

Research Bulletin 23/11 | Overview of Economic Research & Analysis Delivered under the 10X Research Programme

Economic Research Branch, Analytical Services Division, Department for the Economy

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Summary

This Research Bulletin provides a short overview of some of the economic research and analysis produced by the Department for the Economy (DfE) and its research delivery partners over the last year. Economic research is important as it provides an evidence-base for policies, decisions and programmes related to delivery of the 10X Vision.

Dozens of research projects have been published over the last 12-18 months alone, many with key insights of value to 10X. This includes work either undertaken in-house (by DfE and/or NISRA), by the two main universities in Northern Ireland, or by other universities, research organisations and firms. This article focuses in on just a few of these pieces of research and highlights some of the main findings.

Introduction

The 10X Vision was published in May 2021. A decade of innovation will encourage greater collaboration and innovation to deliver a better economy with benefits for all our people. This ambition can be achieved by focussing on innovation in areas where we have real strengths and making sure these gains mean something to all businesses, people, and places in Northern Ireland. Overall, we will see a positive impact on our economic, societal, and environmental wellbeing.

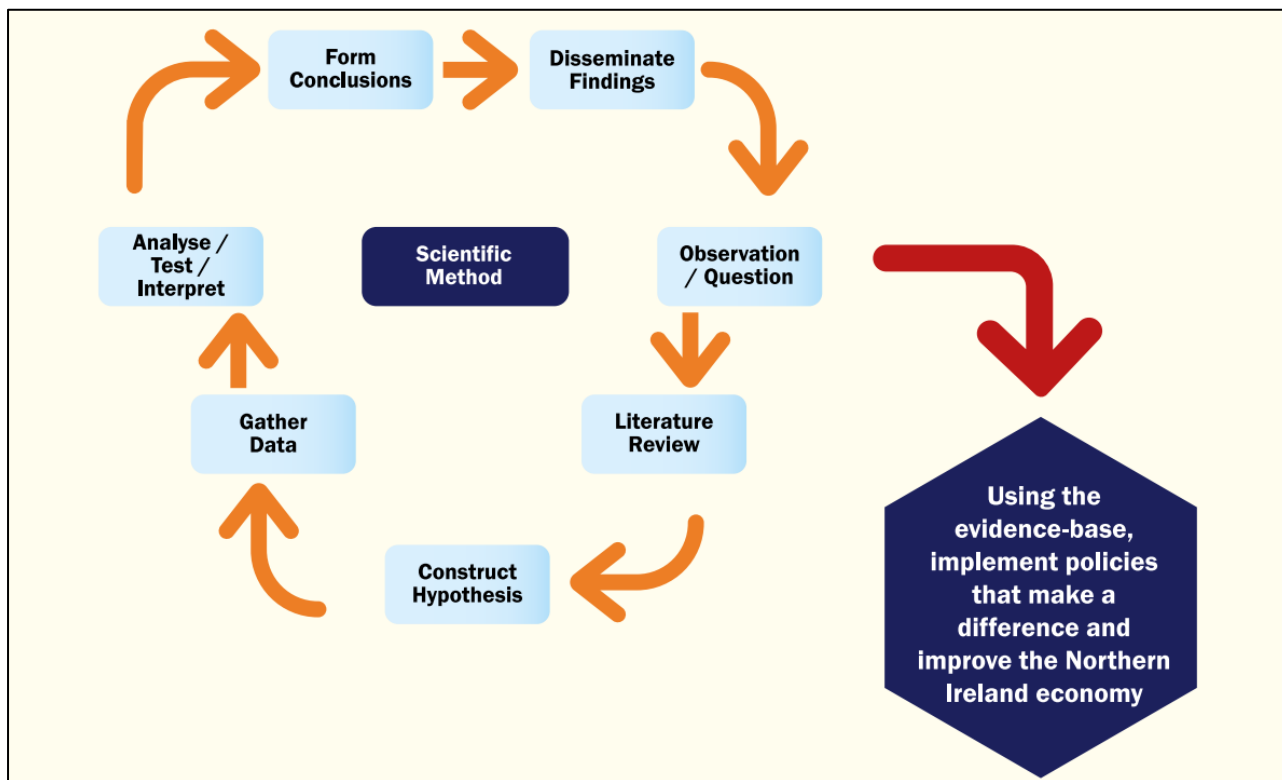
To help deliver upon the 10X Vision there is a need for robust and insightful analysis. Economic research is important as it provides an evidence-base for policies, decisions and programmes. The current 10X Research Programme was published by the Department for the Economy in October 2022, setting the high-level strategic direction and themes under which research projects would be delivered.ⁱ The mission of the 10X Research Programme for 2022-23 & Beyond is:

"To produce research and analysis that shapes policy decisions. The evidence-base should drive successful delivery, well informed Departmental economic priorities, rebuild a stronger economy and set us firmly on the journey to realise our vision for innovation led, inclusive and sustainable growth."

The Department for the Economy's remit is wide. Departmental strategies and policies relate to a diverse range of 10X topics, for example: skills, energy & decarbonisation, trade & investment, technologies & clusters, circular economy, tourism, and entrepreneurship.ⁱⁱ The research undertaken as a result, therefore tends to cover a wide and diverse range of topics.

Research into the Northern Ireland economy typically follows the normal scientific method of analysing and interpreting data collected and forming conclusions. This is illustrated below.

Figure 1: The Research Cycle and Policy-Making



Research can be undertaken in-house (by DfE and/or NISRA for example), by academics in universities, or by research organisations or firms. Research should make a difference to people’s lives through its shaping of policy development and delivery.

To ensure that the research has maximum impact both within the Department and beyond, there is a concerted focus on dissemination of research reports. Indeed, the 10X Research Programme explicitly states that the DfE will seek to publish research findings, to share the benefits with others and contribute to public debate.

The Department showcases new reports on its social media accounts and, where appropriate, uses infographics to convey research findings. The Department for the Economy has published dozens of research reports on its website, and this analysis is often being picked up and used by local media, academia, politicians, and the general public.

The remainder of this article highlights just some of the economic research published in the last 12-18 months, with a short synopsis for each report featured. It is important to note that the research findings should be considered in entirety, with cognisance of the data used and methodologies employed, etc.

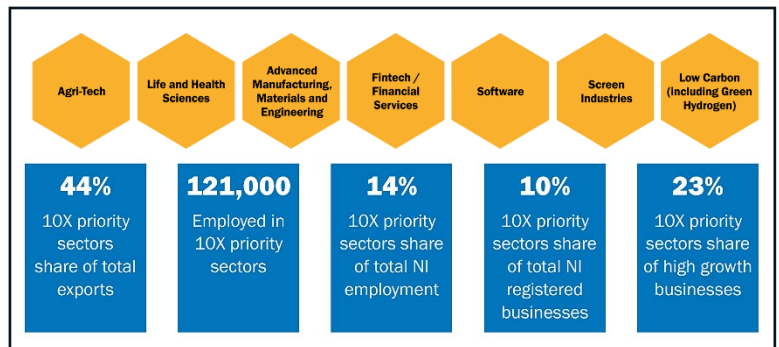
A more comprehensive list of recent research can be found in the **Annex**. This includes analysis published on the DfE websiteⁱⁱⁱ, but also other pages such as the Ulster University Economic Policy Centre (UUEPC) website.^{iv}

Department for the Economy & NISRA

Using in-house expertise within the Department for the Economy and NISRA, many pieces of research and analysis get undertaken each year. Two of these research projects are showcased below, having been completed and published in the last few months.

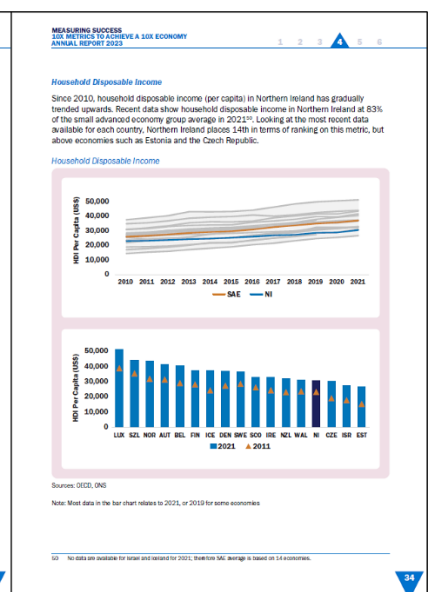
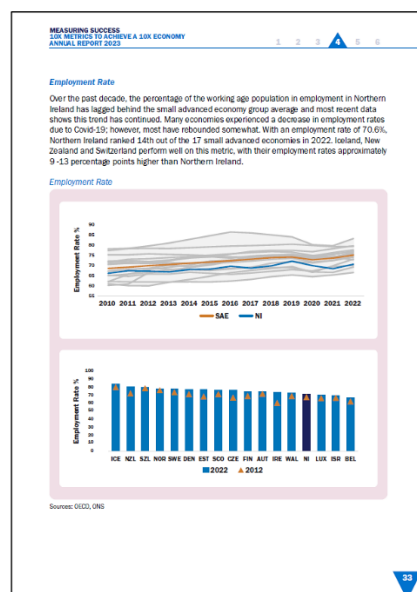
10X Technologies & Clusters in Northern Ireland ^v

