capacity and skillset. Since 2012, the IGEES has undertaken rigorous economic analysis and evaluation for a variety of Government interventions. This analysis is focused on building up the evidence base for policy making within the Civil Service. Ongoing analysis continues to build on that evidence base and the analysis conducted. In 2016, the Service launched *the 'Irish Government Economic and Evaluation Service Medium Term Strategy 2016-2019'*, with the overarching goal to *'Contribute to the better design and targeting of Government policy through high quality economic analysis and evaluation'*. IGEES is now implementing that strategy with the objective of improving service delivery across the civil service.

The aim of this paper is to provide an extensive review of IGEES output to date. The review has included output from a range of Government Departments. The work selected for review is not exhaustive but aims to capture a large selection of IGEES output across a range of dimensions and expenditure areas. Given the volume of work undertaken by IGEES units across all Departments it was decided to limit the review to eight sectors. The eight sectors selected for the review are; Social Protection, Health, Education and Skills, Justice & Equality, Transport, Tourism & Sport, Agriculture, Food & the Marine, Children & Youth Affairs and Communications, Climate Action & Environment. The eight sectors reviewed for the paper are reviewed by quantum of expenditure. The review of each sector or expenditure area gives a high level review and specific case studies. The selection illustrates the analysis undertaken by sectors on the main cost drivers and the efforts undertaken to ensure value for money and the sustainability of these main cost drivers across a range of interventions, projects and programmes.

The paper seeks to outline how the service addresses key evaluation questions in the following dimensions: Trend and Composition, Cost and Efficiency, Effectiveness, Sustainability and Structural Issues. There has been a specific focus on the impact on service delivery and how the IGEES skillset contributes to informing policy analysis. The review has linked each sector to the Departments Statement of Strategy to identify key messages coming from the work of each IGEES unit and the impact of this evidence. For a snapshot of the data used for the paper the summary table above includes some of the key messages from the output selected to showcase the breadth of work completed. Within the Department of Public Expenditure and Reform the spending review process is

led by the Central Expenditure Section supported by Vote Sections and the IGEES. All Government spending Departments have a key role in spending review analysis and are individually selecting schemes and key expenditure areas for review.

The analysis showcased within this paper has been authored by IGEES staff, broader IGEES staff and members of the civil service working within the relevant policy area. IGEES staff in different departments may base their analyses on different contexts, assumptions or judgements so may not always share (partially or fully) the conclusions of published work. The analysis undertaken by the Department of Public Expenditure and Reform for the purpose of the 2017 expenditure review aims to continue building from the evidence base discussed in this paper.

1. Social Protection

Background:

€19.8 billion was allocated for Social Protection expenditure in 2017. IGEES resources have been deployed in both the Department of Social Protection and the Social Protection Vote in the Department of Public Expenditure and Reform adding their skill set to the varied expertise working on policy analysis and formulation.

IGEES resources within the Department of Social Protection are focused on analysis to assess the cost, effectiveness and impact of expenditure. They aim to provide strong in-depth economic and policy analysis in order to support the Department's goals; to ensure that quality analysis is undertaken with a view to developing client centred policies.

Trend and Composition:

In order to assist policy development for unemployment, IGEES has undertaken a synopsis series on the labour market setting out: a general overview of the labour market, a composition analysis of the long-term unemployed; statistical profiling of the long-term unemployed for both age and duration; and the cost of the Live Register.

This data analysis is important as it outlines the labour market conditions in which activation programmes operate; for instance by outlining; the churn within the labour market, the number of long term unemployed and evidence of the stabilisation of the unemployment rate. By outlining the composition of unemployment, in terms of duration it allows for better understanding of the client population and the examination of the activation programmes in the context of different client groups. The analysis provided insights into the churn of the labour market, which is particularly relevant in relation to the design of activation measures that lead to sustainable employment, rather than transitory employment and frequent returns of clients to the Live Register.

For labour market activation programmes it is important that deadweight is limited and that groups most in need of assistance in finding employment are effectively targeted. In times of high unemployment reducing the aggregate level of unemployment is the most pressing concern. Statistical profiling of the long-term unemployed is an important tool in understanding the composition of unemployment. The labour market synopsis series highlights how skills depreciation, detachment from the labour force and unemployment stigma are all used to explain the incidence of long-term unemployment in Ireland. The data showed the longer a person remains unemployed on the Live Register, the less likely it is they will eventually find employment. This analysis is important as

increasing exit rates for those in long-term unemployment requires well-resourced and targeted policies.

To understand the impact of significant changes in tax and welfare policy and entitlements over the course of the recession and their impact on the labour market, the Social Protection Vote have completed several papers on replacement rate analysis. Replacement rates are used to measure a person's financial incentive to work by comparing their in-work income with out-of-work income. In 2015, the Social Protection Vote completed analysis of replacement rates from 2010 to 2015, the analysis was completed for various hypothetical family types at different income levels. The research found there was relatively little change in replacement rates, suggesting that the impact of tax increase and welfare reduction during the crisis largely cancelled each other out in terms of incentives to work. The hypothetical household types which have had high replacement rates, were couples (one earner) with 2, 3 and 4 children. This analysis is important as it informs employment activation and support strategies and indicates where the activation policies need to be better targeted.

Cost and Efficiency:

To improve the delivery of labour market activation programmes, in 2015 the Social Protection Vote examined differences between the Quarterly National Household Survey (QNHS) and the Live Register. The QNHS survey sets out categories according to International Labour Force classification based on those in employment, those who are unemployed, and all other persons. The Live Register is the Department of Social Protection's listing of persons registered for Jobseekers Benefit/Allowance (i.e. it does not measure unemployment) or for various other statutory schemes. The research found in 2015 there was 1.69 times as many people on the Live Register than declared unemployed in the QNHS survey; and the ratio in the border region is much higher than in the rest of the State. This has important implications for Activation Policy; the paper contextualises how a move to a more active welfare system will help reduce the gap between Live Register recipients and those surveyed unemployed.

The Department of Social Protection completed a survey of Class S contributors (largely, self-employed workers and company directors) in 2016. This survey generated a new dataset to gauge the opinion of Class S contributors on the range of benefit entitlements and whether they are prepared to pay additional PRSI for a greater range of benefits. It was completed to understand how the pay-related social insurance (PRSI) system is working for the self-employed and to gain a greater understanding of an area where little data existed and this has opened up new opportunities for analysis and research.

In order to improve efficiencies and attendance at Jobseekers Intreo sessions, the IGEES unit in the Department of Social Protection in collaboration with Department of Public Expenditure and Reform

have piloted an innovative applied experimental research project in the form of a randomised control trial to test different types of letters on attendance rates at group information sessions in Intreo centres. The trial examined the comparative impact of the standard letter with letter designs informed by behavioural economic insights. The results of the trial found that attendance rates could be improved by changing letter designs. This results in improved attendance at Jobseekers Intreo sessions, increased entries into activation programmes, with potential reduction of the Live Register, all these outcome can result in significant cost savings for the Exchequer.

Effectiveness:

To improve the effectiveness of schemes for people with disabilities, in 2016 IGEES staff in the Department of Social Protection reviewed and evaluated the Partial Capacity Benefit scheme, by outlining the profile of recipients by age, gender, marital status, family composition, their duration on the scheme and incapacity profile by type. The review found that Partial Capacity Benefit is small in volume and costs and that recipients are largely split between moderate and profound levels of incapacity. IGEES staff in the Department of Social Protection also undertook a review of the financial incentive to enter employment for people in receipt of disability and illness schemes. The review found a number of potential disincentive effects arising from how rules governing income and eligibility for the primary payments. The results of these reviews had a role informing the development of activation pathways for people with disabilities more generally under the Making Work Pay for People with Disabilities Interdepartmental Working Group.

