ANNEX A: Understanding the long-term impacts of COVID-19 on the Northern Ireland economy

Long-term impact #1: Mental health

Successive periods of lockdown are having a damaging impact on mental health. The impact of a deterioration in the mental health of a population could result in long-lasting impacts for individuals and the economy. NI could be particularly vulnerable given that prior to the pandemic, the mental health of the population was already at a very low base. It is estimated that if one-quarter of the NI population suffer from mental health issues one year after reopening the economy, the total cost to the economy could be in the region of £288m.

A. Research indicates that COVID-19 will have a dramatic and long-lasting impact on the mental health of the global population.

International literature suggests that declining mental health is leading to a fall in productivity levels.

- According to the World Economic Forum (WEF), approximately 30% of employed adults took a leave of absence as a result of COVID-19.
- A survey completed by Ipsos MORI on behalf of the WEF has suggested that in 2020, 32% of individuals found themselves working longer hours with 32% of individuals working fewer hours. This contradictory messaging is likely to disrupt productivity and output figures for 2020. Whilst short-term output may be increasing in certain sectors, longer-term output may suffer. This could come at a significant cost to society and the workforce as individuals face burn outs as a result of heightened stress from longer hours.
- This research also highlighted that 56% of respondents have experienced anxiety around job security, with close to half of respondents feeling lonely and isolated whilst working at home. This is clearly impacting output with over 40% of respondents reporting a decline in their productivity as a result of working from home during the pandemic.[1]
- A survey completed by Qualtrics found that at a global level, employees across all levels were finding that the pandemic was having negative impacts on their mental health, which was in turn reducing their productivity.
- 28% of respondents stated they had found increased difficulty concentrating as a result of declining mental health, with 20% stating that it was taking longer to complete tasks and 12% stated that they had been putting off challenging work [2]
- The overall mental health impacts could be even higher those not able to work from home as a result of the pandemic were also included (employees in the tourism, hospitality, retails, arts and entertainment sectors in particular).

UK data show that mental health has become an issue for one quarter of the population.

- Mental health in the UK has significantly deteriorated, by 8.1% on average, with young adults being the most significantly impacted since the start of the pandemic.[3]
- In April 2020, an additional 7.2m (14% of people aged 16+ in the UK) reported experiencing a mental health problem 'much more than usual'. It is likely that the groups of individuals experiencing the worst mental health as a result of the pandemic were already those with the poorest mental health before COVID-19.

[1] Ipos - Anxiety, stress and loneliness: COVID's toll on the lives of workers
[2] The Other COVID-19 Crisis: Mental Health / Qualtrics
[3] IFS - The mental health effects of the first two months of lockdown and social distancing during the Covid-19 pandemic in the UK

- In June 2020, it was reported that 69% of adults in the UK were feeling worries about the impact that COVID-19 was having on their life. The most common issues affecting wellbeing were: worry about the future (63%), feeling stressed or anxious (56%) and feeling bored (49%).[4]
- Research has suggested that parents and carers have been amongst the most vulnerable in regard to suffering from a deterioration in mental health. Research from the University of Oxford stated that the scale of depression, anxiety and stress amongst parents had increased between April and June 2020.[5]
- The ONS reported in January 2021 that personal well-being scores for life satisfaction and happiness reached their lowest levels since March 2020. It appears that individuals in Great Britain (GB) remain pessimistic about the future with one in four adults feeling that it will take over one year for life to return to normal.[6]

B. The socio-economic impact of mental health issues in NI could be even greater than in the rest of the UK.

The impact of COVID-19 on the mental health of the population of NI could be of particular concern given the fact that the mental health of the population started from a low base in 2020.

