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Economic Research Digest Quarter 2 2021

The **Economic Research Digest** monitors recently published research across a number of economic areas relevant to the work of the Department for the Economy such as competitiveness, innovation, enterprise, trade, FDI, tourism and infrastructure. The Skills Research Digest deals separately with recently published skills and labour market research.

In each case, we provide a short summary of the key points and web links to the full article or report*. A full list of sources can be found at the end of the publication.

Highlights this quarter include:

- Release of the UUEPC Summer Outlook 2021.
- The UK Prosperity Index 2021 from the Legatum Institute.
- The impact of Covid-19 pandemic on Northern Ireland SMEs published by Queen's University Belfast and the Enterprise Research Centre.
- Publication of the Department for the Economy's 10x Economy - An Economic Vision for a Decade of Innovation in NI.
- The Impact of Covid-19 on the NI Economy: Modelled Results for Q4 2020 from the Fraser of Allander Institute.

** Links are correct at the time of publication, however it is likely that some will break over time. The list of sources has more general links, which should help the reader to track down the original report.*

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The research summarised here presents the views of various researchers and organisations and does not represent the views or policy of the Northern Ireland Executive or those of the authors.

Economic Outcomes

COMPETITIVENESS

National Competitiveness and Productivity Council Bulletin 21-2, published by the National Competitiveness and Productivity Council, provides a snapshot of an OECD report on growth in Ireland.

- Ireland's GDP per capita and productivity per hour worked is approximately 60% higher than OECD best performers. However, it should be noted that GDP measures overstate Ireland's performance. Ireland's employment rate (i.e., the proportion of the working age population in employment) is currently in line with that of the OECD but was increasing more rapidly prior to the onset of the Covid-19 pandemic.
- To ensure the resilience of the Irish economy into the future, the OECD has made a series of policy recommendations under five headings:
    - Ireland needs to improve labour force participation and employment by: enhancing vocational education and job training; reducing the high average effective tax rate faced by low-income households; and, making all social benefits conditional on earnings, not on employment status.
    - Boost housing supply and reform support by Government measures to replace stamp duty with a broad-based land tax; reduce restrictions and relax demand support measures that push up prices when supply is inelastic; and reduce the price of construction permits and registration of property.
    - Ease barriers to entry and boost competition via the full development of the Integrated Licence Application Service; establishing a 'silence is consent' rule, which implies that licences are issued automatically if the competent licensing office has not reacted by the end of the statutory response period; establishing one-stop-shops for business creation; and, simplifying regulation towards good practices in the e-commerce sector.
    - Expand healthcare coverage and ensure cost containment to improve outturn compliance in health sector budgeting to prevent chronic budget overruns; to push through compensation reforms to health workers in the public sector; and to continue the phased expansion of primary health care coverage.
    - Use economic instruments to address climate change and local pollution to gradually raise the carbon tax rate according to a schedule that is well communicated to households and businesses; to continue to invest in public transport and consider further promoting digital-based ride sharing and the introduction of congestion charging; and to remove subsidies on environmentally harmful goods, such as synthetic fertilisers.

Macroeconomic Policy Outlook Q2 2021, published by the Resolution Foundation, examines the possibility of a sharp rise in inflation in the coming months.

- The report compares UK inflation data with that of the US. While both tend to move together, given changes in world prices and global shocks (the pandemic; financial crisis), it is clear that US inflation has diverged relative to the UK. While UK inflation picked up to 2.1% in May, US inflation has risen to 5%, from just 0.1% a year earlier, the sharpest rise in nearly half a century.
- UK inflation is rising at its fastest rate for over a decade – increasing 1.8 percentage points over the past six months – the fastest increase since April 2010.
- Goods price inflation is generally volatile – in the UK it accounts for roughly 60% more of the variance in overall inflation than services prices. This is because goods prices tend to be more sensitive to conditions in world markets. This means they are affected by large swings in commodity prices – particularly the price of oil – as well as movements in the exchange rate. UK goods price inflation has picked up sharply to 2.3% in May, but is nowhere near the outlier-driven 8.1% rise in the US. By contrast, services price inflation has been much more stable in both countries.
- The report proposes two reasons why UK inflationary pressures will be significantly weaker than those in the US:
    - The first is that there has been a bigger hit to the UK economy and labour market suggesting that there is more spare capacity. GDP fell by around 21% in the UK in Q2

2020 compared with the final quarter of 2019, whereas the fall in GDP in the US was less than half that.

- The impact on the labour market – which is crucial for inflation prospects – is more complex. Headline unemployment has risen much more sharply in the US – to nearly 15% – compared with a peak of just 5.1% in the UK.
- This difference, however, is largely about measurement and reflects the approaches taken in the UK and US to supporting workers. In the US, many workers were put on 'temporary layoff' and became officially unemployed despite a large number returning to their original job, whereas the UK's Coronavirus Job Retention Scheme (JRS) saw workers remain officially employed. Looking at the total hours worked shows that it is clear that the hit to the labour market is much larger in the UK. This suggests that spare capacity is larger for the UK than the US.
- The second reason is that there is much more stimulus to come in the US than in the UK - Even if there is more spare capacity in the UK than in the US, a rapid recovery in demand could lead to that gap closing quickly and inflationary pressure emerging. In the US context, the $1.9 trillion stimulus embodied in the 'Biden Plan' suggests that demand may grow very rapidly. For the US some top economists have argued that this will close the output gap rapidly and generate a sharp rise in inflation.
- This is much less of a concern for the UK, however. This is partly because the overall size of fiscal measures is smaller, and markedly smaller when put in the context of the hit to GDP (17% for the UK compared to 26% for the US). But it is also because while the stimulus under the Biden plan should start to boost the US economy over the next year or so, UK measures are winding down sharply with the tapering of the JRS starting in July.

- The report concludes, noting that the forces pushing up on inflation in the near-term appear largely temporary and policy makers at the Bank of England should 'look through' their initial impact. Nonetheless, fiscal policy makers should not simply ignore the rise in inflation. An unexpected rise in inflation will be an unwelcome headwind to households' real incomes in the near term.

PRODUCTIVITY AND GROWTH

***UUEPC Summer Outlook 2021: 'Light at the end of the tunnel'*, published by Ulster University Economic Policy Centre (UUEPC), provides forecasts for the NI and UK economies.**

- Overall the short-term prospects for the local economy are positive. The reliance on both Government spending and consumer spending explain the scale of the contraction relative to performance elsewhere, but both factors should be a positive in terms of the pace of recovery.
- The Centre anticipates growth of 5.8% in 2021, following a contraction of 10.4% in 2020, and a return to pre-Covid levels of GVA in 2023 compared to mid-2022 for the UK as a whole and a return to pre-Covid levels of employment in 2024. This is much more positive than was anticipated at the outset of the pandemic.
- The percentage take-up of furlough is significantly lower across almost all sectors between June 2020 and March 2021, but remains high in Hospitality and Arts & Entertainment, with 45% and 46% respectively of jobs still furloughed. Other sectors such as Construction and Manufacturing furloughed significant numbers in the first lockdown, and whilst most have been able to return to work, given the size of those sectors, almost 10k Manufacturing jobs and 6k Construction jobs remain furloughed. Nevertheless, in March almost all industries across the private sector, still had more than 10% of eligible jobs furloughed.
- The number of vacancies fell dramatically in the first half of 2020, but recovered in the second half of the year and the NI vacancy rate is now 84% of the 2019 average. The recovery in the UK has been stronger and currently sits at 94% of the 2019 average.
- The sectoral data (only available for the UK) shows high levels of demand in areas such as engineering, healthcare, ICT, logistics and facilities management. In contrast, vacancies in retail, catering, administration and hospitality are well below pre-pandemic levels, all sectors where furlough levels remain high.
- The High Street was facing significant challenges pre-Covid, particularly from the on-line threat. The restrictions have required people to increase their proportion of shopping online and enforced a change in behaviour in those who had previously been reluctant to adopt technology. Across the UK, internet sales have increased steadily from 3% in 2007 to 19% in 2019, but then jumped to 28% in 2020 where consumers spent on average £2.1 billion per week.