The Pathways to Work Scheme is a key labour market activation programme from the Department of Social Protection. IGEES staff in the Department of Social Protection contribute to the development and coordination of the multi-annual Pathways to Work Strategies, having responsibility for the research and evidence building necessary to inform these Strategies. This research includes labour market analyses, development of key performance indicators and stand-alone research papers. This evidence and analysis is crucial to ensuring that these strategies are effective in targeting the long-term unemployed and relatively low skilled members of the labour force.

In addition to providing research to inform the Pathways to Work Strategy (PtW), IGEES has a role in the management and delivery of the PtW Evaluation Plan. This is a multi-year research programme that includes over a dozen activation and labour market schemes. The plan entails carrying out counterfactual impact evaluations for each of the specified schemes. To date IGEES has successfully produced and/or contributed to several counterfactual impact evaluation studies, including quality assuring the evaluations of Back to Education Allowance, JobBridge and Intreo Process evaluations; undertaking evaluations of the Back to Work Enterprise Allowance and the Jobseeker Transitional

Payment; and delivering a preliminary evaluation of the JobPath employment services model. Findings of these studies will contextualise what may have happened in the absence of the programme, a range of labour market activation outcomes and lessons learned.

Sustainability:

To assist in ensuring the sustainability of expenditure, in 2014 an expenditure review of disability, illness and carers support schemes was completed by the Department of Public Expenditure and Reform to examine the effectiveness of these schemes in providing the best outcomes for both Social Protection clients and the taxpayer. Due to concerns of rising costs, the analysis calculated the actual cost increases in each scheme, highlighting exponential cost increases for these schemes, with Carers Allowance rising by a factor of five. The paper recommended that it was time for a change and that reforms were needed in the payment of these schemes to ensure the sustainability of Social Protection expenditure in light of demographic changes.

An expenditure review of the State Pension (contributory and non-contributory) was completed in 2014 by the Social Protection Vote. At the time these schemes accounted for 25% of total Social Protection expenditure. This analysis estimated under a 'no-change' scenario that expenditure on the two schemes would have an annual increase of €195 million per year to 2026, a total increase of €2.36 billion. The estimated increase per year due to demographics alone is in the region of €200 million, there are serious concerns about the sustainability of future expenditure levels. In addition the research noted that in this timeframe supplementary benefits for this cohort would increase significantly. These Cross Vote demographics analysis completed in 2016 supersedes the calculations from the 2014 expenditure review. These findings are of key importance to the State, to ensure that the State Pension provision is maintained at a sustainable level. The research concludes that the sustainability of State Pensions will likely be achieved through the use of structural reforms or through increased taxation or expenditure reductions in other areas.

Structural Issues:

There are a number of structural issues within the Irish labour market and social welfare system. Structural issues addressed by the research include; the characteristics and implications of household joblessness in Ireland, structural issues within the Social Insurance Fund and structural issues relating to pension coverage rates in Ireland.

The assessment on jobless household aims to assess if there is a core structural jobless household problem in Ireland. The analysis found that the rate of household joblessness in Ireland increased during the economic crisis in tandem with the rate of unemployment. However, even when Ireland's economy was growing there was a significant divergence between the rates of household joblessness

and unemployment, which suggests that there has been a structural as well as cyclical element to this issue. These findings are important because they set the basis for structural reforms and reiterates the importance of well- targeted labour market activation programmes and work incentives.

In order to examine the impact of Social Insurance Fund expenditure on the Social Protection Vote, in 2015 IGEES staff reviewed the Social Insurance Fund. The paper shed light on the fact that the Social Insurance Fund can have a significant impact on Social Protection expenditure, depending on whether a subvention is required. The cyclical nature of Social Insurance Fund income adds complexity in estimating the levels of SIF receipts particularly during periods of labour market instability. The review also confirmed that the Social Insurance Fund has been in deficit for the majority of its existence. The paper recommended that while the payments made from the Social Insurance Fund should remain as part of Social Protection expenditure, all Social Protection funding should be Voted and the operation and policy for Pay Related Social Insurance income should be moved to the control of Revenue and the Department of Finance. These recommendations aimed to simplify the management of expenditure and removing the double impact of cyclical variations on the Social Protection Vote.

Just 35% of the private sector workers have supplementary pensions coverage. Despite considerable efforts over many years to incentivise retirement savings through generous tax reliefs, the purely voluntary approach to participation is not achieving the desired goal of increasing coverage and adequacy. Given there has been a lower than targeted number of workers with supplementary retirement provision over a protracted period of time, it is clear that the current regime will not succeed in delivering on its core policy objective to support individuals to maintain living standards in retirement. To help address Ireland's retirement savings gap, the Department of Social Protection is developing proposals for consideration by Government for a new universal retirement savings system for those without coverage. IGEES are involved in the evidence building required to develop and advance these policy proposals. Specifically, IGEES are involved in the following:

- Estimating potential target retirement income replacement rates by income level;
- Modelling potential retirement outcomes (based on savings rates, investment returns and inflation assumptions, charging regimes, discount rates etc.);
- Research into potential design aspects of the system that will influence member behaviour (for example target membership, contribution requirements, investment structure, conditions of access and pension drawdown features;
- Research into potential operational structures and governance.

Once completed, this research will inform pension's policy and provide a range of retirement options to assist Government's decision making.

2. Health

€14.6 billion was allocated for Health expenditure in 2017. To ensure that robust analytical evidence is at the heart of policy formation, IGEEES resources have been deployed in both the Department of Health and the Health Vote Section in the Department of Public Expenditure and Reform. IGEEES Economists in the Research Services Unit within the Department of Health work to ensure that policy formulation and decision making within the Department is supported and resourced with the best available objective research and analysis. The Health Vote Section monitors and manages expenditure by the Department of Health and the Health Service Executive to ensure that spending accords with Government budgetary parameters and policy priorities.

Going forward, the key objective in the health sector will be achieving sustainability of expenditure in the face of emerging demographic pressures. In light of this, there is a focus in both departments on addressing key themes such as expenditure management, reform, and governance structures. Outlined in detail below, the important work produced by the IGESS staff has facilitated this process and has enabled policy decisions to be better supported in objective evidence.

Trend and Composition:

In the Department of Public Expenditure and Reform, a key area of concern was understanding the cost implications of rising life expectancy in the State. Addressing this issue, trend analysis work was undertaken by the Health Vote Section to estimate the potential impacts of rising life expectancy in Ireland and its implications on the sustainability of healthcare spending. The analysis compared Irish health expectancy with other countries in the European Union and examined trends in Irish life expectancy since 1980. This analysis was extended to show the real levels of public health spending since 1980 and the inflation of health costs since 1980.

Arising from this, the work outlined that Irish life expectancy is increasing and converging with the European Union average and overall Irish health expectancy is among the best in Europe. This is important observation as it highlights that lengthening life expectancy is found to coincide with increases in real Irish health expenditure and subsequent policy implications. However, the work also shows, that given our current per capita health expenditure, there is scope to optimise existing resources and allocate funds more effectively.

A further area of concern for the Vote, is ongoing expenditure in The Primary Care Reimbursement Service sector, which accounted for over €2.5 billion of health spend in 2017. The Primary Care Reimbursement Service sector supports the service delivery of primary healthcare by providing reimbursement services to primary care contractors for the provision of health services to members

of the public. Primary Care Reimbursement Service expenditure is primarily focused on drugs/pharmacy payments and General Practitioner fees.