- It has been reported that 12.6% of children and young people in NI experience common mood disorders such as anxiety and depression, which is thought to be c.25% higher than in the rest of the UK.[7]
- A similar picture has been painted for mental health in adults. In 2018, NI had the highest age standardised suicide rate with 18.6 suicides per 100,000 of the population, with young men being the most vulnerable.[8]
- NI also had a higher share of vulnerable inactive people prior to the crisis, with an inactivity rate of 25.8% versus 20.5% in the UK.
- It is well established that a high inactivity rate creates long-term economic and social risks. There is a high opportunity cost associated with state funding of individuals who could instead assume a role in the workforce and contribute to output and productivity.

Mental health deterioration, resulting from successive periods of lockdown and restrictions will have a long-lasting impact (Post-Traumatic Stress Disorder (PTSD), social inequalities, public finances).

- Research has suggested that the costs of mental health problems in the UK workforce cost employers £34.9bn in 2017, meaning that mental health problems cost £1,300 for every employee in the UK economy. The research found that the major costs to employers is the reduction in productivity they face as a result of mental health driven absenteeism.[9]
- It is often the most disadvantaged that will suffer from mental health issues with many being discouraged to even look for a job, which could increase inactivity within the labour market.
- The evidence presented above would suggest that the COVID-19 pandemic could have long-lasting impacts on the mental health in NI. Evidence also shows that poor mental health comes at a cost to society and the economy which could have severe impacts for NI's pre-existing high inactivity rates.
- If we were to assume that 25% of the active population (886,000 people as of November 2020) will suffer from mental health issues over one year after restrictions are lifted, this could cost £288m to the NI economy.[10]

[4] Emerging evidence on COVID-19's impact on mental health and health inequalities | The Health Foundation
[5] Parental mental health worsens under new national COVID-19 restrictions | University of Oxford
[6] Coronavirus and the social impacts on Great Britain - Office for National Statistics (ons.gov.uk)
[7] Youth Wellbeing Prevalence Survey 2020 - HSCB (hscni.net)
[8] Northern Ireland Assembly - Suicide statistics and strategy in Northern Ireland
[9] Mental health problems at work cost UK economy £34.9bn last year, says Centre for Mental Health | Centre for Mental Health
[10] Calculated using current employment levels provided by NISRA.

Long-term impact #2: Education and skills

Education and training programmes increase skills and productivity within an economy. Continued lockdowns and a decline in the number of apprenticeships will have long-lasting impact on the young people and local businesses in NI.
It may generate a skills gap which could undermine recovery potential. It would also affect the most disadvantaged in our societies, increasing social inequalities whilst substantially reducing economic output.

A. COVID-19 could have a dramatic and long-lasting impact on education and skills.

International literature has suggested that school closures and distance learning has had a substantial impact on the quality of education for students and with increasing levels of absenteeism.

- The French Minister for Education suggested that during the first two weeks of school closures in 2020, between 5% and 8% of French students could not be reached by their teachers. In Los Angeles, the United States' second largest school district, 13% of high school students did not have any contact with teaching staff in the first three weeks following the first lockdown.[11]
- It is clear that schools were facing significant attendance challenges in the early stages of the pandemic which could lead to disengagement and increasing dropout levels, particularly in those areas of society with high levels of inequality.
- Socio-economic background is commonly linked to stresses within the school system. For example, students could struggle to maintain their learning at home as a result of inadequate resources such as access to IT equipment and broadband.

UK research has suggested that the continued closure of UK schools and educational facilities has had significant negative consequences for the educational development of pupils.

- According to OFSTED, the effectiveness of remote education has been extremely varied across households. Many children with special education needs and/or disabilities are not attending school and are struggling with remote learning.[12]
- Research has suggested that those from low-income households are expected to be most at risk of losing out on their education, with studies suggesting that the poorest children tend to already be 11 months behind their peers from more affluent backgrounds.[13]
- A survey completed by the Institute of Fiscal Studies suggested that children from better-off households are spending 30% more time each day on educational activities compared to children from the poorest households. The results suggested that the majority of parents are struggling with providing home learning, but a few have the means to provide some form of support through online resources or private tutoring.[14]
- The Institute of Fiscal Studies has suggested that UK pupils may lose on average £40,000 of lifetime earnings for every half year of education lost.[15]
- The Resolution Foundation have forecast that youth unemployment could rise by 600,000 to over 1m in the UK, with organisations such as Youth Employment UK fighting to address the long-lasting impact that this could have on the career opportunities for the 'Corona class of 2020'.[16]