- Inflation will most likely rise above 2% as the year progresses and then fall back within the Bank of England's target range in the medium term. Continued low inflation is no longer a safe assumption and will remain an area of increased focus moving forward.

***UK Economic Outlook Spring 2021: Brisk but not Better Growth*, published by the National Institute of Economic and Social Research, presents a forecast for the UK economy for Spring 2021.**

- The central forecast for economic growth in 2021 has been revised up to 5.7% from 3.4% in February. The immediate economic effects of the virus, which have been concentrated in the low-waged service sector, are expected to wane, while remaining negative consequences of Brexit will make themselves felt over the long-run and largely in sectors less affected by Covid-19.
- The third national lockdown has seen the adaptation of much of the economy to pandemic conditions, meaning that a smaller fall in first-quarter GDP than previously forecast provides a strong basis for the rest of the year. This is followed by the projected re-opening of the remaining affected sectors, thanks to the successful vaccination programme. The principal downside risk remains a resurgence of the Covid-19 virus, through new variants or the failure of vaccines, and the UK will not be physically or economically protected from a failure to control the virus globally.
- Thanks to the extension of furlough and other support measures to the autumn, unemployment is now forecast to peak at 6.5% in the final quarter of this year. Even after allowing for compositional effects wage growth seems robust. As a result, disposable incomes, which fell by 0.6% in 2020 in real terms, are forecast to rise by 3.1% this year and 2.7% in 2022.
- Income growth and a degree of forced savings under lockdown provide a strong basis for forecast consumption growth of 5.9% in 2021. The report forecasts household saving to fall to a level higher than that seen before the pandemic but close to historical averages.
- CPI inflation is forecast to rise over the coming months, reaching 1.8% in the final quarter of 2021, before falling to 1.5% at the end of 2022 and settling just below its 2% target between 2023 and 2025.
- Government debt, which rose in response to the pandemic, peaks at 104% of GDP in 2022-23, with interest payments forecast to remain low and decline further as a share of GDP. Given the increased intertwining of monetary and fiscal policy as a result of quantitative easing, greater clarity is urgently needed about the way that tightening will be conducted when required and how HM Treasury will deal with any potential interest rate volatility.
- Growth of 9% is forecast this year in the non-traded services sector, which includes badly affected industries such as hospitality, but expect it to shed a further 190,000 jobs after the furlough scheme comes to an end later this year
- The report states that the general conduct of fiscal policy is long overdue a serious rethink. Prior underinvestment in health and social care capacity had devastating consequences in 2020 and also contributed to the UK's relative economic underperformance during the pandemic. The long-term challenges of low wage growth, slow productivity and inequalities across regions and between groups of people have not been resolved by Covid-19; indeed, the risk is that they have been exacerbated.

***The Impacts of Covid-19 and Brexit on the UK Economy: Early Evidence in 2021*, published by the Centre for Economic Performance, looks at real-time firm survey data to identify trends in the UK economy for early 2021.**

- There was a substantial improvement in the volume of business activity in April 2021 relative to the previous three months. For the first time since the onset of the pandemic, significantly more businesses reported an increase in business volumes than reported a decrease. Expectations for the next three months also improved.
- Real wage growth has fallen during the pandemic. Data suggest that in January 2021 nominal wage growth had fallen by 2 percentage points relative to the previous year, while price growth has remained relatively stable.
- Continued price growth is partly explained by increasing average costs of inputs. In April 2021, 25% more manufacturing firms report increased input costs than firms reporting decreased costs. This difference was 6% in January 2020.
- 24% of firms report that Brexit caused exports to the EU to fall (among exporting firms). 33% report that imports from the EU fell (among importing firms). Smaller firms were more heavily affected.

- 61% of firms, including those in the services sector, report experiencing at least one Brexit-related issue. The most prevalent issues relate to the border, with 37% of firms reporting delays, 36% reporting additional customs and administration costs and 22% reporting regulatory checks. 33% of firms report that Brexit has affected their costs or prices.
- 20% of businesses report frictions – i.e. increased trade barriers - moving goods from Great Britain to Northern Ireland.
- The coming months will be crucial for ensuring policy supports a smooth transition back into work allowing economic activity to pick up as expected. Covid-19 and Brexit have caused significant structural changes to the economy; policies to support workers transition across occupations, industries and firms will be important for harnessing growth in productive sectors and businesses. Policies to reduce costs of new regulations and cross-border barriers from Brexit will be crucial for maintaining the competitiveness of UK businesses in the global economy.

LIVING STANDARDS, WELLBEING AND PROSPERITY

***UK Prosperity Index 2021*, published by the Legatum Institute, provides an index with detailed data on levels of institutional, economic, and social wellbeing across all of the UK to assist in realising the "levelling up" agenda.**

- The UK is one of the most prosperous nations in the world, ranked 13th in the Legatum Prosperity Index. Its prosperity increased during the first half of the 2010s but since then has been stagnating. This underlines the need for a much closer assessment of prosperity in the UK if the country is to make the most out of its reset moment.
- Despite fears of economic stagnation, the UK Prosperity Index shows that the country continues to build an open and strong economy that benefits from one of the strongest education systems in the world, an increasingly strong natural environment and improving infrastructure. The Index confirms that many of the UK's 'economic fundamentals' are strong or improving.
- However, the report also finds that overall prosperity is currently being undermined by a deterioration in things that lie outside of the traditional focus on GDP, infrastructure and transport, including: the safety and security of communities, people's physical and mental health, conditions for local enterprise such as labour market flexibility, key aspects of social capital and, to a lesser extent, the effectiveness of local governance.
- Prosperity in Northern Ireland is lower than the UK average. Belfast, which can be classified as a typical Industrial Heartland local government district, has lower overall prosperity than the rest of Northern Ireland (Rural Northern Ireland). Out of the 379 local authorities it is ranked 355th. Northern Ireland's weakest pillars are Governance, Enterprise Conditions, and Economic Quality. It has strengths in Social Capital, Education, and the Natural Environment.
- Northern Ireland has low levels of private sector investment. The value of venture capital invested per head of the population is just £20, much lower than the UK, which averages £146. Increasing numbers of businesses in Northern Ireland are delaying projects due to a lack of external financing.
- Northern Ireland is the weakest region for Economic Quality. It has the lowest high-tech business share with just 5.1% and the lowest rates of business creation. However, it does have high labour force engagement, with the lowest unemployment before Covid-19 in the UK (2.4%) and the highest job satisfaction (90%).
- The report concludes, noting that investment in health, education, and poverty reduction will be required to lift deprived regions of the UK into prosperity. These challenges will require input from all levels of government, the private sphere, and the non-profit sector.

***The Gender Pay Gap in Northern Ireland*, published by the Nevin Economic Research Institute, provides an overview of the extent of the gender pay gap in Northern Ireland on an hourly, weekly and annual basis.**

- Comparing the hourly earnings of all males and all females using median hourly pay shows that females earn 8.1% less per hour than males. In terms of mean earnings females earn 4.1% less per hour than males.
- Looking at the gender pay gap in hourly pay separated out into full-time and part-time employment, the picture becomes more complicated. Median hourly female full-time pay was 0.5% less than the male equivalent. Mean hourly female pay was 2.1% less than the male equivalent. For those in part-time employment the gap not only widens but actually works the

other way around whereby females earn more per hour on average than males. This is often referred to as a 'reverse gender pay gap'.

- Specifically, there is a reverse median hourly gender pay gap of 17.7%, and a reverse gap of 24.4% in mean hourly pay.
- Despite part-time male hourly earnings being lower than part-time female hourly earnings it remains that overall female hourly earnings are lower than average male hourly earnings because not only is the hourly pay rate for part-time employment much lower than the pay rate for full-time employment, but also because females are much more likely to work part-time than males.
- Looking across a breakdown of major industries it is clear that female hourly earnings are considerably lower than males across the majority of industries. Specifically, in all but a few of the major industries (namely the 'accommodation and food services' sector, the 'professional, technical, scientific and administration' sector and indeed the 'construction' sector) hourly earnings were lower for females, than males.
- In terms of the gendered nature of earnings by age, the general trend is that females earn less than males per hour as age increases. This may reflect the fact that male labour market careers tend to have fewer and shorter interruptions than females. Indeed, the results show that across the younger age groups female workers actually earn more on average than male workers.