Conducted by IGEES members in the Health Vote Section, trends and key costs drivers on the four main Primary Care Reimbursement Service schemes were examined along with in-depth analysis of medical card expenditure. Furthermore, significant budget measures implemented to date have been looked at and the future trajectory of Primary Care Reimbursement Service expenditure, taking into account demographic and cyclical changes and policy developments have been explored.

Arising from this, the Health Vote Section were able to estimate that the rollout of free General Practitioner services to under 6s and over 70s in 2015 would result in an increase of approx. 300,000 General Practitioner visit cards and an associated increase in expenditure of €64 million. This analysis fed directly into the budgetary process and was reflected in the allocation provided to Primary Care Reimbursement Service in that year. Looking forward, analysis conducted by the Health Vote Section also highlights that demographic changes represents a small expenditure pressure in the medium term and Improving economic cycle conditions will continue to play a role in reducing the number of medical cards.

Cost and Efficiency:

Health policy changes can give rise to fixed costs such as capital investment but also impact on variable costs of service delivery; through staffing, medical appliances and pharmaceutical expenditures. These costs arise from complex interactions between supply and demand for health services from patients. Tracking these costs are of primary concern for IGEES members working in both the Department of Health and the Department of Public Expenditure and Reform Vote section.

IGEES Economists in the Research Services Unit of the Department of Health act as a resource for policy units considering policy changes within the health system providing guidance on appropriate methodologies for the Maternity Strategy 2016-2026, Cancer Strategy 2017-2026 and public financing of IVF/assisted human reproduction.

To understand bed utilisation and expenditure per patient, analysis was completed by the Health Vote Section to determine efficient hospital size in an Irish context. The analysis showed that, net of all transactional costs, relocating services from smaller hospitals (105 beds or less) to larger operations would save an estimated €60 million annually but adversely impact on patient access. Furthermore, the analysis adds value to service delivery as it concludes that small hospitals account for only 5% of hospital spending and their relative inefficiency is unlikely to be a major driver of overall hospital costs.

Work was carried out looking at Irish state pharmaceutical expenditure that demonstrated the need to deliver greater value for money and develop a range of levers which could achieve this outcome. Indeed, expenditure forecasting and a savings scenario analysis informed the foundation of a new cost containment strategy. Working alongside other stakeholders, a new pricing and supply agreement with the pharmaceutical industry was negotiated at an estimated saving of €750 million over a four year period.

An area of particular concern for the Department of Public Expenditure and Reform is the increasing cost of the Health Service Executive pay bill, a number of papers have been completed looking at this issue. For example, the costs associated with the use of health agency staff was explored. The analysis outlined concerns that health agency expenditure was consistently exceeding the agreed budgeted allocations and questioned the capacity of the Health Service Executive to control this line of expenditure. This analysis is important as it highlights budget implications arising from the main cost drivers within the health sector.

Effectiveness:

The National Patient Experience Survey is a new nationwide survey asking people for feedback about their recent stay in hospital. The survey is a partnership between the Health Information and Quality Authority, the Health Service Executive and the Department of Health. The purpose of the survey is to learn from patients' feedback to improve the planning and delivery of healthcare. International evidence shows that patient experience is positively related to financial performance, patient loyalty and staff retention, a reduced risk of medical malpractice, increased employee satisfaction and overall better health outcomes. All patients aged 18 or over, discharged in May 2017, and who have spent a minimum of one night in any of Ireland's 41 acute hospitals will be asked to participate in Ireland's first National Patient Experience Survey. Based on the objectives of the survey, pros and cons of different distribution methods, characteristics of patients and existing norms of communication, IGEEES Economists in the Research Services Unit of the Department of Health (who participated on the Delivery Group and the Advisory Group for the project) provided detailed recommendations on the best distribution method to use during the recruitment stage of the survey. These recommendations, which were adopted, aim to facilitate higher response rates and a single streamlined approach, thus delivering better value for money. In addition, the Research Services Unit was instrumental in ensuring that a question on 'overall patient experience', and not only experience with specific aspects of care, was included in the survey. This is important as it means not only will a summary measure of patient experience be available, but also future econometric analysis will be able to identify the relative importance of factors that drive overall positive or negative experiences, and thereby inform priority areas for future quality improvement efforts.

Healthy Ireland is the national framework for action to improve the health and wellbeing of the people of Ireland. Its main focus is on prevention and keeping people healthier for longer. Healthy Ireland takes a whole-of-Government and whole-of-society approach to improving health and wellbeing and the quality of people's lives. A Healthy Workplaces Framework is being developed as part of the Healthy Ireland Framework for Health and Wellbeing 2013-2025. Development of this Framework is being led by the Department of Health and the Department of Jobs, Enterprise and Innovation. It is intended to provide flexible guidance that can be adapted to any workplace setting to help create and sustain healthy workplaces throughout Ireland. The Research Services Unit in the Department of Health has undertaken a review of literature on the effectiveness and cost-effectiveness of workplace wellbeing programmes, policy mechanisms that can be used to support them, and factors useful for organisations to consider if developing or expanding these programmes. The literature review has directly inputted into the framing of some of the questions in the consultation process launched to inform the Healthy Workplaces Framework and will further input into the development of the Framework in 2017.

Sustainability:

On the budget and expenditure management side, the Vote Section monitors spending across all lines of health expenditure on a monthly basis. These results are evaluated with a view to considering the impact on budget sustainability and following this; the section prepares estimates of expenditure for each service area.

In order to assess the impact of demographic pressures and analyse the long-term sustainability of the Nursing Homes Support Scheme, analysis was undertaken by the Health Vote Section in the Department of Public Expenditure and Reform on the expected number of additional payments expected to arise from demographic pressures. This involved looking at the evolving profile of the scheme population, and the income and wealth of future entrants. The paper looked at historic Nursing Homes Support Scheme numbers to construct a model for projecting future numbers of people in payment in the scheme and future funding requirements of the scheme. The key findings of the paper include;

- An estimated 9% of people aged 80 and over will apply to join the Nursing Homes Support Scheme each year
- The cost of legacy patients is expected to decline drastically, representing about 1.4% of the total spending in 2022

- The average cost per person is expected to consistently decline from just over €39,000 in 2013 to approx. €34,000 in 2022
- Taking these together, both the number of in payment recipients and the net funding requirements are expected to rise steadily until 2017.
- However, slowing growth in numbers thereafter and a falling cost per person will work to reduce the funding requirement year-on-year to 2020.

The analysis highlights that despite increasing demands, the Nursing Homes Support Scheme is affordable and sustainable in the long-term.

In the Programme for a Partnership Government (2016), there is a commitment to undertake a national hospital bed capacity review *"to establish the number, type and location of beds required into the future recognising the need for a range of beds including critical care, palliative and day case bed stock"*. Working in partnership with the Health Systems and Structures Unit in the Department of Health, and drawing on the international evidence base for 'best practice' in healthcare capacity planning, the IGEEES Economists in the Research Services Unit of the Department of Health proposed an analytical framework for a "whole-systems approach" to assessing capacity needs, through consideration of current and future demand and supply side scenarios, and connecting patient pathways across health services. This influenced the eventual agreed scope of the capacity review to include assessment of health and social care needs more broadly than "hospital beds", acknowledging the importance of patient pathways, flows and bottlenecks in the system. Healthcare Capacity planning is more likely to be effective if it rests on a solid information base, including data on population health, service utilisation, the distribution and type of healthcare facilities and equipment and the availability of health professionals. The Research Services Unit and IGEEES Economists in the Department of Health continue to work closely with internal and external stakeholders to facilitate access to data and tools to enable the analysis of current supply and demand issues, to project future healthcare needs, to conduct situational analysis and to explore alternative future scenarios.