[11] Education and COVID-19: Focusing on the long-term impact of school closures (oecd.org)
[12] COVID-19 isolation having detrimental impact on children's education and welfare, particularly the most vulnerable - GOV.UK (www.gov.uk)
[13] C. Cullinane & R. Montacute (2018) P
[14] IFS - Learning during the lockdown: real-time data on children's experiences during home learning
[15] 'The crisis in lost learning calls for a massive national policy response', Institute for Fiscal Studies (February 2021)
[16] Resolution Foundation - Corona crisis could increase youth unemployment by 600,000 this year – and scar young people's prospects for far longer

UK research has suggested that the COVID-19 pandemic is having severe impacts on those undertaking apprenticeships.

- The benefits of training schemes such as apprenticeships generate a significant return for the economy. The amount of return is between £26 and £28 for every £1 of government investment in apprenticeships at level 2 and level 3 respectively.[17]
- Evidence has shown that the apprenticeship sector is under stress with the number of apprenticeships in the UK between March and May 2020 falling by 50%, when compared to the same period in 2019.
- The sectors that have been most impacted to date have been: health and social care, administration, business management and child development.[18]
- Apprenticeships tend to be lower paid roles, primarily undertaken by those from disadvantaged backgrounds. Any reduction in the level of apprenticeships provided would increase the level of inequality in the UK.

B. The impact of remote learning and cancellation of apprenticeships in NI could be even greater than for the rest of the UK.

The impact of COVID-19 on the educational performance of young people in NI should be of particular concern due to the high levels of existing inequality within the region.

- The under-performance of school children from disadvantaged backgrounds in NI was already a concern prior to the pandemic.
- Less than half of school-leavers from disadvantaged backgrounds achieve at least five GCSEs at A*-C including English and Maths, while NI has a higher proportion of adults with no qualifications than England, Scotland or Wales.[19]
- Pupils from lower-income families and communities tend to be faced with lifelong achievement and education gaps between themselves and their more affluent peers.[20]
- Research has indicated that young people in NI could be some of the most vulnerable as demand for entry level positions has declined during the pandemic. In normal times, young people tend to begin their careers in the more vulnerable occupations and roles, and this may only be heightened in the next number of years as a result of the pandemic.[21]

The closure of educational facilities and businesses providing apprenticeship opportunities is having severe impact on the skills and education of young people in NI.

- Apprenticeships in NI are positive contributors to the local business community as well as for the individual themselves.
- The development of industry-specific and transferable skills and behaviours and achieving a recognised accreditation at the end of the apprenticeship. This means talented recruits are trained in areas that will ultimately be beneficial to the business.
- The Department for the Economy (DfE) reported that prior to the pandemic, there were 7,714 apprentices in NI. However, 4,500 of them have been furloughed in 2020.[22]

[17] HM Government - English Apprenticeships: Our 2020 Vision
[18] Apprenticeship starts halved due to impact of COVID-19 (fenews.co.uk)
[19] Scopeni - The impact of COVID-19 and educational attainment in NI
[20] The impact of COVID-19 and educational attainment in NI | ScopeNI (nicva.org)
[21] COVID-19-Worker-characteristics_08.06.2020.pdf (ulster.ac.uk)
[22] Department for the Economy