***Children in Poverty*, published by the Legatum Institute, outlines the extent of poverty before and during the Covid-19 pandemic.**

- There were 4.5 million children (33%) in families in poverty prior to the pandemic compared to 4.2 million (33%) in 2000/01. The number of people living in families in poverty, and respective poverty rates, are far higher amongst children and young people than for any other age group. For example, prior to the pandemic, 1.4 million (33%) children aged four or under were living in families in poverty. This compares to 0.9 million (19%) 25-29 year olds and 0.4 million (12%) 65-69 year olds.
- All of the external indicators suggest that the pandemic has hit those on the lowest incomes the hardest, for example including health, the labour market and wellbeing impacts. However, the report states that without a robust measure of poverty, the Government has not been unable to quantify either the impacts of the pandemic on poverty, or how the protection it has provided families has mitigated these effects.
- Overall, it is suggested that between 30,000 and 120,000 more children were in households in poverty in winter 2020 than would have been the case if Covid-19 had not occurred.
- This report also considered the extent to which Government choices on benefits policy have insulated people from poverty during the Covid-19 crisis. In each Winter 2020 scenario, these choices have insulated more than 600,000 people from poverty. For the high unemployment, high furlough scenario in Winter 2020, some 690,000 fewer people are in poverty as a result of the changes introduced to benefits and have been protected at a time of crisis.
- The report concludes, explaining that without a systematic and comprehensive approach to poverty measurement, the Government will never be able to approach these issues strategically. Only a strategic approach to the future and the recovery from Covid-19 can strengthen and level up the UK, and this strategic approach will be essential if society is to reduce poverty for both children and adults.

***Poverty, Income Inequality and Living Standards in Ireland*, published by the Economic and Social Research Institute, analyses the extent of income inequality and poverty in Ireland from 1987-2019.**

- Average disposable incomes – after taxes, welfare payments and pensions – grew by around 3% per year between 1987 and 2019 adjusting for inflation and changes in household composition. Despite a lost decade between 2007 and 2017 which disproportionately affected lower-income households, growth over the period as a whole was broad-based and progressive, stronger for those in the bottom half of the income distribution than the top.
- As a result, measures of disposable income inequality have fallen substantially over time. In 2019, both the Gini coefficient and 90:10 ratio – two common such measures – stood at their lowest recorded levels in more than three decades. Other measures also tell a consistent story of declining inequality in disposable incomes, with any increases seen over the latter years of the Great Recession reversed by the recovery up to 2019.

- Over the full horizon that the data cover, rates of income poverty and material deprivation – key indicators of low living standards – have also declined substantially across the population as a whole: by a quarter and by a half respectively between 1994 and 2019. However, measures of income poverty and material deprivation both point to the consistently high incidence of low living standards among lone parents, their children, and those of working age in households without anyone in paid work. This pre-dates the Great Recession and has been an enduring feature of Irish society since at least the early 1990.
- Young adults have been disproportionately hit by job losses in 2020, in part as they were much more likely to work in sectors like hospitality, arts and leisure that were most exposed to the public health measures required to suppress the spread of the virus.
- While concerning in and of itself, such patterns of job losses could compound the still lingering effects of the Great Recession, which left not in employment, education or training (NEET) rates for those age 20-24 almost a third higher on the eve of the pandemic than they were in 2007. This amounts to around 30,000 more 20-24 year olds NEET than one would expect had the labour market fully recovered for this age group.
- In addition to poorer prospects in the labour market, a growing share of young adults are facing high housing costs. This is largely as home ownership rates for young adults have collapsed – from over 60 per cent at age 30 for those born in the 1960s to less than 20 per cent for those born in the late 1980s – leaving them more exposed to rapidly rising rents, especially in urban areas.
- The combined effect of these developments is to cast a pall over the prospects of young adults and should be cause of serious concern for society at large. One area where policy can help is ensuring the provision of high-quality active labour market programmes with sufficient capacity to cater for the numbers that will need them in the years ahead. Policies that act to tackle the root causes of high rents will also disproportionately benefit those younger adults who otherwise risk being left behind.

***Uneven Steps: Changes in Youth Unemployment and Study Since the Onset of Covid-19*, published by the Resolution Foundation, analyses both the scale and the distribution of the labour market change experienced by young people since the onset of Covid-19.**

- As Covid-19 took hold last year, it became clear that parts of the UK economy would need to be temporarily shut down in order to reduce the spread of the virus, and thereby save lives. However, unemployment rose by less than anticipated, with the unemployment rate among people aged 16 and older rising by just over one percentage point in the past year. And yet, the damage from the country's collective need to put large portions of the economy on hold has been far more concentrated among young people than expected.
- Youth unemployment rose faster between spring and autumn 2020 than at any point since the financial crisis. And though that rate of increase has since slowed, there have been significant differences in the increase in unemployment that has occurred not just between generations but also within them.
- Since the pandemic began, young people have been more likely than their middle-aged counterparts to have lost working hours, experienced lower pay, been put on furlough or have lost their job. This has exacerbated pre-existing intergenerational inequalities, wherein during the decade before the pandemic, younger people had experienced lower rates of pay growth and higher rates of working in the country's lowest-paid sectors compared to their predecessors while the same age.
- But just as the impact of the Covid-19 crisis has been unequally spread between generations, it's been unequally spread within them, too. In many cases, conditions have deteriorated most among those young people whose pre-pandemic employment position had already been weakest. Before the onset of Covid-19 (Q2- Q4 2019), one-in-four (25%) economically active Black 16-24-year-olds were unemployed, compared to one-in-ten (10%) of their White counterparts. By Q2-Q4 2020, the unemployment rate rose to 34% (a 9 percentage point increase) among Black young people and to 13% (a 2 point rise) among White young people.
- Between 2019 and 2020 the unemployment rate among graduates and non-graduates who had left full-time education within the previous year rose by 4 percentage points each, to 18% and 14%, respectively. Young male graduates have not been spared the pain of this crisis: between Q2-Q4 2019 and Q2-Q4 2020 unemployment among young male graduates rose more than 5 points, to 17.5% – meaning that young graduate men had a higher unemployment rate than both their female counterparts (10.2%) and non-graduate men (15.9%).

- The rise in unemployment would have been larger had it not been for a sharp uptick in full-time education participation, especially among 16-17-year-olds. Though the share of 16-17-year-olds who were employed (and not in full-time education) fell by 1.8 percentage points in the year to November 2020-January 2021, the proportion in full-time study rose by 3.6 percentage points.
- Coming out of the crisis policy makers should reflect on the price younger generations have paid for the country's collective need to put restrictions in place in order to slow the spread of the virus, and ultimately save lives. The challenge is threefold: building avenues to help young people into the workplace; providing them with support to stay in – or return to –education and training; and working with employers and employment support providers to tackle bias and discrimination in the hiring process and career progression more generally.

***Inheritances and Inequality over the Life Cycle: what will they mean for Younger Generations?*, published by the Institute for Fiscal Studies, examines the growing importance of inheritances for the younger generations and what this does to inequality.**

- Inheritances received by households over their lifetimes are set to grow in importance across subsequent generations: from averaging about £150,000 (in today's terms), or 9% of lifetime household income, for those born in the 1960s to around £320,000, or 16% of lifetime household income, for those born in the 1980s.
- In other words, over a 20-year period, inheritances are, on average, set to almost double relative to the other incomes of those receiving them. Another manifestation of this is that the median inheritance is set to rise from four times average annual earnings for the 1960s generation to eight times for the 1980s generation.
- Those with higher incomes are, on average, set to inherit more than twice as much as those with low incomes: it is estimated that the median lifetime inheritance receipt for households in the top lifetime income fifth amongst the 1980s generation will be around £390,000, compared to around £150,000 amongst the bottom fifth.
- The report projects that inheritances will not significantly affect the relative differences in lifetime income between rich and poor (as measured, for example, by the Gini coefficient) in the generations examined.
- Inheritances will increase lifetime consumption by 8%, on average, for the 1960s generation, rising to 14% for those born in the 1980s. These estimates are made using an empirically grounded economic model of how households change their saving and consumption decisions as a result of inheritances.
- Inheritances look set to play a particular role in reducing upwards mobility in lifetime income for those from poorer backgrounds, in the sense that they will find it increasingly hard to climb further up the distribution than their parents did.
- Modelling suggests that this translates into inheritances making an increasing contribution to differences in material living standards by parental background.
- Consequently, the potential role for redistribution of inheritance income to increase social mobility in incomes and living standards is likely to grow over time.