Structural Issues:

Structural issues in the Irish medical workforce have been a concern in terms of supply and demand of doctors and nurses. Having the appropriate level of medical staffing is a central public health priority. Analysis undertaken by the Health Vote in the Department of Public Expenditure and Reform, examined staffing levels in Ireland in comparison with the European Union, the health of the Irish population and the implementation of the transition to consultant-provided hospital care. The paper found that the Irish population is in relatively good health and Ireland has among the most nurses per capita in Europe. In contrast to nurses, Ireland has among the lowest numbers of doctors per capita

in the EU. In spite of the modest demand for doctors from our population, we have the highest proportion of internationally-trained doctors practising anywhere in Europe. The report found that a key reform proposed to transition to consultant provided hospital care, has not been effectively implemented, making us non-compliant with the European Working Time Directive. The paper contextualises the structural challenges facing the Irish medical workforce and provides valuable recommendations to assist in addressing these issues, such as, introducing some form of return-to-service arrangements for students and undertaking further research on the value-for-money of advanced-role nursing.

The Health Service Executive is currently embarked on a structural reform programme, centred on the creation of seven Hospital Groups and nine Community Healthcare Organisations (CHOs- for organisation of primary and community health services). IGEES Economists in the Research Services Unit in the Department of Health, in conjunction with members of the Statistics and Analytics Unit in the Department, were interested in assessing how Hospital Groups and Community Healthcare Organisations currently relate to each other in order to achieve the policy objective of integrated, person-centred care. The team undertook a detailed technical analysis of patient flows in the acute hospital sector to establish the extent to which the hospitals in a given Community Healthcare Organisation area are serving the patients who live in that area. Key findings from this analysis informed discussions around governance, population-based needs assessments as part of healthcare planning, health system performance assessment and accountability for population health outcomes. The analysis formed the basis of a submission to the Future of Health Care Oireachtas Committee on appropriate structures for health services delivery.

The Department of Health's Obesity Policy and Action Plan (2016) sets out a range of policy measures and interventions to reduce the number and proportion of overweight adults and children in Ireland. The Department of Health identified a tax on sugar sweetened drinks as a possible lever to modify excessive sugar consumption. IGEES economists in the Research Services Unit, worked as part of a cross-divisional and multi-disciplinary team with public health specialists and policy analysts to develop the Department's proposal for a sugar sweetened drinks tax. Specifically, the research considered the market failure rationale for government intervention in the sugar sweetened drinks market, and reviewed evidence on sugar sweetened drinks tax design in other countries as well as their impact on consumption. IGEES expertise and research influenced the design of the tax proposal helping to ensure the tax would meet its health objectives while also being administratively and legally feasible. This work culminated in a published proposal for a sugar sweetened drinks tax which

facilitated the Department of Health in communicating its policy position to the public and supported the Department of Finance in its development of the sugar sweetened drinks tax policy.

3. Education and Skills

Background:

€9.5 billion was allocated for Education and Skills expenditure in 2017. IGEEES resources have been deployed in both the Department of Education and Skills and the Education and Skills Vote Section in the Department of Public Expenditure and Reform to enhance and develop the analysis and evidence base relating to this expenditure. To date, much of the analysis in the education sector has been focused on providing scenario analysis to support additional arising demands on the education sector as a result of demographic changes in the country, which have expenditure implications for early years, primary, post-primary, further and higher education, as well as the demand for increased numbers of Special Needs Assistants in the context of Government policy that every child who is assessed as needing Special Needs Assistant support continues to receive access to that support .

Cost and Efficiency:

The “Focused Policy Assessment on Data on Special Needs Assistants”, published in 2016, identified a comprehensive range of data sources to support the drivers behind the continued growth in demand for special needs assistants. The Focused Policy Assessment identified a methodology for estimating a range of potential demand scenarios for special needs assistants over the short term. Initial analysis was completed to understand what led the demand for special needs assistants over the previous five years. Analysis identified the key drivers of demand in the area are and estimated what additional resources could potentially be required in 2017. The model provided a basis for estimating the demand year on year and informs an agreed annual reporting framework of key metrics relating to special needs assistants.

This is important because the trends identified have informed a further comprehensive review of the scheme which aims to identify the most appropriate form of support options to provide better outcomes for students with the special educational needs. This research and demand model is useful to inform discussions in relation to estimated increases in the demand for additional special needs assistants. Such increases are subject to Government approval.

IGEEES resources have also been used in the context of the ongoing Expenditure Review 2017 and the Estimates Campaigns. This has involved work on advising on the development of business cases and projections in relation to increasing demand for certain services, particularly demand-led services where demographic factors, as noted above, have led to increased demand for resources.

Effectiveness:

Work has been completed on developing means for measuring the economic impact of international students in Higher Education in Ireland. A paper is due to be published shortly. The work was undertaken in a policy context where Ireland is to be positioned as a “global leader in the provision of high-quality education to the next generation of leaders, entrepreneurs and decision makers who will make a difference in their own countries and who will form vital networks of influence for Ireland.” Ireland’s International Education Strategy included an objective to increase the direct economic impact of international education. Therefore, the paper assesses the extent to which previous targets to increase the economic impact of international students in higher education have been met and examines the number of places that non-European Union students take up across different disciplines at undergraduate full time level, as well as determining the costs to the education system of international students. The economic impact was measured in terms of direct economic impact as well as indirect impacts, induced impacts using different forms of measurement for education impact based on outputs and Gross Value Added. The paper also explores changes in various measures in recent years. The work done informed the development of “Irish Educated – Globally Connected: An International Education Strategy for Ireland 2016-2020” as well as being useful in the context of ongoing considerations of the impact of Brexit on the education sector.

Sustainability:

Upward and downward demographic pressures have expenditure implications for primary and post-primary education. IGEEES undertook a scenario analysis, using Department of Education and Skills statistics, to assess the expenditure implications of educational demographics up to 2033.

This scenario analysis on primary and secondary level education looked at different combinations of fertility and migration patterns, to provide six scenarios for demographic change in the school system. These scenarios highlighted the key costs drivers regarding teaching staffing schedules and school funding, for each budget year the analysis includes projections for extra primary school pupils, extra secondary school pupils, and extra primary and secondary school teachers. Following the exercise which produced six scenarios, further in depth analysis was undertaken on three of these scenarios. This analysis has informed the school demographic component of the multi-annual budgeting process.

Demographic pressures also have expenditure implications for the Higher Education sector. “Investing in National Ambition: A Strategy for Funding Higher Education” the Report of the Expert Group on Future Funding for Higher Education, examined funding arrangements for higher education and identified approaches to achieving a sustainable funding base for the sector into the future. IGEEES resources are supporting ongoing technical work in order to inform future policy options in this area.

4. Justice and Equality

Background:

€2.6 billion was allocated for Justice and Equality expenditure in 2017. IGEEES resources are deployed in the Justice and Equality Vote in the Department of Public Expenditure and Reform and in the Department of Justice and Equality. The unit in the Department of Justice and Equality was established in late 2015; with the objective of increasing the understanding of the Irish Criminal Justice and Immigration systems as a whole and to research and analyse the various relationships between the different criminal justice agencies that exist. One of the key aims of the unit is to embed an evaluation culture in activities undertaken within the Department whether this is strategic planning, customer service or policy implementation.

Trend and Composition:

An expenditure analysis of the size and composition of the Justice sector was completed by the Vote Section in the Department of Public Expenditure and Reform along with selected analysis of key outputs. The analysis included, among others:

- Distribution of expenditure by area by vote within the Justice Group;
- Trends in Garda numbers since early the 1980's;
- International benchmarking of policing numbers;
- Overview of key structural spending drivers;
- Trend in overtime; and
- Trends in outputs such as recorded crime, detection rates, capacity/occupancy in prisons and asylum applications.