Research was undertaken to provide supporting data and baseline analysis for the Approach to 10X Technologies & Clusters Consultation in September 2023. In order to measure progress against the 10X objectives, a baseline position of seven priority sectors was established, in terms of labour force, business counts and trade. Interestingly, despite making up 10% of the total number of registered businesses in Northern Ireland, 10X sector businesses accounted for just under a quarter of local high growth businesses.



10X Metrics Report for 2023 ^{vi}

The ambition in the 10X Vision of May 2021 was to drive economic growth through innovation, whilst also providing opportunities for all people to participate in, and benefit from, this growth. Measuring progress on the delivery of this ambition is vital to success. A 10X Metrics Annual Report for 2023 was published in November 2023 and provided an update on Northern Ireland's 10X performance, across the three pillars of innovation, inclusivity and sustainability. Overall, results show Northern Ireland is within range of other small advanced economies across many of the Tier 1 Metrics, however there is substantial scope for improvement.

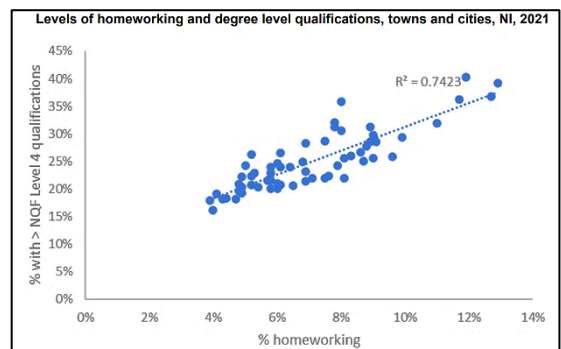


Ulster University

The Ulster University Economic Policy Centre (UUEPC) and its predecessor have been undertaking important economic research in Northern Ireland for around a decade.^{vii} Sponsorship has been provided by several sources (DfE, Invest NI, DoF, DfC, NIO, Belfast City Council, and others).^{viii} Research undertaken relates to contemporary economic issues and is highly relevant to 10X. Some examples of recent research are discussed briefly below.

Is Remote Working, Working? ^{ix}

This research from the Ulster University Economic Policy Centre looked at the prevalence of remote and hybrid working amongst the labour force in Northern Ireland. It found that remote working levels increased markedly (from just under 10% to 41%) due to Covid-19 restrictions and guidance, but declined somewhat (to 17%) in more recent times, as these were relaxed. The rate of remote working in Northern Ireland is well below the UK average of 31% and the lowest of any UK region. Higher earners were more likely to be working remotely / on a hybrid basis. Younger people were less likely to work remotely, reflecting their need for mentoring support, training & development and to build their networks.



Job Creation in Northern Ireland Firms ^x

The underlying dataset used for UUEPC's analysis on job creation was the Business Structure Database (BSD), derived primarily from the Inter-Departmental Business Register (IDBR), which is the UK's live business register. The

research looked at business growth in Northern Ireland from 2007 to 2021, showing how often firms are in job creation mode. Overall, employer births created just under half a million gross jobs between 2007-21. Of those, a total of 240k jobs were lost through contraction or firm death, resulting in a net job creation of 253k jobs. For the majority of firms that survived 3 years, jobs remained static throughout the period i.e. there was no creation or loss and the number of employees that the firm started with is the same as the number throughout the period and in the year they died. Where job creation did occur it was largely between birth and the first year. For the majority of firms who had any job creation, it was a single yearly episode, rather than a continuous trend. This research was picked up across many media outlets, including the Independent and Evening Standard newspapers.^{xi}



Queen's University Belfast

A number of research projects were completed by Queen's University Belfast (QUB) in 2023 covering topics relating to entrepreneurship, economic inactivity, parental leave policies and views of Northern Ireland SMEs on environmental and social impacts.