***Low Pay Britain 2021*, published by the Resolution Foundation, looks at the impact of the Covid-19 crisis on those on low pay and what that might mean for such workers as the economy starts to recover.**

- A rising minimum wage has driven down low pay. The run up to the crisis was a positive one for low paid workers, with a fast-rising minimum wage improving the pay of the lowest earners. This was driven by the introduction of the National Living Wage in 2016. A worker working full time on the minimum wage in 2020 would have been paid roughly £1,700 more than if the minimum wage had continued to increase at its pre-2016 pace. In 2020 the proportion of workers in low pay (defined as earning less than two thirds of median pay) fell to its lowest level in 42 years.
- Low paid workers have been more adversely affected by the Covid-19 crisis than higher paid workers. Low paid workers have been three times as likely as higher paid workers to experience a negative impact on their work: in March 2021, more than one-in-five (21%) workers in the bottom weekly pay quintile had either lost their job or lost hours and pay due to the crisis, or were furloughed, compared to less than one-in-ten (7%) of those in the top earnings quintile.
- There are reasons for positivity as the economy reopens however, just as low paid workers have been worst affected by the restrictions on the sectors they work in, so the reopening of the economy from April onwards should benefit low paid workers the most. Rates of (full or partial)

furloughing in hospitality fell from 58% at the end of March to 48% at the end of April. Employees in retail, hospitality and leisure – the three largest low-paying sectors of the economy – account for more than half (55%) of the 880,000 fall in furloughed workers during April.

- Most workers leaving furlough are returning to their previous job. In March of this year, 44% of previously-furloughed workers were back in work in their previous job, and a further 12% had found new jobs. 34% were still furloughed and 7% were no longer working. Those in the bottom half of the pay distribution were more likely to still be furloughed – likely reflecting the slower opening up of lower-paying sectors such as hospitality and leisure. Previously-furloughed workers in retail have been relatively more likely to find new jobs in other sectors.
- Job quality for low paid workers is unlikely to improve without a tight labour market – and may worsen if unemployment rises. Beyond the immediate reopening period, there are risks facing low paid workers. This includes rising unemployment as the Job Retention Scheme ends, but also a deterioration in (or at the very least no improvement in) job insecurity and abuses of employment rights.
- Problems of insecurity and abuse of employment rights are already unacceptably prevalent. 1 in 5 (20% of) low paid workers has an insecure job, defined as having a zero hours contract, involuntary working on a temporary contract, or working low hours and wanting more. This compares to 6% of higher paid workers. And 14% of workers in the lowest pay quintile said they did not receive any paid holiday – compared with 6% of the highest paid workers. Unfortunately, the Employment Tribunal system is not effective at supporting low paid workers, who are less likely to bring cases than higher paid workers, despite being more affected by labour market abuses.

Innovation and Enterprise

INNOVATION

***The Effects of Digital Adoption Due to Covid-19 on Northern Ireland SMEs Performance: New Empirical Results*, by Queen's University Belfast and the Enterprise Research Centre, analyses whether the adoption of digital technology during the Covid-19 pandemic has led to increased firm performance and innovation activity.**

- The study finds there is a significant and positive 'direct' effect of digital adoption and implementation on NI SMEs performance as measured through turnover.
- No significant 'indirect' effect of digital technology adoption on firm performance was found. Indirect effect is assessed by examining where technology has led to innovation in the firm, but this has not translated through to turnover.
- Internal readiness of firms for the adoption of digital technology e.g. digital skills, digital technology strategy etc. has a positive effect on firm performance.
- The main motivations for digital technology adoption in NI SMEs were the challenges from public health and social distancing regulations associated with Covid-19, the adoption of technology by competitors and firms' perceptions of how digital technology would support their business operations. In other words, digital technology adoption was driven by factors external to the firm rather than due to internal strategic planning.
- The constraints to adoption of digital technology vary for small and medium-sized enterprises. While having appropriate digital skills is an important consideration for all firms, for medium-sized enterprises (50 to 250 employees) risks of cyber security and engagement of the wider workforce with digital technologies are the prevailing concerns. For small enterprises (less than 50 employees), adequate broadband infrastructure and the compatibility of new technology with existing systems are commonly identified constraints.

RESEARCH AND DEVELOPMENT

[No relevant material sourced for this quarter's release.]

SECTORS AND TECHNOLOGIES

***Interactive Adaption in 'Mid-Chain' Firms: How are Supply Chains Enabling Digital and Net Zero Transitions?*, published by the Enterprise Research Centre, examines the role of businesses**

operating in the middle of supply chains and how they are encouraging the move towards digitalisation and net zero targets.

- Detailed case study interviews with around 20 companies located in the middle of manufacturing supply chains suggests that strong 'goodwill trust' is not uncommon, most typically with suppliers, and often based on long-term and interpersonal relationships. Similar trust-based relationships with customers are less evident, often complicated by commercial pressures, short-term or intermittent contracts and power imbalances.
- Mid-chain firms' supply chain partners seem unable or unwilling to appreciate the potential value of new technologies, perhaps reflecting a version of the not-invented-here syndrome. These factors limit knowledge sharing between supply chain partners, reducing the potential for collaborative innovation.
- The empirical analysis suggests relatively limited collaboration for product innovation and little or no significant collaboration on digital diffusion or the dissemination of net zero practices. This suggests a significant gap exists between levels of knowledge sharing and technology diffusion in an idealised supply chain setting and the reality.
- Organisational perspectives on new technology adoption suggest the importance of firms' awareness and positive evaluation of the benefits of new technologies and management practices. Relational perspectives on supply chains also emphasise the importance of trust between firms – often the result of longstanding and personal relationships – as well as power relationships within the supply chain.
- Taken together these conceptual perspectives suggest an idealised view of a supply chain in which technology diffusion might flourish. This would be characterised by:
    - Firms which are aware of the advantages of new technologies and able to evaluate their benefits;
    - Goodwill trust which facilitates open and intensive knowledge sharing and;
    - Power imbalances which might facilitate knowledge flows where innovative firms hold more power.
- The report finds that almost all mid-chain companies were innovative: engaged in product or service innovation, digital innovation and the implementation of net zero practices. Aside from occasional instances where innovative ideas emerged from supply chain partners, however, mid-chain firms' innovations owed little to their supply chains. Instead, a lack of collaboration means that mid-chain firms' innovation tended to be initiated, resourced and delivered from within the mid-chain business.

***Northern Ireland SMEs and the Net Zero Target*, by Queen's University Belfast and the Enterprise Research Centre, provides insights on how NI SMEs have responded to environmental issues.**

- The report finds evidence of NI SMEs' positive attitude towards environmental protection. More than one third of NI SMEs reported that they always consider the environmental aspects in their business decision-making process, while more than 80 per cent confirmed that they at least consider it sometimes. More significantly, more than half of NI SMEs agreed that businesses should prioritise the environment above profitability and growth.
- There has been a marked improvement in SMEs' management of environmental issues. Having an environmental management system (EMS) and a senior manager responsible for environmental issues are reported by nearly half of NI SMEs. As demonstrated through the academic literature, these improvements not only strengthen SMEs' capacities but also reflect how serious SMEs are in their commitment to environmental protection as a strategic priority.
- Internal factors, such as reducing cost or improving the enterprise's reputation had stronger effects on SMEs' commitment to environmental protection than external factors, such as government support or regulations. However, in order to achieve the Net Zero target by 2050, this will require a greater influence of government support and regulations on SMEs' environmental activities in the future.
- Beyond the Covid-19 pandemic, SMEs have also faced several other challenges to their commitment towards environmental protection. Three obstacles that were reported by more than one third of NI SMEs are:
    - The cost of meeting regulations or standards;
    - The lack of information on low carbon technologies; and

- The uncertain demand for low carbon products or services.