From a methodological perspective, the benchmarking exercise on international policing numbers highlighted challenges for such comparisons such as the variation in policing responsibilities across countries.

A selection of the findings can be summarised as follows: The current level of spending on An Garda Síochána can only be considered low compared to the peak period of 2008 and 2009; Following a period of decline, the overtime bill is rising rapidly and remains in excess of international norms; A significant increase in the pace of civilianisation can release a range of benefits including pay/pension savings as well as productivity benefits.

Cost and Efficiency:

To calculate the true cost of crime in Ireland a 'Cost of Crime Model' was developed by the IGEES unit in the Department of Justice and Equality. This model provides a framework to quantify the monetary impact of different crimes on victims; by calculating the number and incidence of crimes, the harm caused by these crimes and the severity of these crimes. The analysis calculates costs regarding anticipation, consequences and response of crime and where in society these costs fall. The research found that crime poses a significant cost to individuals, business, government and society in general. Primary costs arise from dealing with offenders, maintaining the criminal justice system, the police service, the courts and independent prosecution service, prisons and probation agencies. Additional costs arise in physical terms, items stolen or damaged by crime which need to be replaced by owners or compensated. This research while not exhaustive, aims to investigate the main cost drivers because crime is expensive, the related costs falls across society and costs are not just financial. This evidence is important to inform future policy design.

Effectiveness:

To review the effectiveness of the Irish criminal justice system and the processing of prosecutions, an 'End to End Model' of the criminal justice system was also developed by the IGEES unit in the Department of Justice and Equality. This allows the modelling of various scenarios for flows of accused and convicted people through the system based on key drivers Analysis of repeat offenders by crime type and numbers of committals and releases in Irish prisons was also carried out. This allowed for an assessment of the impact on incremental workflows if increases of instances for various crimes and related detections were to occur such as; traffic offences, sex offences, drug offences and burglary. It is important to model the various inputs of the criminal justice agencies to increase predictive power and this scenario analysis will contribute to the overall effectiveness of the system of processing criminal prosecutions.

Sustainability:

To contribute to the sustainability of expenditure a Justice and Equality sectoral evaluation framework is under development by the IGEES unit in the Department of Justice and Equality for programmes and interventions. This evaluation framework will assist in providing the Department with a greater understanding of its projects and programmes in relation to rationale, efficiency, effectiveness, sustainability and impact. It should facilitate better, more robust appraisals. Development of this new framework will be undertaken alongside the establishment of an evaluation culture which aims to maximise the societal benefit of scarce resources and contribute to the future sustainability of spending in the justice and equality sector.

Structural Issues:

To tackle structural issues within the justice and equality sector, the Department of Justice and Equality is extending their analysis to include the application of Behavioural Economics tools and nudge theory in a range of policy areas. They have recently completed a short pilot on form design involving the Anti-Money Laundering Compliance Unit within the Department. The preliminary results appear positive and show that applying some simple behaviourally motivated tweaks to form design can lead to better compliance and reduce the administrative burden to staff.

5. Transport, Tourism and Sport

€1.8 billion was allocated for Transport, Tourism and Sport expenditure in 2017. The Economic and Financial Evaluation Unit (EFEU) provides an analytical resource for the Department of Transport, Tourism and Sport (DTTAS). The work of the unit involves producing strategic analysis, informing expenditure decisions, reviewing the economic case for investment in projects and programmes, and carrying out much of the Department's responsibilities under the Public Spending Code. The work of the unit serves all sectors across the department involving projects, programmes and schemes for land transport, maritime transport and services, aviation transport and sports and tourism. Published documents from the Department include those required under the Public Spending Code such as Value for Money Reviews, Focused Policy Assessments and Quality Assurance reports. The unit also publishes guidance documents, policy papers and conference papers.

Trend and Composition:

Demand for transport in Ireland has recently experienced renewed growth from a low base following a number of years of contraction. Prior to the economic downturn, previous investment in the sector had led to a transformation of the country's transport infrastructure. The transport sector has a key role to play in Ireland's sustainable development and this presents a significant challenge. Investment in transport is currently facing a significant shortfall to the identified minimum investment level to maintain the network as it is. In order to gain a greater understanding of developments within the sector, the department now completes annual analysis on transport trends which seeks to provide a concise overview of the key developments that are evident from the latest Irish transport data. This includes analysis on roads, public transport, maritime, aviation and sustainable transport. Analysis found signs of a significant return to growth across the transport sector. The analysis considered various inputs into the sector including; infrastructure, investment and performance across Ireland. The analysis also found that the private car is the dominant modal choice in Ireland. The research concludes that the transport sector continues to support the Irish economy and its businesses by providing the crucial link to international markets and the trends detailed throughout the analysis are indicative of the state of play within a sector that is central to Ireland's economic, spatial and social development.

Cost and Efficiency:

The Green Schools Travel programme is an activity based mobility management programme and is linked to the Green-Schools Programme. The Economic and Financial Evaluation Unit completed analysis looking at the rationale, efficiency and effectiveness of the programme including international

comparisons with England and Scotland, Northern Ireland, Norway, Denmark, New Zealand and the United States of America. The research also considered alternative forms of delivery and sponsorship arrangements. The main findings included a number of issues such as poor programme management, poor links between inputs and outcomes, unclear programme objectives, poorly defined targets and a limited and/or uncertain effect on travel behaviour as an outcome. This is important as it raised a number of important issues and subsequent recommendations such as the need to improve the design and delivery of the programme and to put in place an independent monitoring and evaluation processes and take steps to improve data management. It was suggested that improving efficiency of the programme could be achieved by using efficiency metrics to benchmark and set cost per school/pupil etc. and by measuring the value of each activity in terms of achieving modal change.

To assist with economic costs and the appraisal process, the IGEES Unit provides guidelines for the appraisal of transport projects and programmes through the Common Appraisal Framework. The guidance is informed by, and works in tandem with, the Public Spending Code as well as international transport appraisal practices and research. Although the parameter values are sectoral, and are only relevant for transport projects and programmes, the appraisal methods and processes outlined in the Common Appraisal Framework are valid for all projects under the remit of transport, including sport and tourism expenditure. This Common Appraisal Framework provides a standardised approach to appraisal for projects, programmes and schemes which is useful in assisting the department to achieve value for money in all expenditure areas. There is now an ongoing programme of work to expand and supplement the Common Appraisal Framework. The first tranche, which will be finalised in 2017, will review the feasibility of including parameter values for ambience and reliability in travel times. Further work will seek to include Wider Economic Benefits (WEB) of transport projects and programmes, and the treatment of Public Private Partnerships in an appraisal context.

Effectiveness:

The national road network is a critical element of Ireland's national infrastructure. The network is serviced by the National Road Maintenance Programme which has three main aims; to protect the asset value of the national road network, maintain infrastructural safety standards on the network and provide a high level of service to road users. Analysis was undertaken by IGEES to provide a full and clear assessment of the effectiveness and efficiency of the programme in the following areas; ordinary maintenance, winter maintenance, bridge maintenance and upkeep of route lighting, variable message signs and emergency roadside telephones. The review found that ordinary maintenance was efficient, and that both the winter and route lighting programme appear to be operating with increased efficiency. Counterfactual analysis concluded that the programmes are reasonably effective in contributing to road safety on the national road network and the level of

service for road users. This review made an important contribution to service delivery within the transport sector as it delivered a range of important recommendations such as measures to improve operation and efficiency, data collection, future motioning and evaluation and concluded that the Current Road Maintenance Programme on the national roads should continue to be carried out by the Department of Transport, Tourism and Sport and Transport Infrastructure Ireland.