GEM NI 2022-23 ^{xii}

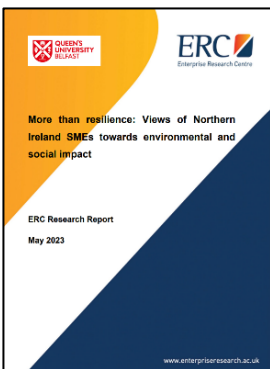
The Global Entrepreneurship Monitor (GEM) Northern Ireland 2022-23 was published in July 2023. The findings from the latest study showed that at 8.7%, Northern Ireland's Total Early-stage Entrepreneurial Activity (TEA) rate in 2022 lagged behind the UK average of 11.0%. Furthermore, there are still elevated levels of 'fear of failure' after a marked increase in



2020. Results from the Global Entrepreneurship Monitor have been used within the Place 10X Call for Evidence^{xiii} and will be useful for the future 10X Entrepreneurship Strategy.^{xiv}

NI SMEs on Environmental & Social Impact^{xv}

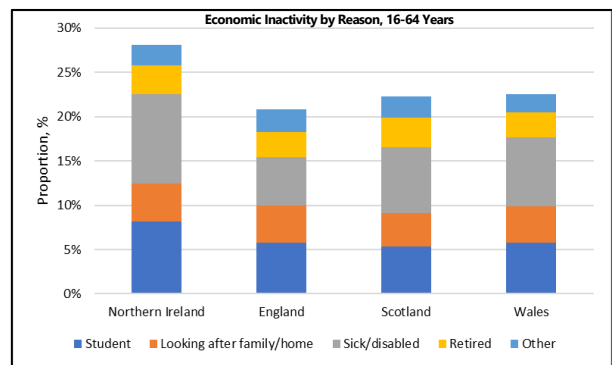
In this research by QUB and the Enterprise Research Centre (ERC), Small and Medium Enterprises (SMEs) in Northern Ireland were asked their views on business priorities. Highly relevant to 10X, the analysis focuses in



on the environmental practices of SMEs including the net zero emission targets, as well as the domain of social responsibility, including efforts to create social benefits for people and communities.

Economic Inactivity ^{xvi}

Research carried out by Queen's University Belfast Business School in partnership with the Economic and Social Research Institute (ESRI) examined economic inactivity in Northern Ireland given the persistently high rates of inactivity here compared to other UK countries. This report was published in October 2023 and was timely in considering recent economic events.



Impact of Parental Leave ^{xvii}

Research on parental leave found that individual pay is a factor in influencing the duration of leave. Higher levels of pay are associated with shorter leave periods. It also found that a wage penalty of taking parental leave is only evidenced for mothers who take longer leaves (more than 39 weeks).

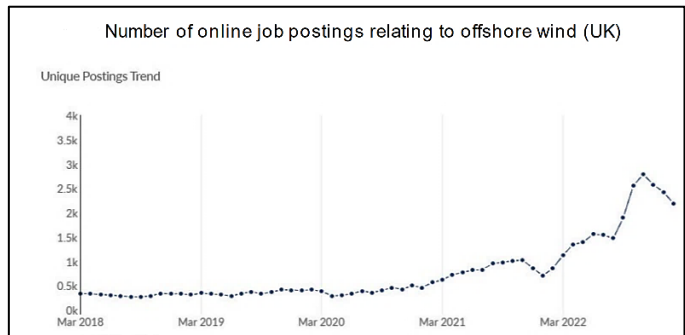


Other Organisations

In addition to the two main local universities, some economic research related to 10X was undertaken by other research organisations or firms. Two projects relating to specialised issues are highlighted below, namely relating to skills required in a green economy and research relating to closing the skills gap, focusing on Fintech & Life & Health Sciences.