- The empirical results demonstrate that most Net Zero practices have had a statistically significant influence on reducing SMEs' carbon emissions. In particular, two practices that seemed to be most effective are:
  - Changing processes or transport/logistics and,
  - Conducting training on environmental matters.

***Factors Driving Firms' Green Investments*, published by the Economic and Social Research Institute, examines the factors that influence whether a firm is likely to invest in cleaner technologies.**

- Boosting firms' investments in environmental protection (green investments) could speed up the transition to a climate-neutral economy and more sustainable long-term economic growth. Understanding what determines firms' decisions to invest in assets such as equipment for pollution control and cleaner technologies is important for the design of policy measures aimed at improving environmental quality and resource efficiency by incentivising firms' engagement in green investments. Existing evidence on what factors determine firms' decisions to invest in environmental protection is still limited.

- To help address this evidence gap, the report examined a range of factors underlying firms' investments in equipment for pollution control and in equipment linked to cleaner technologies in Ireland's industry sector. The factors included firm characteristics and external factors such as environmental regulations, competition and learning effects from other firms with green investments in the same industry and the same region. Given the variation of environmental regulations across countries, they further investigated whether the country of origin of foreign investors played a role in firms' decisions to invest in environmental protection.

- The results indicate that larger firms, importers, and firms with supply chain linkages were more likely to invest in equipment for pollution control and in equipment linked to cleaner technologies. Foreign-owned firms were less likely than local firms to invest in environmental protection, particularly foreign affiliates of companies with headquarters based in the US or in the Euro zone.

- This result might reflect the fact that these foreign affiliates had already adequate equipment for pollution control and cleaner technologies and there was no need for further investment. The results indicate that this is indeed the case for foreign affiliates of US-based multinationals.

- While firms with a higher energy intensity were more likely than other firms to invest in equipment for pollution control, this was not the case in relation to their investments in equipment linked to cleaner technologies. This result could be explained by the need for energy-intensive firms to comply with regulations on pollution control to reduce greenhouse gas emissions while the effect of investing in equipment linked to cleaner technology might take longer to emerge.

- Within-industry competition was also an important driver of firms' investment in equipment linked to cleaner technologies. The findings indicate that being in the same industry and in the same region with green investors increased the propensity of firms to invest in equipment for pollution control and in equipment linked to cleaner technologies.

- The report recommends that targeted policy measures to enable small and medium-sized firms to invest in environmental protection would be beneficial to achieving this goal. Furthermore, policy measures that facilitate learning from firms with green investments in the same industry and in the same region could also boost firms' investments in environmental protection.

ENTREPRENEURSHIP

***GEM 2020/2021 Global Report*, published by the Global Entrepreneurship Monitor, highlights entrepreneurship trends around the world, with analysis on how the UK performs compared to other countries.**

- The United Kingdom experienced falls across most measures of entrepreneurial activity in 2020, although there were also some points of optimism, and it is difficult to disentangle the effects of the pandemic from the impacts of Brexit. Only 39% of UK adults (18–64) reported that they experienced some loss of household income as a result of the pandemic, one of the lower rates among GEM European economies in 2020.

- Furthermore, 5% of UK adults actually experienced an increase in their household income as a result of the pandemic, which was about the average experience for GEM European countries.

- However, the pandemic still played a significant role in spurring entrepreneurship, perhaps in part due to lost income. The United Kingdom was one of the few European economies to increase its entrepreneurial intentions rate, which is adults expecting to create a new business in the next three years, up from 7.6% in 2019 to 8.2% in 2020. Of those adults intending to start a new business, 80% indicated that this decision was influenced by the pandemic to some extent.
- The United Kingdom's Total early-stage Entrepreneurial Activity (TEA) rate fell from 9.3% in 2019 to 7.8% in 2020, below the Netherlands (11.5%) but above Germany (4.8%) as peer comparisons. Within the respondents involved in TEA, there was an even split between those who saw new opportunities because of the pandemic and those who did not.
- The 49% of UK early-stage entrepreneurs who saw opportunities because of the pandemic represents the highest figure among European countries, and the same rate as the United States. This suggests a level of adaptability to the pandemic that is rare among peer economies. However, this adaptability does not necessarily translate to higher confidence. Only 1.3% of UK adults plan on hiring six or more employees over the next five years, just half of the 2.6% in 2019. Yet 4.2% plan on hiring no employees for their business.
- Though the United Kingdom experienced declines across several key measures of entrepreneurial activity, experts rated a number of Framework Conditions as stronger in 2020 than in 2019. For the condition "Access to entrepreneurial finance" experts scored the United Kingdom at 5.6 in 2020, seventh among GEM economies, up from 5.3 in 2019. The condition "Research and development transfers" showed an even larger score increase, from 3.8 in 2019 to 4.5 in 2020, although only ranking 17th among GEM economies despite the improvement. "Commercial and professional infrastructure" also experienced a score increase, from 5.1 in 2019 to 5.6 in 2020.
- Experts also saw improvements in a couple of factors related to government support. Both the conditions "Government policy: support and relevance" (4.5) and "Government entrepreneurship programs" (5.0) were rated significantly higher in 2020 compared to 2019.
- Curiously, this improvement was not fully extended to experts' assessments of the government's response to the pandemic. For this, experts scored the government at 5.2, 20th among GEM economies. However, experts rated the entrepreneurial response to the pandemic much higher at 7.5, fifth among GEM economies. This may relate to the rate of entrepreneurs who saw new opportunities during the pandemic, which was higher than other GEM European countries.
- The adaptability of UK entrepreneurs during the pandemic and the turmoil of Brexit may have been captured in expert scores, providing some optimism for future innovations.

BUSINESS GROWTH

***The impact of Covid-19 pandemic on Northern Ireland SMEs: Evidence and Comparison with the Rest of the UK*, published by the Enterprise Research Centre and Queen's University Belfast, provides insights on how Northern Ireland SME's have responded to the Covid-19 pandemic.**

- Data from ONS BICS wave 19 (released on 17 December 2020) confirms that the effects of the Covid-19 pandemic have been much more severe for small and medium-sized enterprises, with higher proportions of SMEs reporting very low cash reserves as well as low confidence in their survival in the near future. Yet these effects vary across sectors with enterprises in the accommodation and food services, arts, entertainment and recreation and the other service sectors, being the most affected.
- With government employment support, such as the furlough scheme, the effects of the Covid-19 pandemic on employment are reported to be less severe than that on business turnover in the ERC Business Futures Survey (The Business Futures Survey seeks to understand the impact of the Covid-19 pandemic on SMEs). To support that position, several SMEs expressed high levels of satisfaction with government support in their responses. Nevertheless, concern remains about Covid-19 restrictions in the next period and over the next few years.
- Despite Northern Ireland SMEs being more likely than SMEs across the UK to express serious concern about both the impact of the pandemic and Brexit on their businesses, findings suggest that they are coping slightly better in terms of both turnover and employment. This might be attributable to the fact that the data reveals that more NI SMEs have increased their use of digital technologies, in an attempt not only to follow the social distancing and trading restrictions, but also to 'catch-up' with the latest technologies, in which they have historically been considered to be lagging behind UK peers. In due course, this might increase their productivity and subsequently reduce the financial impact of the pandemic.

- Reducing cost or introducing new processes or new digital technologies are considered to be important for NI SMEs in responding to the pandemic. This is consistent for SMEs from both Northern Ireland and the rest of the UK.
- Consistent with the crucial issue about skill shortages in Northern Ireland, NI SMEs expressed that the lack of digital skills is their main concern in adopting and implementing additional digital technologies.
- While the Covid-19 pandemic is a major obstacle for NI SMEs' environmental protection plans, other factors such as the lack of information on low carbon technologies, or the cost of meeting regulations and standards, are also mentioned by one third of businesses as major challenges. At the same time, more than 80% of NI SMEs agreed that businesses should spend more on environmental protection.