The IGEES unit ensures that Department of Transport, Tourism and Sport meets its obligations under the Public Spending Code. The unit carries out economic analyses of project and programme business cases, ensuring that proposals provide value for money for the taxpayer. In 2016, the Department of Transport, Tourism and Sport published its third Quality Assurance Report under the Public Spending Code, which found that overall, the Department demonstrated a good level of compliance with spending requirements. As part of the Quality Assurance process. The Department carries out a series of In-Depth checks of a selection of projects programmes and schemes. These reviews offer an opportunity to for the sectors involved to take stock of how they are assessing value for money for particular programmes and also to examine how effective the programme in question is. The Value for Money structure provides an opportunity and a framework, which allows the IGEES team to assess if the rational for the programmes has changed since its inception. It also, where necessary, provides a forum to examine possible recommendations as a result of such an assessment. The reports to date have demonstrated that sectors have had to struggle with reduced budgets and have to examine ways of doing the same or more for less.

Lack of appropriate data or appropriate data formats has been highlighted as a central theme. In some cases the data is available but either the format or the lack of available resources hamper further analysis of the data. The Value for Money and Focused Policy Assessment processes have also encouraged engagement between the Department and its agencies which allows for opportunities for co-operation and a forum for discussion as to how to achieve Value for Money and to highlight some of the issues that might militate against this objective. In terms of following up on value for money recommendations, the Department has utilised the Quality Assurance Framework to provide a mechanism for following up on any recommendations made in the Value for Money Policy Reviews and Focused Policy Assessment reports. This allows for ongoing engagement with the stakeholders and enhances the efforts made to continue to implement improvements. It also highlights achievements that have been made as part of the process and encourages further dialogue between the Department and other stakeholders in the Department and Agencies.

Sustainability:

To understand how different sustainable transport measures impact on modal shift in a range of different measures, an evaluation of the Smart Travel Area programme was completed. The key objective of the Smarter Travel Area programme is to achieve a modal shift from private car travel to sustainable public transport methods. The project involves the introduction of smarter travel programmes in three areas; Dungarvan, Limerick and Westport. The analysis which is ongoing is an ex-post evaluation of a sustainable travel pilot project includes measuring progress in early years, understanding reasons for behavioural change, providing evidence to inform the sustainable travel policy, and providing feedback to Local Authorities to inform the remainder of programme delivery. The results shows that there has been some behavioural change as a result of the programme, but this change is below expectations. It notes that the change observed is not linked to infrastructural provision and some regions showed no modal shift. The analysis suggest that the Smart Travel Area programme produces main benefits in the areas of both health and tourism but does not meet the main objective of achieving the modal shift from use of the private car. In rural areas driving is seen as a necessity and has a high fixed cost, with cycling and walking is perceived as leisure, not a key mode of transport. This analysis is vital as a mechanism for evaluating efficiency and effectiveness of the pilot project before proceeding to a roll-out of a Smarter Travel Programme. Such work enforces the ethos of obtaining Value for Money when it comes to investing in new projects and programmes.

The EFEU provided analysis and research for the development of *'Investing in our Transport Future: A Strategic Framework for Investment in Land Transport (SFLIT)'*. The research was undertaken to consider what role the transport sector should play in the future development of the Irish economy. This work included the preparation of an integrated, evidence-based framework that would guide key land transport investment decisions. Drawing on national and international data and research, evidence from key stakeholders, and analysis and research both commissioned and carried out within the Department and its agencies, the report presents key findings and principles for future investment communicated in three overarching priorities; achieve steady state maintenance, address urban congestion and maximise the value of existing land transport networks. The report considers the importance of a strategic and longer-term planning approach. This research is important as the EFEU plays an important role in advising the Department on matters relating to current and future investment requirements. For example, the estimated annual requirement for steady state¹

¹ Steady state investment is the amount required to allow the physical assets relating to the transport network to continue to operate as they currently exist.

investment in the Irish Public Transport system is €330 million. The initial work carried out by the EFEU as part of Strategic Framework for Investment in Land Transport in relation to steady state continues to be updated and plays important role in informing budgetary requirements and capital planning.

IGEES staff in the Department of Transport also provided analytical support in the development of transport's contribution to the '*National Mitigation Plan*'. This plan sets out how Ireland is going to transition to a low carbon, climate resilient and environmentally sustainable economy across a number of key sectors. As part of this, extensive modelling was undertaken on a range of transport climate change mitigation measures that required assessing the level of potential emissions abatement and quantifying both exchequer and economic costs and benefits. EFEU will continue to support the work of the Department in this area to ensure that Ireland meets its climate change commitments in the most cost effective way possible.

Structural Issues:

Data is used in the operation, monitoring, delivery and evaluation of large elements of the department's work. As such, the availability of timely high-quality data is, increasingly, a critical part of this work. The Economic and Financial Evaluation Unit produced a Data Strategy to inform and improve the role played by data in the Department's work for the period 2017-2019. The document contains an overview of the current status of data within the Department, identifies a number of areas for improvement and sets out an action plan. The engagement with the various sectors within Departments and Agencies has further raised the awareness of the necessity for high quality data to allow for informed policy decision making. This is important to improve the data infrastructure for future economic analysis and evaluation of projects and programmes.

6. Agriculture, Food and the Marine

Background:

€1.5 billion was allocated for Agriculture, Food and Marine expenditure in 2017. The Economics and Planning Division in the Department of Agriculture, Food & the Marine aims to provide a quality service to the Minister and Department on economics, statistics and strategic policy planning; to effectively contribute to cross Government policy and international agricultural policy and development co-operation.

Trend and Composition:

To understand the role of agriculture, fisheries, forestry and food in the economy, key indicators for primary and agricultural food sectors are reported. The Economics and Planning Division prepares and publishes timely and accurate economic and statistical analysis for the sector in publications including the Annual Review and Outlook for Agriculture, Food & the Marine; a Quarterly Fact Sheet; and a Brexit Fact Sheet. The research reviews findings from a range of sources, such as: the Central Statistics Office 'Farm Structures Survey', Teagasc's 'National Farm Survey' and findings from Bord Bia analysis, in order to give a snapshot of key trends within the sector. Statistics included in the Quarterly Fact Sheet include estimates of aggregate agricultural output, farm structures, estimates of family farm and farm household income, land usage and livestock numbers, farm self-sufficiency, average standard output of an Irish farm, exports and commodity price trends in milk, sheep and pigs. This adds value as it provides policy makers and decision makers with an overview of key trends across the agri-food sector.

Cost and Efficiency:

To review the contribution of the biosector to Ireland's net foreign earnings, research was undertaken to provide a provisional quantitative estimate of the contribution of the biosector to Ireland's net foreign earnings from exports of merchandise in 2008. The biosector comprises the agriculture, forestry and fishing industries, as well as the processing of their products including the food and beverages industries. The report finds that in 2008, the biosector accounted for just over €8 billion or 40% of net foreign earnings from merchandise exports. This is more than double the €16 billion or 19% share of merchandise exports in that year. The research found the main reasons for the biosector's disproportionately large contribution of net foreign earning from merchandise exports are a result of lower import requirements per euro of exports, and higher receipts of European Union payments. The biosector analysis also included a comparison of results for 2005 vs 2008 findings included; the share of the biosector in net foreign earnings arising from merchandise trade was 40%

in both 2005 and 2008 and EU transfers related to these industries declined by 20% between 2005 and 2008. This review helps to improve understanding of the composition of the biosector in Ireland and highlights the importance of the biosector's contribution to the Irish economy.