Transitioning to a Greener Economy – a Skills Perspective ^{xviii}

In June 2023 research was published which investigated the skills required for a transition to an advanced zero emission, indigenous diverse energy secure and circular economy in Northern Ireland. The analysis by Energy & Utility Skills found that industry specific skills will be in demand, but also business skills such as project management, business and commercial, customer / stakeholder engagement, risk management and data analysis. Digital Skills are also important, as is being multi-skilled. Geoscientific skills are essential for the energy transition and chemists, physicists, and product designers are also vital for the energy transition and the manufacturing of advanced technologies. This research was referenced in a BBC NI article on South West College students training on hydrogen cars.^{xix}



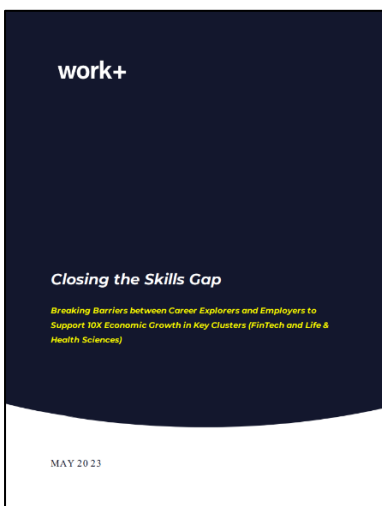
Closing the Skills Gap - Fintech and Life & Health Sciences ^{xx}

Analysis by Work+ concentrated on breaking barriers between career explorers and employers to support 10X economic growth in key Clusters (focusing on FinTech and Life & Health Sciences). Quantitative results from the research found that the Northern Ireland economy and society could experience a step-change by moving towards a more balanced skills system. In Northern Ireland this could add £3.6bn in additional Gross Value Added (GVA), an

increase in wages of £2.1bn and 6,700 additional people with higher qualifications, by 2030.

Qualitative results found that career explorers struggle to make informed decisions and SMEs find it hard to recruit and retain talent. Employers in both Life & Health Sciences and Fintech recognise the need to aggregate their demand with others to make their sector more visible.

An international policy review examined best practice in skills policy development across a number of small advanced economies, including Denmark, Estonia, Sweden, Finland, Republic of Ireland and Scotland.



Conclusion

To help deliver upon the 10X Vision there is a need for robust and insightful analysis. Economic research is important as it provides an evidence-base for policies, decisions and programmes.

This Research Bulletin provides a short summary of the progress being made on the current 10X Research Programme. The research relates to a diverse range of topics within the Department's remit and covering the 10X pillars of innovation, inclusivity and sustainability.

A more comprehensive list of recent research can be found in the **Annex** to this article. This includes analysis published by DfE,^{xxi} but also others, such as the Ulster University Economic Policy Centre (UUEPC).^{xxii} Note that much of the research and analysis published by the partners of the Department for the Economy (Invest NI, Consumer Council, Tourism NI, etc) can be found within their respective websites.

Work on the 10X Research Programme will continue beyond 2023 and this analysis will be as important as ever, as the Department seeks to deliver on its 10X Vision.

Economic Research Branch, Analytical Services Division

For further information or queries please contact analyticalservices@economy-ni.gov.uk