GROWTH FINANCE

***COVID-19, Business Support and SME Productivity in the UK*, published by the Enterprise Research Centre, considers how support measures during the Covid-19 pandemic have influenced firms' future investment intentions and employee wellbeing.**

- The study uses survey data from the SME Finance Monitor for 2020 Q3 and 2020 Q4 and the Health and Well-being Survey 2021 Q1 on around 12,000 SMEs.
- The report finds that firms receiving either Furlough support, guaranteed loans or a combination of the two have stronger investment intentions than non-recipients.
- They also find strong evidence that firms receiving either Furlough or Furlough and CBIL (Coronavirus Business Interruption Loan)/BBL (Bounce Back Loan) are less likely to experience issues with either sickness or mental health absence. Here, effects are smaller in scale and need to be regarded with some caution due to identification issues.
- Furlough-only has a consistently stronger effect on investment intentions in smaller firms although the effects of CBIL/BBLs only and the combination of support measures is less sensitive to firm size.
- Perhaps unsurprisingly, impacts very somewhat across sector. In terms of investment intentions the effects of each of the schemes are smaller in hospitality.
- It is too early to draw particularly firm conclusions about either the impact of the pandemic on productivity or the final effects of government support measures. This first look suggests that there might have be some positive expectations, however.

BUSINESS REGULATION

[No relevant material sourced for this quarter's release.]

Succeeding Globally

TRADE

[No relevant material sourced for this quarter's release.]

INWARD INVESTMENT

***How the UK's Resilience in Winning FDI Creates a Window of Opportunity*, published by EY, highlights the UK's resilience in terms of FDI performance during 2020, showing the potential for future growth.**

- In 2020, the number of foreign direct investment (FDI) projects secured by the UK fell by 12% from 2019. In any normal year, such a decline would trigger major concerns about the UK economy and its attractiveness to overseas investors. But 2020 was not a normal year. Viewed against an even bigger fall of 13% in FDI projects into Europe as a whole, and the indications from EY's investor surveys in autumn 2020 that 30% of planned investments in the UK might be cancelled or paused, the actual outcome was significantly better than expected.
- In fact, the 975 projects secured by the UK in 2020 was only 10 fewer than the European market leader, France – a much smaller gap than the difference of 88 projects in 2019. And, in a difficult

year beset by Covid-19 and rumbling uncertainty over the Brexit negotiations, the UK's regions and nations demonstrated the underlying resilience of their offer to investors. Despite the overall 12% fall, London and the South East were the only UK regions to suffer double-digit declines in projects, with Northern Ireland (+18%), Scotland (+6%), the East of England (+35%), the North East (+7%), the North West (+16%) and the South West (+7%) all bettering their previous year's performance.

- The optimistic mood was further supported by the UK's strong FDI performance in sectors including life sciences, transportation and logistics, and food, and its continued European leadership in attracting 'new' projects from first-time investors. While all of this underscored the UK's dynamism and adaptability, the most striking illustration of the country's shift towards higher-value projects was its securing 114 R&D investments, only one project behind the European leader, France. As recently as 2018, France was securing almost twice as many R&D projects annually as the UK.
- That said, UK FDI did not fully escape the impacts of the pandemic. While the UK retained its leadership in European digital investments, its digital project numbers fell by 25%, almost double the European decline. And while the UK's share of all European projects rose for the second year running after three years of decline following the Brexit vote, FDI activity in financial services, manufacturing and HQ remained well below their peak levels.
- However, despite such negative shifts, it appears that the UK has weathered the storm of Covid-19's effects on FDI. In EY's latest survey the UK is ranked as the most attractive investment destination in Europe. And 41% of respondents plan to invest there in the next 12 months, the highest rate ever in this research. What's more, a net positive 30% expect the UK's attractiveness to improve over the next three years, compared to a net negative 29% in 2020.
- With the improved investor sentiment providing a strong platform for ongoing FDI, the challenge now for the UK is to build on it. When asked to pinpoint the UK's future growth opportunities, 54% of investors identify digital and 34% health and wellbeing as the main drivers. As the European leader in digital projects in 2020 and second only to France in health and wellbeing, the UK is well-placed for growth in these sectors.

TOURISM

***Tourism Recovery Action Plan*, published by the Department for the Economy, identifies the agreed actions to be taken to assist the recovery and regrowth of the NI tourism and hospitality sector following the impacts of the Covid-19 pandemic.**

- The proposed actions are broken down into eight distinct themes aimed at assisting in the long-term recovery and sustainable growth of the tourism industry:
  - Business Continuity - Supporting the tourism ecosystem through recovery and growth, ensuring it is well-placed to meet and maximise demand in future years.
  - Creating Consumer Confidence - Ensuring that all parts of Northern Ireland's tourism and hospitality industry provide a welcoming and safe environment for visitors, both domestic and out of state.
  - Stimulating Consumer Demand - Using Northern Ireland's world class tourism and hospitality product (people and places) to stimulate consumer demand, and essential consumer revenue.
  - Safeguarding Connectivity - Recognising the critical importance of Northern Ireland's air and sea connectivity to the tourism and hospitality industry.
  - Enhancing the Competitiveness of the Region - Providing sustainable and world class visitor experiences which can meet the expectations of the visitor of the future.
  - Enhancing the Capability of Businesses - Supporting businesses in increasing their sales and marketing activity and converting interest generated by Tourism NI through its marketing platforms into business revenue.
  - Enhancing the Skills of the Workforce - Supporting businesses in the attraction, development and retention of a highly skilled and engaged workforce for whom tourism and hospitality offer an attractive career choice.
  - Creating a Supportive Policy Environment - Providing a modern, supportive legislative and policy environment aimed at expectations of today's tourist and best practice in government.

- Successful delivery of phase two of the Action Plan will require government and industry working together in partnership. All parts of the tourism and hospitality ecosystem, representative bodies, destination management organisations, local government, government departments, tourism agencies - and the tourism businesses in particular - have roles to play.
- By working in partnership to ensure delivery, the actions within this Plan intend to form a solid foundation for the recovery of the Northern Ireland tourism and hospitality industry, and the development of Northern Ireland as a sustainable and competitive tourism destination that meets the needs of both future visitors and local communities alike.

Economic Infrastructure

ENERGY

***Net Zero Policy Tracker: April 2021 Update*, published by the Green Alliance, gives an update as to whether the UK is meeting its climate change targets.**

- Since January 2020, the government has pledged new funding of £32.2 billion for climate and nature over the course of the next parliament, including spending on low carbon transport, industrial decarbonisation and greener buildings. It also recently announced, in the 2021 budget, a new National Infrastructure Bank which has tackling climate change as a core objective, backed by £5 billion of government funding. This could act as leverage for as much as £40 billion spending on low carbon projects over the next four years.
- Most emissions reductions so far have come from the power sector, due to coal being phased out for electricity generation and replaced by renewable and other low carbon energy sources. Emissions from transport, housing and agriculture have barely come down over the past decade. Transport emissions are at the same level as in 1990 and are now the biggest source of emissions in the UK. Emissions from buildings have only fallen by ten per cent in the past decade and are higher now than in 2015. Emissions from agriculture have also remained flat since 2008.
- New decarbonisation policies, announced since the beginning of 2020, are projected to have a mixed impact on the emissions of different sectors, with no sector currently looking like it will have cut emissions sufficiently to be on track to net zero during the 2028-32 period.
- The report lists five priority net zero policies to be considered by the government:
  - A robust homes decarbonisation policy that puts in place long term regulations and funding for incentives - A long term home decarbonisation programme could create 190,000 jobs, reduce UK household energy expenditure by £7.5 billion a year, alleviate pressure on the NHS by preventing excess winter deaths and reduce inequality in and between regions.
  - An ambitious target to halve resource consumption by 2050 - Industrial energy efficiency could result in savings three or four times greater than the carbon savings currently envisaged from domestic energy efficiency by 2050.
  - A Transport Decarbonisation Plan that puts all of the UK transport sector on track for net zero - The CCC calculates that electrifying transport can deliver annual operating cost savings of over £30 billion by 2050.13 Sustainable transport can also improve air quality which currently leads to around 36,000 early deaths per year in the UK.
  - Improved regulation and increased ambition in the Environmental Land Management scheme - ELM must be ambitious and underpinned by stronger regulation. Specifically, the Sustainable Farming Incentive component of ELM should be developed so it aligns more strongly with the core principle of 'public money for public goods'.
  - Legislate to phase out unabated natural gas for power by 2035, alongside new ambitious targets for increasing renewable capacity - This should be complimented by new ambitions around onshore wind and solar deployment, to ensure that renewables remain the focus of decarbonisation in the power sector.