Effectiveness:

To set out a cohesive, strategic plan for the development and effectiveness of the agri food sector the industry-led food wise 2025 plan was published. The plan, which preceded the UK's Brexit decision and the Paris Climate Change Agreement in 2015, identified a range of opportunities arising from significant population growth and greater access to international markets. In light of this, increased pressure on agricultural resources and the environment were also recognised and Foodwise 2025 sets out a course of greener growth for the industry. Foodwise 2025 resulted in several growth projections predicted to be achievable by 2025 which include;

- Increasing the annual value of agri-food exports by 85% to €19 billion, increasing value added in the agri-food sector;
- Increased output of fisheries and wood product sectors by 70% to an excess of €13 billion annually;
- Increasing the value of Primary Production by 65% to almost €10 billion; and
- The creation of an additional 23,000 direct jobs in the agri-food sector, all along the supply chain from primary production to high valued added product development.

Foodwise 2025 sets out a long-term vision for the sector, achieving this vision will benefit primary producers, processors and the food manufacturing sector, as well as contributing to the wider economy, while balancing the sectors contribution to the economy, the environment and social wellbeing.

Sustainability and Structural Issues:

Food Harvest 2020, the precursor to the Food Wise strategy, identified opportunities for future expansion in Irish agri-food sector, based on 'smart, green, growth' approach, particularly in the dairy sector with the abolition of EU dairy quotas in 2015. To examine critical elements of Government support to the sector during this time a review of taxation measures relating to the agriculture sector was completed. The "Agri-taxation Review" is the report of the Agri-taxation Working Group to the Minister for Finance and the Minister for Agriculture, Food and the Marine.

The Review provides a solid evidence base for continued assistance to the primary agriculture sector through taxation measures, and is a clear strategy with specific policy objectives for the future to:

1. Increase the mobility and the productive use of land.
2. Assist succession.
3. Complement wider agriculture policies and schemes, such as supporting:
 - Investment to enhance competitiveness, including assisting new entrant, young trained farmers
 - Environmental sustainability, including the improvement of farm efficiency
 - Alternative farming models such as farm partnerships
 - Responses to increasing income volatility

The main tax categories examined were; capital allowances, stock reliefs, income tax exemptions for land leasing, income tax exemptions for profits from woodlands, capital gains tax measures, capital acquisitions tax measures and stamp duty allowances. The Review found that access to land and the low level of land mobility is one of the main challenges facing farmers who want to increase their productivity. Regarding demographics, the age profile of farmers is increasing and it is recognised that there are many social and economic reasons why succession management is a challenge for farmers. Twenty five recommendations were created to provide guidance in achieving the key policy objectives. Budget 2015 gave effect to many of the Review recommendations and introduced what was described at the time as the most substantial package of measures ever introduced in one budget. Subsequent budgets have seen the full implementation of the recommendations.

Access to low-cost flexible finance has been identified as a key competitiveness issue for the agri-food sector, particularly in the context of the uncertainty arising from Brexit. 39% of Irish agri-food exports are to the UK market, and some sectors have significantly higher dependence. While banking policy is primarily the responsibility of the Department of Finance, the Economic and Planning Division liaises with the main banks on agri-food issues and has progressed access to finance initiatives, including developing the “Agriculture Cash flow Support Loan Scheme” in co-operation with the Strategic Banking Corporation of Ireland (SBCI), making €150 million in working capital loans available to farmers at interest rates of 2.95%.

7. Children and Youth Affairs

Background:

€1.31 billion was allocated for Children and Youth Affairs expenditure in 2017. The IGEEES unit in the Department Of Children and Youth Affairs has a key research role and is responsible for the development of the Growing Up in Ireland study, which is the only national longitudinal data study of children in Ireland. The unit also has a focus on the effectiveness of projects and programmes, with the aim of creating better life outcomes for children.

Trend and Composition:

The State of the Nation's Children Report, which presents administrative, survey and Census data on children's lives is published by the DCYA Research and Evaluation Unit on a biennial basis. This analysis is ongoing to capture the outcomes for children in key policy and service areas such as health, education, social development, emotional development and behavioural outcomes. This includes relationships with family and friends, along with formal and informal supports and services that are available to children. This report, which was first published in 2006 is used as a data resource across the Civil and Public service, by government Departments as well as services at a local level. The State of the Nation's Children Report informs policy makers and key stakeholders by collating and presenting a wide range of data on children's outcomes that help to identify trends over time to inform policy making.

The Department of Children and Youth Affairs Research and Evaluation Unit is responsible for the management and oversight of Growing Up in Ireland, the national longitudinal study of children. Growing Up in Ireland is an important national research and data resource to support evidence informed policy development and service provision. The study collects data on children and young people's experiences at home and at school, on their health, educational and social and emotional outcomes, as well as background data on their families and the socio-economic contexts in which they grow up. Growing Up in Ireland tracks the lives of almost 20,000 children across two cohorts, a 'child cohort' of about 8,000 recruited at 9 years old in 2007/2008 and an 'infant cohort' of approximately 11,000 recruited at 9 months old in 2008/2009. Over the last 10 years, Growing Up in Ireland has gathered data from the 'infant cohort' at 9 months, 3 years, 5 years and 7 years. The study has also gathered data from the 'child cohort' at 9 years, 13 years and 17/18 years. The study, carried out under contract by a team of researchers at the Economic and Social Research Institute and Trinity College Dublin, represents a significant and strategic state investment in policy relevant research that has generated a high quality and robust evidence base on the development of children and young

people in an Irish context. Over 45 reports have been published by the Growing Up in Ireland study team, including key findings reports, technical reports and thematic analyses and to date there have been more than 800 applications to access GUI data. The Growing Up in Ireland dataset is the only national longitudinal dataset on children in Ireland and it has informed the development of a number of Department of Children and Youth Affairs led policy initiatives relating to children and young people, most notably the development of Better Outcomes Brighter Futures, the national policy framework for children and young people (2014-2020). Growing Up in Ireland data has also been used for example to analyse and understand take up and impact of participation in the free Early Childhood Care and Education preschool scheme.

Cost and Efficiency:

The Department is currently supporting the modelling of costs of a new Guardian Ad Litem service. This will help provide support to the Children and Family Policy and Legislation Unit in their drafting of new legislation for a reform of the system. Work to date has involved estimating the cost of multiple policy proposals in order to support policy decisions and the evaluation of tenders. This output will provide the relevant policy unit with a greater understanding of potential costs involved arising from the reform. The modelling exercise aims to help improve service delivery by assisting the unit in choosing options that achieve value for money aims to provide maximise positive outcomes for service delivery.

An exercise costing various scenarios was undertaken to assist in the formulation of policy around the expansion of childcare funding programmes. It highlighted that there was a degree of variance in how efficiently service providers were using their funding. It noted that Youth Programmes have had a complex history, having been established over a broad timespan and under a number of different Governments and Government Departments. This costings exercise conducted by the Research and Evaluation Unit has led to a better estimates process and more clarity on future resource requirements of the childcare programmes, most specifically the Early Childhood Care and Education scheme. It has also helped aid in policy considerations by clearly displaying to senior management the potential monetary costs of different policy decisions.

Effectiveness:

A Value for Money Review of Youth Programmes evaluated all Department of Children and Youth Affairs funding for Youth Programmes on a national basis. The review looked at the efficiency of Youth Programmes. This was achieved by examining the inputs and outputs of each programme over a number of years. It highlighted that there was a degree of variance in how efficiently services were using their funding and recommended that the Department of Children and Youth Affairs should

create new output counting rules, with routine auditing to improve national consistency in local assessments. The evaluation also looked at how effective the Youth Programmes under review were in their operations and the use of public funds. It looked at effectiveness under the following themes; evidence of effective focus; evidence of effective evaluation design, and evidence of effective interventions. The report found evidence for a moderate degree of congruence between service effort and the needs domains intended by the programmes with a number of recommendations offered. The research found that there was still a strong rationale for the Youth Programmes. The report made a number of recommendations to improve the effectiveness of the programmes and made twelve specific recommendations, two of which were aimed at making service providers more focused on the implementation of their objectives. By examining demographic and economic trends, and the Youth Programmes objectives aligned with the Department's objectives, the report came to the conclusion that the work of the Youth Programmes was still relevant.