Annex – List of Recently Published Research ¹

| Title / Topic | Organisation | Link |
|---|--------------------|---|
| Differences in Education, Training and Labour Market by sex, Northern Ireland | DfE | Differences in Education, Training and Labour Market by sex, Northern Ireland Department for the Economy (economy-ni.gov.uk) |
| Nature and Characteristics of Businesses that Reported Purchases Expenditure, as Captured by NI ABI | DfE | Nature and Characteristics of Businesses that Reported Purchases Expenditure, as Captured by NI ABI Department for the Economy (economy-ni.gov.uk) |
| Nature and Characteristics of Businesses that Reported Receipt of Subsidies, as Captured by NI ABI | DfE | Nature and Characteristics of Businesses that Reported Receipt of Subsidies, as Captured by NI ABI Department for the Economy (economy-ni.gov.uk) |
| Nature and Characteristics of Businesses that Reported Capital Expenditure, as Captured by NI ABI | DfE | https://www.economy-ni.gov.uk/publications/business-capital-expenditure-northern-ireland |
| Skills Inequalities in Young People | DfE | Skills Inequalities in Young People (16-24) Department for the Economy (economy-ni.gov.uk) |
| Future of Tourism in Northern Ireland | DfE | Future of Tourism in Northern Ireland Department for the Economy (economy-ni.gov.uk) |
| Employment & Earnings of ApprenticeshipsNI Achievers | DfE | Employment & Earnings of ApprenticeshipsNI Achievers Department for the Economy (economy-ni.gov.uk) |
| Profitability of Businesses in NI | DfE | Profitability of Businesses in Northern Ireland Department for the Economy (economy-ni.gov.uk) |
| 10X Metrics Report for 2023 | DfE | 10X Metrics Report for 2023 Department for the Economy (economy-ni.gov.uk) |
| Attracting Foreign Direct Investment to NI in the Context of our Post-EU Exit Trading Relationships | DfE / Wavteq | Attracting Foreign Direct Investment to NI in the Context of our Post-EU Exit Trading Relationships Department for the Economy (economy-ni.gov.uk) |
| Employer Skills Survey 2022 Northern Ireland | DfE / IFF Research | Employer Skills Survey 2022 Department for the Economy (economy-ni.gov.uk) |
| NI Economic Trade Statistics | NISRA | NI Economic Trade Statistics NISRA (nisra.gov.uk) |
| Exporting, Importing and Northern Ireland Firm Performance: Which Pathway to Internationalisation? | UU / ADR NI | Exporting, Importing and Northern Ireland Firm Performance: Which Pathway to Internationalisation? Administrative Data Research UK (adruk.org) |
| Winter 2022 Economic Outlook | UUEPC | Winter 2022 Economic Outlook Ulster University Economic Policy Centre (ulster.ac.uk) |
| Spring 2023 Economic Outlook | UUEPC | Spring 2023 Economic Outlook Ulster University Economic Policy Centre (ulster.ac.uk) |
| Management and Leadership Training in NI SMEs | UUEPC | Management and Leadership Training in NI SMEs Ulster University Economic Policy Centre (ulster.ac.uk) |
| Labour Productivity in Northern Ireland | UUEPC | Labour Productivity in Northern Ireland Ulster University Economic Policy Centre (ulster.ac.uk) |
| Covid-19 Counterfactual | UUEPC | Covid-19 Counterfactual Ulster University Economic Policy Centre (ulster.ac.uk) |
| Impact of Increased Cost of Doing Business | UUEPC | Impact of Increased Cost of Doing Business Ulster University Economic Policy Centre (ulster.ac.uk) |
| Business Dynamism in Northern Ireland | UUEPC | Business Dynamism in Northern Ireland Ulster University Economic Policy Centre (ulster.ac.uk) |
| Is Remote Working, Working? | UUEPC | Is Remote Working, Working? Ulster University Economic Policy Centre (ulster.ac.uk) |
| Job Creation in Northern Ireland Firms | UUEPC | Job Creation in Northern Ireland Firms Ulster University Economic Policy Centre (ulster.ac.uk) |
| Economic Inactivity in Northern | QUB & ESRI | Economic Inactivity in Northern Ireland Department for the Economy (economy- |

¹ This table collates numerous research publications over the previous 18 months, but may not be an exhaustive list. For more see: [Home | Department for the Economy \(economy-ni.gov.uk\)](#) and [UUEPC Publications \(ulster.ac.uk\)](#). Note that the UUEPC has multiple sponsors. Analysis deemed relevant to 10X has been included within the table, but may not have been undertaken directly for DfE / Invest NI.