***Accelerating the Electric Vehicle Revolution*, published by the Green Alliance, outlines what needs to be done to achieve a smooth transition to electric vehicles to reduce carbon emissions.**

- The report states that acting early to switch to electric cars and vans will help to maximise UK emissions reductions. This will be especially the case for battery electric vehicles, rather than plug-in hybrids, which only lead to minor emissions reductions compared to petrol and diesel cars.

More rapid uptake of battery electric vehicles could nearly double UK emission savings in 2030, compared to delaying widespread uptake until the 2020s.

- Fast uptake of battery electric cars will also enable lower income households to gain all the benefits from clean vehicles sooner, by increasing supply to the second hand market. Households in the bottom 40% of the income range mostly buy used cars. New analysis shows that, once battery electric cars, bought new today, reach the second hand market, their owners could save between £700 and £2,300 compared to a diesel or petrol equivalent, on a total cost of ownership basis. And the savings for third hand owners would be between £3,500 and £5,600.
- Another reason for the UK to capitalise early on the move to battery electric vehicles is to promote investment in domestic vehicle and battery manufacturing. This would help UK car makers to stay competitive in the European and global markets, futureproofing jobs across the country. Developing UK charging infrastructure and clean energy to underpin the shift would also support economic recovery and employment across the country.
- The report recommends that a mandate requiring manufacturers to sell a specific, increasing proportion of zero emission vehicles (ZEVs) over the next 15 years is the best way for the UK to meet its target phase out date. This kind of regulation will guarantee that more battery electric cars are sold on the UK market. It would ensure adequate supply of a wider variety of models at more competitive prices and boost the advertising of zero emission vehicles to meet the target. It will strengthen the case for investment in net zero compatible supply chains and jobs, rather than locking in investments in incremental technologies, making UK businesses more resilient for the future.

***Decarbonising Homes: Consumer attitudes towards Energy Efficiency and Green Heating in the UK*, published by Nesta, provides an insight on consumer attitudes towards making their home more energy efficient.**

- Domestic energy use accounted for 21% of UK greenhouse gas emissions in 2019, and around three quarters of this came from home heating. In the UK, most of us keep warm at home by burning fossil fuels, predominantly gas. In 2017, on average, each of the UK's homes produced 2,745kg of CO_2 per year from heating. To get to net zero by 2050 – the UK's legally binding target – each home will need to reduce its CO_2 emissions from heating to just 138kg per year.
- The survey found that there is a huge value-action gap. Whilst 85% of consumers agree that climate change is one of the most important issues that needs addressing, behaviours that are absolutely necessary to reducing carbon emissions are not being adopted fast enough nor at scale to meet the UK's climate goals.
- Consumers were most likely to associate gas with being easy to use (56%), convenient (54%) and reliable (50%), ranking higher than electricity on each of these attributes. Gas is also more likely than electricity to be seen as easy to control (32%), but less likely to be seen as good value (27%).
- The attribute most commonly associated with renewable electricity is being environmentally friendly (62%). It is more likely to be seen as safe (36%) and good value (34%) than either gas or electricity from non-renewable sources.
- In terms of barriers to becoming energy efficient, cost is clearly a concern: 52% are worried about the upfront cost of making changes to their homes, while 41% strongly believe that the running costs of an electric heating system will be too great. Many consumers (45%) say that the upfront cost is more important than the running costs when they're considering making changes to their home.
- Offering financial incentives could be the most effective way in convincing consumers to adopt new measures. A grant which covers 100% of costs, energy bills being reduced by 25% and being paid by energy companies for electricity that's not used are considered to be the strongest incentives. The least motivating incentives are related to the duration of the building work needed, an increase in council tax and enhanced home attractiveness.
- Many consumers want to see more evidence about the benefits of energy efficiency and green heating measures for the environment, their savings or house value. Others seem to lack knowledge about the specific measures needed, confidence in finding the right person to do the job and have a perception that it's all going to cost too much. If the public are to become more engaged with the climate challenge and contribute to achieving net-zero emissions, the wider policy context will also need to be more supportive. New, compelling narratives will be needed to communicate with, influence and mobilise the public to adopt energy efficiency measures and green heating.

TELECOMS

[No relevant material sourced for this quarter's release.]

AIR ACCESS

***Pathways Towards a Cyber Resilient Aviation Industry Resilient Aviation Industry*, published by the World Economic Forum, aims to a common language and baseline of practices and encourage collective initiatives for increasing cyber resilience across the Aviation ecosystem.**

- Cyber resilience can be defined as: "the ability to anticipate, withstand, recover from, and adapt to adverse conditions, stresses, attacks, or compromises on systems that use or are enabled by cyber resources".
- Although aviation stakeholders are determined to achieve higher cyber resilience levels, their efforts are hindered by various organizational, technical and regulatory barriers. Overcoming these barriers will require a holistic, systematic and collaborative approach by multiple stakeholders in the public and private sector.
- The Covid-19 pandemic has created an unprecedented existential crisis for the aviation sector. As restrictions continue, the prolonged decline in air travel demand has impelled aviation organizations to maintain a minimum operational level and reprioritize their investments and resources to "keep the lights on".
- Existing practices of information security management systems and corporate governance are inherently limited to individual organizations. This means that governing and managing cybersecurity and its related risks are often not performed beyond the perimeter of the organisation. There is a general consensus that access to timely and actionable threat intelligence would improve a company's security, however, such information-sharing between industry actors and government agencies is rare and is hindered by the lack of effective and common data-sharing mechanisms and models.
- The following actions are recommended to build cyber resilience at an international, national and organisational level:
  - Aligning regulations globally with balanced and outcome-based guidance.
  - Establishing a cyber-resilience baseline across the supply and value chains.
  - Encouraging assessments and industry benchmarking.
  - Developing international information-sharing frameworks and standard.
  - Enabling systematic build-up of skills.
  - Rewarding open communication about incidents.
- For the aviation industry to prosper and realise the digital dividends of the Fourth Industrial Revolution in a safe and secure manner, cyber resilience needs to be embedded in the culture and in business-operation models. The proposed pathways can be used by business and government leaders to build resilient and sustainable digital systems that are better prepared for future systemic shocks.

Government

NORTHERN IRELAND

***10X Economy - An Economic Vision for a Decade of Innovation*, published by the Department for the Economy, sets forth a plan for a decade of innovation to drive growth for the Northern Irish economy.**

- In this decade of innovation technological advancements will dramatically change how we live, work and enjoy ourselves. This new decade requires innovation on a new scale - unlocking the unique opportunity to drive growth and inclusion. The aim of the report is to see a tenfold increase in innovation while also achieving a fairer distribution of opportunities for people to participate in and benefit from our economic growth.
- There are a set of technologies that will shape the future, and Northern Ireland has established real strength in a selection of these technologies. These technologies can come together to form

‘clusters’ and this combination generates increased innovation, higher levels of competitiveness and helps businesses diversify into new markets. The five priority clusters are:

  - Digital, ICT and Creative Industries (e.g. Cyber Security)
  - Advanced Manufacturing and Engineering (e.g. Composites)
  - Agri-Tech
  - Life and Health Sciences (e.g. Personalised Medicine)
  - Fintech/ Financial Services

- These technologies and clusters form the foundation of building a 10x Economy for the future. Understanding how these strengths can be developed, translate to benefits in the wider economy, the skills required for them to grow, how all people can participate in the transformational change emerging from these areas, and how the ecosystem can support this transformation are core challenges in making the vision happen.
- Measurement of the performance on a global stage, building international economic relationships in the right areas and learning from international best practice will be important drivers towards realisation of the 10X vision.