To assist in identifying trends, contribute to priority setting or resetting, inform policy formulation and service provision, and provide for international comparisons where possible; the Department of Children and Youth Affairs has been working in collaboration with the Centre for Effective Services to develop a set of indicators for children and young people aligned to the five outcomes in Better Outcomes Brighter Futures, the national policy framework for children and young people 2014-20. The purpose of the indicator set is to track progress for children and young people aged 0-24 across the five national outcomes outlined in Better Outcomes Brighter Futures. The methodology used to develop the indicator set has involved a literature review, an international review of indicator sets, the establishment of an expert advisory group, a Delphi process, a review of consultations with children and young people, and consultations with experts in Government departments and agencies, as well as Department of Children and Youth Affairs units. While the indicators will not explain how or whether a particular action or commitment on the policy framework gave rise to or caused a particular outcome, they are important because they will;

- Help track progress towards outcomes;
- Assist in identifying trends;
- Contribute to priority setting or resetting;
- Inform policy formulation and service provision; and
- Provide for international comparisons where possible.

Sustainability and Structural Issues:

An examination into whether a Social Impact Bond would be an appropriate way to fund a Bail Supervision Programme for young people in the youth justice system was conducted. Following a Cost

Benefit exercise and a review of the relevant research literature it was proposed that the bail supervision programme would have significant financial and social benefits for the State. However, it was also found that a Social Impact bond would not be an appropriate instrument for funding such a programme, due to constrained resources and locked-in investments. The Research and Evaluation Unit's study therefore had as its main findings:

- Significant social benefits as well as financial savings to be made from funding of a Bail Supervision Programme;
- Increased understanding and awareness of Social Impact Bonds within the Civil Service;
- The inappropriateness of Social Impact Bonds for funding a bail supervision programme.

The programme proposed that a suitable person in the youth justice system would be released on supervised bail rather than being placed on remand in a detention centre. Supervised bail would include an intensive intervention programme aimed at improving outcomes for the child. Based on the findings and recommendations within the study report, the Department of Children and Youth Affairs has opted to fund a Bail Supervision Programme (Department of Children and Youth Affairs budget), which has been up and running since August 2016.

8. Communications, Climate Action and Environment

Background:

€528 million was allocated for Communications, Climate Action and Environment expenditure in 2017. IGEES resources have been deployed in the Department of Communications, Climate Action and Environment. IGEES staff are decentralised across the key economic sectors of energy and communications.

Trend and Composition:

To understand high levels of evasion and non-compliance with the television licence fee, trend analysis was completed by the Department of Communications, Climate Action and Environment. Television licence fees are an important source of revenue for the exchequer for funding broadcasting services. The analysis was an assessment of the fundamentals underpinning television licence sales trends including, demographics, household formations and geographic patterns of evasion. Evidence gathered in this analysis informed the Government decision to amend the Broadcasting Act to allow for tendering of TV Licence Fee Collection.

Cost and Efficiency:

The IGEES unit provided significant costing inputs into the development of the Energy White Paper. The paper outlined the main determinants of energy prices and how the price of energy is primarily determined by the market. Irish energy prices are influenced by the Ireland's scale and demography and the fact that Ireland is relatively weakly interconnected. Following on from the publication of the White Paper, the IGEES unit began work on its implementation, collaborating with colleagues in the Department of Jobs, Enterprise and Innovation to develop indicators of Ireland's energy cost competitiveness.

Effectiveness:

A Value for Money Policy Review to measure the effectiveness of the Tellus Border Project was completed. The Review applied the Programme Logic Model to examine the criteria of relevance, efficiency, effectiveness, rationale, impact and economy. The report found that the project represented value for money for the taxpayer and noted scope for further improvements. The review concluded that the Tellus Border objectives, which emphasise the collection of high quality data, measurement of baseline data, land use sustainability, improving human health, mapping contamination and compliance with legislation, are relevant to wider Government policy. It was found

that Geological Survey of Ireland's expenditure on the Tellus Border activities successfully met budgeted targets despite some minor overspend. In a benchmark comparison of the programme against similar programmes in other jurisdictions, it was found that Geological Survey of Ireland's policy on not charging for Tellus data is similar to that of other geological survey institutions. The Review concludes that a lack of information on Tellus Border's data usage inhibits a fuller understanding of stakeholders, their needs and the overall impact of the project. The review highlighted that the Tellus border project has positively impacted a wide range of areas including: radon mapping, mining, land use planning and academic research. This research was important to articulate the continued rationale of the programme and its need for continued funding.

Structural Issues:

The National Broadband Plan aims to radically alter the broadband landscape in Ireland. To address structural broadband connectivity issues in rural areas in Ireland, analysis to assess the existence of market failure in rural regions has been completed. A cost benefit analysis was completed by PricewaterhouseCoopers with input from KMPG and the Department of Communications, Climate Action and the Environment IGEEES Unit. The analysis included several pieces of research including; assessing counterfactual scenarios, assessing the existence of market failure, draft cost benefit analysis model for the Intervention Area of 450,000k premises, supporting annexes for the draft cost benefit analysis for Intervention Areas of differing size (i.e. scenarios were examined for connecting 450k, 550k and 750k premises), supporting annexes outlining the methodology behind the draft costs benefit analysis model, a State Aid Compliance report and a proposed governance framework. IGEEES also inputted into the appraisal of costs and benefits of the plan's rollout. The National Broadband Plan was found to have a positive cost to benefit ratio. Findings include that a market failure was deemed to be a suitable rationale for state intervention. The analysis also quantified benefits for residential households such as commuter savings, transaction savings and other savings and benefits for farm enterprises and non-farm enterprises within the intervention area. This analysis has contributed to improving service delivery for bringing broadband to rural areas, and is still subject to ongoing analysis due to changes in the intervention area.

Conclusion

The IGEES has made a significant contribution to building the evidence base for policy making and decision making, leading to positive impacts in the delivery of public services. IGEES economists and evaluators bring an analytical skillset and analytical capacity to the civil service. The service facilitates analysis of spending projects and programmes to provide a greater understanding of costs, efficiency and sustainability of Government spending. Recommendations arising from evaluations have resulted in creating efficiencies and cost savings across a range of Government expenditure areas, while continually reviewing the effectiveness of existing schemes.

The service has produced a significant amount of work covering a variety of expenditure areas including Social Protection, Health, Education & Skills, Justice & Equality, Transport Tourism & Sport, Agriculture, Food & the Marine, Children & Youth Affairs and Communications, Climate Action & Environment. The work selected for this review is not exhaustive, a variety of sectors have been reviewed across all aspects of spending dimensions including; Trend and Composition, Cost and Efficiency, Effectiveness, Sustainability and Structural Issues. Analysis is produced in a variety of formats using a variety of methodologies, output reviewed includes Staff Papers, Value for Money Policy Reviews, Focused Policy Assessments, Cost Benefit Analysis, Randomised Control Trials and Scenario Analysis. The work selected for review provides a strong platform for discussion on the Spending Review, budget negotiations and the wider policy discussion domain. Within different expenditure areas, the body of work is not evenly distributed across all areas of expenditure. It has been observed that differing sectors have a differing focus on the type of analysis conducted. It is envisaged that over time the body of analytical work completed for each sector will provide evidence across all dimensions of expenditure.

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