| Title / Topic | Organisation | Link |
|--|---------------------------|--|
| Ireland | | ni.gov.uk |
| Impact of Parental Leave Policies on Labour Market Outcomes | QUB | Impact of Parental Leave Policies on Labour Market Outcomes Department for the Economy (economy-ni.gov.uk) |
| Global Entrepreneurship Monitor (GEM) NI 2021 | QUB | Global Entrepreneurship Monitor (GEM) NI 2021 Department for the Economy (economy-ni.gov.uk) |
| Global Entrepreneurship Monitor (GEM) NI 2022 | QUB | Global Entrepreneurship Monitor (GEM) NI 2022 Department for the Economy (economy-ni.gov.uk) |
| Views of NI SMEs Towards Environmental & Social Impact | QUB | Views of NI SMEs Towards Environmental & Social Impact Department for the Economy (economy-ni.gov.uk) |
| Local Growth Dashboard (2021 Data) | QUB | NI Local Growth Dashboard 2023 Department for the Economy (economy-ni.gov.uk) |
| Understanding Widening Participation in Northern Ireland | CFE | Understanding Widening Participation in Northern Ireland Department for the Economy (economy-ni.gov.uk) |
| Green Skills Audit | Energy & Utility Skills | Green Skills Audit Department for the Economy (economy-ni.gov.uk) |
| Potential for an Offshore Wind Supply Chain in NI | FAI | Potential for an Offshore Wind Supply Chain in NI Department for the Economy (economy-ni.gov.uk) |
| Potential of Solar Photovoltaic (PV) in the Belfast Area | GAI | Potential of Solar Photovoltaic (PV) in the Belfast Area Department for the Economy (economy-ni.gov.uk) |
| Impact on NI Arising from the UK's Exit from the EU: Partial Equilibrium Modelling | InterAnalysis Ltd | Impact on NI Arising from the UK's Exit from the EU: Partial Equilibrium Modelling Department for the Economy (economy-ni.gov.uk) |
| Understanding Northern Ireland's Food Supply Chain / Safety and Agri-Tech Capability | KPMG | Understanding Northern Ireland's Food Supply Chain / Safety and Agri-Tech Capability Department for the Economy (economy-ni.gov.uk) |
| Relationship between Exports, Innovation & Productivity in Small Advanced Economies: Implications for NI | Landfall Strategy | Relationship between Exports, Innovation & Productivity in Small Advanced Economies: Implications for NI Department for the Economy (economy-ni.gov.uk) |
| Customs Capacity Study | The Logistics Consultants | Customs Capacity Study Department for the Economy (economy-ni.gov.uk) |
| Understanding the Risks to Cross Border Transfer of Personal Data: EU-UK Data Adequacy | LSE | Understanding the Risks to Cross Border Transfer of Personal Data: EU-UK Data Adequacy Department for the Economy (economy-ni.gov.uk) |
| The Business Journey Through Year One of EU Exit | Maureen O'Reilly | The Business Journey Through Year One of EU Exit Department for the Economy (economy-ni.gov.uk) |
| Closing the Skills Gap (Fintech & Life & Health Sciences) | Work+ | Closing the Skills Gap (Fintech & Life & Health Sciences) Department for the Economy (economy-ni.gov.uk) |

Regularly Updated Analysis / Dashboards

| Title / Topic | Organisation | Link |
|--|-------------------|--|
| Monthly Online Job Posting Factsheets | DfE | Monthly Online Job Posting Factsheets Department for the Economy (economy-ni.gov.uk) |
| Monthly Economic Update | DfE | Monthly Economic Update Department for the Economy (economy-ni.gov.uk) |
| Quarterly Economic Research Digests & Skills Digests | DfE & EMH Connect | Quarterly Economic Research Digests & Skills Digests Department for the Economy (economy-ni.gov.uk) |
| DfE Research Bulletins | DfE & Others | DfE Research Bulletins Department for the Economy (economy-ni.gov.uk) |
| Labour Market Intelligence Portal | UUEPC | Labour Market Intelligence Portal Department for the Economy (economy-ni.gov.uk) |
| Enterprise Dashboard | UUEPC | Enterprise Dashboard Department for the Economy (economy-ni.gov.uk) |