***The Impact of Covid-19 on the NI Economy: Modelled Results for Q4 2020*, published by the Department for the Economy on behalf of Fraser of Allander Institute, looks at how the NI economy performed in Q4 2020.**

- In Q3 the gap in the level of openness between the UK and NI narrowed as more businesses resumed trading. In Q4 there have been differences in timing in the introduction and easing of restrictions across different nations. However, averaged across the whole quarter, the level of openness between NI and the UK was similar for Q4 in the main regional BICS (Business Impact of Covid-19 Survey) series.
- In Q2 there was a more severe initial impact on the NI economy followed by a faster recovery than the UK average in Q3. In Q4 the path of GDP growth between NI and UK was very similar, with NI growing marginally slower compared to the UK. However, this masks larger differences at a sectoral level given the detailed weighting of the NI economy. For example, the modelled larger fall in agriculture, forestry and fishing in NI compared to the UK in Q2 is because of the relative size of the Fishing and aquaculture industry in NI, which has been hit harder than agriculture or forestry.
- In the second half of October NI implemented a ‘circuit-breaker lockdown’ which required hospitality and close contact services to close for a number of weeks. This lockdown contributed to the weak monthly performance of the economy in October and November. The higher concentration of the wholesale & retail sector in NI relative to the UK allowed NI to grow marginally faster in December.
- Northern Ireland had a lower share of the workforce on furlough between July and September compared to the rest of the UK. The ‘circuit-breaker’ lockdown introduced in NI in mid-October led to an increase in furloughing, whereas the share of furloughed employees continued to decline in the rest of the UK throughout October. The share of furloughed workers in the UK rose above the NI level again in November as new restrictions were imposed in England. The NI share subsequently rose again in December aligning up with the UK level.
- In Q4 growth in vacancies slowed down in NI and was outpaced by the UK. In December, vacancies in NI declined for the first time since April. Nevertheless, in terms of levels, vacancies in NI were circa 20% higher in December 2020 compared to January 2020 whereas the number of vacancies in the UK remained circa 20% below the levels seen in January 2020.
- Overall, real-time indicators of economic activity and the labour market suggest a broad-based slowdown in economic activity and marginally slower growth of the NI economy relative to the UK in Q4.

ENGLAND

[No relevant material sourced for this quarter’s release.]

SCOTLAND

***Coronavirus (COVID-19): Understanding Inequalities in Wellbeing During the Pandemic*, published by the Scottish Government, presents findings from qualitative research on how the Covid-19 pandemic has affected subgroups of the Scottish population.**

- The research was commissioned to investigate why the wellbeing of five subgroups in the Scottish population has been disproportionately impacted by the Covid-19 pandemic. The five subgroups identified were women, young adults, those living in the lowest quintile SIMD (Scottish Index of Multiple Deprivation) areas (SIMD 1), disabled people, and those whose employment was threatened by the pandemic. From this, recommendations were sought on what can be done to mitigate against further negative impacts on wellbeing across these groups.
- The research revealed that there were five core practical issues that impacted wellbeing:
  - Home living situations, including enforced confinement.
  - The inability to meet up with and connect with friends and family.
  - Changes to, and challenges with, work and financial stability.
  - Removal of freedoms and closure of the social infrastructure in communities.
  - Living in a country which is battling through a pandemic, and with this, the need to learn new ways to be around others in society; and related changes to health service provision.
- These practical issues have led to six core factors that impacted wellbeing:
  - A lack of sense of control over our lives as individuals.
  - A sense that our national institutions have had no real control over the situation.
  - A fear of risk from the virus.
  - A fear of risk relating to other health issues as a knock on consequence of the COVID-19 pandemic.
  - A general social deconditioning relating to reduced ability to live and interact with others in our homes and communities.
  - Positive impacts on wellbeing as a result of the practical issues.
- In order to mitigate against further damage to wellbeing the research indicated that policy development could be considered in three areas:
  - Actions to support wellbeing in the immediate term, that is, while the Covid-19 pandemic continues – This includes support to build resilience while the pandemic continues. This will involve communications from the government about the plan to get Scotland out of the pandemic, communications to ensure all those in need understand that there is support for wellbeing available, and initiatives to start the process of building confidence in advance of community reintegration. Financial support for those in need while restrictions are still in place and support from schools for parents to mitigate against the impact of localized cases of the virus are also recommended.
  - Actions needed for the medium term, that is, during the immediate recovery from the pandemic – This includes social reintegration strategies, including allowing the population to see that the pandemic is over, creation and promotion of connection points in communities, and encouragement of volunteering within communities. Providing ongoing support to build resilience particularly amongst those who have faced challenges with their mental health and providing financial support for those in need through any future recessions.
  - Actions needed for the long term. That is, looking forward as a society in the light of having lived through a pandemic and building on lessons learned – This includes Strategies and plans to ensure the people of Scotland have ongoing support with building resilience and strategies and plans that show that the Scottish Government has learned from the Covid-19 pandemic experience and is prepared for any future pandemics; particularly in relation to dealing with the health consequences, protecting the economy, and protecting the education system.

WALES

[No relevant material sourced for this quarter's release.]

REPUBLIC OF IRELAND (ROI)

[No relevant material sourced for this quarter's release.]

Sources

Catalyst Inc.

CBI UK

CBRE

CBRE UK

Centre for Business Research (CBR)

Centre for Economic Policy Studies (CEPS)

Centre for Economics and Business Research (CEBR)

Centre for Enterprise and Economic Development Research (CEEDR)

Centre for European Economic Research (ZEW)

Department for Digital, Culture, Media and Sport

Department for Exiting the European Union

Department for the Economy

Department of Finance

Department of Jobs, Enterprise and Innovation (DJEI)

Department of Transport, Tourism and Sport

Dept. for Business, Energy & Industrial Strategy (BEIS)

Economic Advisory Group (EAG)

Economic and Social Research Council (ESRC)

Economic and Social Research Institute (ESRI)

Economics Ejournal

Economist Intelligence Unit

Enterprise Research Centre (ERC)

European Association of Research and Technology Organisations (EARTO)

European Commission - Enterprise and Industry - Growth publications

European Investment Bank (EIB)

Eurostat

Federation of Small Businesses (FSB)

GEM Consortium

Green Alliance

HM Treasury (HMT)

Imperial College London - Business School

Institute for Fiscal Studies (IFS)

Institute for Government

International Institute for Management Development (IMD)

International Monetary Fund (IMF)

InterTradeIreland

Invest NI

Ipsos MORI

Irish Exporters Association (IEA)

Joseph Rowntree Foundation

Journal of Business Research

Kiel Institute

Legatum Institute

LSE - Centre for Economic Performance (CEP)

LSE - Spatial Economics Research Centre (SERC)

McKinsey UK

National Assembly for Wales

National Competitiveness Council (NCC)

National Economic and Social Research Council (NECS)

National Institute of Economic and Social Research (NIESR)

Nesta

Nevin Economic Research Institute (NERI)

NI Assembly Research and Information Service (RaISe)

NI Council for Voluntary Action (NICVA)

NI Science and Industry Panel – MATRIX

NISRA

OECD iLibrary

Open Europe

Organisation for Economic Development and Co-operation (OECD)

Oxera

Oxford Economics

Oxford Review of Economic Policy

Parliament Briefings

Peterson Institute for International Economics (PIIE)

PricewaterhouseCoopers (PWC NI)

PricewaterhouseCoopers (PWC)

Queen’s University Belfast – Economics

Queen’s University Belfast - Research Centre in Sustainable Energy

Resolution Foundation

ResPublica

Scottish Enterprise

Scottish Government

Small Business Research Centre (Kingston University London)

Taxpayers Alliance

Technical Research Centre of Finland (VTT)

Technopolis

The Executive Office (TEO)

Tourism NI

Trinity College Dublin

Ulster University Economic Policy Centre

University College Dublin (UCD)

University of Ulster - Business Management Research Institute (BMRI)

Visit Britain

Visit Scotland

Wavteq

Welsh Government

World Bank

World Economic Forum (WEF)