List of Research Bulletins 2022 & 2023

| # | Title / Topic | Organisation | Link |
|-------|---|-------------------|---|
| 22/1 | Learning from Small Advanced Economies, to Drive 10X Performance | Landfall Strategy | Research Bulletins 2022 |
| 22/2 | The Future of Remote and Hybrid Working in Northern Ireland | DfE | |
| 22/3 | Interpreting Productivity Challenges for Northern Ireland using CGE Modelling | DfE | |
| 22/4 | Job Advertisements in Advanced Manufacturing, Materials and Engineering, and Life and Health Sciences | DfE | |
| 22/5 | Covid-19 and Trends seen within Northern Ireland's Inactivity Rates | DfE | |
| 22/6 | Minimising Economic Scarring after Covid-19 and Restrictions | DfE | |
| 22/7 | Skills Demanded by the Off-shore Wind Sector | DfE | |
| 22/8 | Integrating Sustainability into the 10X Agenda | Landfall Strategy | |
| 22/9 | Review of Labour Market Outcomes for People with Disabilities in Northern Ireland | UUEPC | |
| 22/10 | Skills Demanded by the ICT Sector 2022 | DfE | |
| 22/11 | Tracking Northern Ireland's Economic Recovery and Future Prospects | DfE | |
| 22/12 | Measuring the Demand for Labour | DfE | |
| 23/1 | Small Advanced Economy Insights on Innovation Policy for NI | Landfall Strategy | Research Bulletins 2023 |
| 23/2 | The Cost of Doing Business in Northern Ireland | DfE | |
| 23/3 | Business Dynamism in Northern Ireland | UUEPC | |
| 23/4 | Artificial Intelligence Advancements | DfE | |
| 23/5 | Lifelong Learning in Northern Ireland | DfE | |
| 23/6 | Innovation Driven Entrepreneurship and Northern Ireland | DfE | |
| 23/7 | Qualifications Profile of the Adult Population, using Census 2021 | DfE | |
| 23/8 | Skills Demanded by the ICT Sector 2023 | DfE | |
| 23/9 | Small Advanced Economy Insights on Inclusive Growth | Landfall Strategy | |
| 23/10 | Economic Inactivity in Northern Ireland | ESRI & QUB | |
| 23/11 | Economic Research & Analysis under the 10X Research Programme | DfE | |

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- i [10X Economy Research Programme 2022-23 and Beyond | Department for the Economy \(economy-ni.gov.uk\)](#)
 - ii [Skills for a 10x economy - Skills Strategy for Northern Ireland | Department for the Economy \(economy-ni.gov.uk\)](#)
[Energy Strategy Action Plan 2023 | Department for the Economy \(economy-ni.gov.uk\)](#)
[Trade and investment for a 10X Economy: priorities for Northern Ireland's inward investment, trade and exports](#)
[Approach to 10x Technologies and Clusters | Department for the Economy \(economy-ni.gov.uk\)](#)
[Consultation launched on draft Tourism Strategy | Department for the Economy \(economy-ni.gov.uk\)](#)
[Circular Economy Strategy for Northern Ireland | Department for the Economy \(economy-ni.gov.uk\)](#)
 - iii [Economic research | Department for the Economy \(economy-ni.gov.uk\)](#)
 - iv [UUEPC Publications \(ulster.ac.uk\)](#)
 - v [Approach to 10x Technologies and Clusters | Department for the Economy \(economy-ni.gov.uk\)](#)
 - vi [10X Metrics to Achieve a 10X Economy - Annual Report 2023 | Department for the Economy \(economy-ni.gov.uk\)](#)
 - vii [Ulster Business School to Establish Centre for Economic Policy](#)
 - viii [About the Economic Policy Centre \(ulster.ac.uk\)](#)
 - ix [Remote working in Northern Ireland 2023 \(ulster.ac.uk\)](#)
 - x [Job Creation in Northern Ireland Firms \(ulster.ac.uk\)](#)
 - xi [Half a million jobs created in Northern Ireland in last 15 years, study says | The Independent](#)
[Half a million jobs created in Northern Ireland in last 15 years, study says | Evening Standard](#)
 - xii [Global Entrepreneurship Monitor \(GEM\) UK: NI Report 2022/23 | Department for the Economy](#)
 - xiii [Place10X - a sub regional economic approach - call for evidence | Department for the Economy](#)
 - xiv [10x Delivery Plan 2023/24 | Department for the Economy \(economy-ni.gov.uk\)](#)
 - xv [More than resilience: Views of Northern Ireland SMEs towards environmental and social impact](#)
 - xvi [Economic Inactivity in Northern Ireland | Department for the Economy \(economy-ni.gov.uk\)](#)
 - xvii [The impact of parental leave policies on labour market outcomes | Department for the Economy](#)
 - xviii [Transitioning to a greener economy – a skills perspective | Department for the Economy \(economy-ni.gov.uk\)](#)
 - xix [Hydrogen cars: South West College students to train on new fuel vehicles - BBC News](#)
 - xx [Closing the Skills Gap \(economy-ni.gov.uk\)](#)
 - xxi [Economic research | Department for the Economy \(economy-ni.gov.uk\)](#)
 - xxii [UUEPC Publications \(ulster.ac.uk\)](#)