- If those apprenticeships who are currently furloughed do not return to work, the NI economy could lose up to £2,275 in assumed additional output per apprenticeship per year. Grossing this up could result in losses of up to £3.4m in additional output this year. [23]
- Apprentices and those who require on the job learning and/or a physical presence are at a severe disadvantage, as during successive periods of lockdown, they will be unable to improve and obtain the necessary skills to have a successful career in their chosen field.
- Apprentices and trainees could fall behind their peers and those who have more recently qualified in their sector. This could impact individuals' lifelong career and earnings potential.
- It could also impact the long-term growth of the NI economy with potential skill shortages in the future as businesses struggle to find domestically qualified individuals to fulfil roles in sectors such as; electrotechnical, engineering and food manufacturing. These sectors are some of the key priorities supported by DfE's Industrial Strategy.[24]

[23] This is based on the assumption that for every £1 invested in Apprenticeships in the UK, approximately £27 in return is generated. Estimated NI expenditure on apprenticeships in 2019 was £26m, which equals £3,370 per apprentice (based upon 7,714 apprentices). Based on the assumption that the 39% apprentices currently furloughed do not return to work (1,253) along with the 250 apprentices made redundant we have assumed that 1,503 apprentices will not return to the workforce. If we assume using UKG figures that for every £1 of government spend a return of £27 is generated, the lost return over a working life time per apprentice is £91,003 (£27 x £3,370) which we have divided by 40 working years to give an estimated lost return of £2,275 per apprentice which we have grossed up based on 1,503 apprentices not returning this year, to give a total annual loss of £3.4m.
[24] DfE - Economy 2030 - A consultation on an Industrial Strategy for Northern Ireland

Long-term impact #3: Corporate debt

The COVID-19 pandemic has resulted in the shutdown of entire sectors to limit the spread of the virus. As a result of mandatory lockdowns, Governments across the world have responded with rescue packages to maintain businesses throughout the pandemic.
UK small and medium-sized enterprises (SMEs) have significantly increased their borrowings in 2020. This reduces the potential resilience and sustainability of these enterprises in the future. As business may prioritise repayment, this could damage future investment opportunities or even force them to close. A second wave of job losses could be faced in the medium-term. Up to 20% of firms may be unable to repay public loans and investments postponed may not create the added-value needed in the years ahead to bounce back to pre-COVID activity levels and drive an innovation-led economy.

A. COVID-19 will have a dramatic and long-lasting impact on the corporate solvency of businesses.

Global corporate debt levels are soaring as businesses fight to survive in the short term, with repayments over the next number of years constraining recovery.

- According to the World Bank, global government debt is expected to reach 99% of GDP in 2020. This is a new record, as governments attempt to support their economies through lockdowns to prevent the spread of COVID-19.[25]
- Businesses across the globe have increased debt levels in order to survive the crisis. US companies currently owe more than $10 trillion, which is nearly half of the country's 2019 GDP. Taking other forms of business debt into consideration, including partnerships and small businesses, this figure stands at $17 trillion.
- As a result of increasing corporate debt levels, Governments have been forced to intervene.
- For example, the Federal Reserve announced a programme to support the US corporate debt market, which improved liquidity and helped indebted firms avoid bankruptcy.[26]
- However, while the intervention of Governments in extending loans has assisted businesses in the short-term, they have also added to the debt burden that businesses will have to repay over the next number of years, potentially constraining future growth.

UK businesses were given short-term financial relief with the assistance of Government-backed loans. However, as repayments begin in 2021, businesses potentially face a wave of debt should they not be able to operate at normal levels.

- UK corporate debt levels have been increasing over the past number of months with the Bank of England stating that net bank borrowing by SMEs reached a record £43.3bn in 2020 compared to £1.4bn in 2019. [27]
- UK businesses have raised concerns regarding their ability to survive. 15% of UK businesses surveyed by the Office for National Statistics (ONS) in December/ January stating that they had low/ no confidence in their ability to survive the next three months. [28]
- The increase in corporate debt levels could lead to the UK economy falling into a balance sheet recession, whereby businesses become overburdened with debt and are forced to concentrate on improving their balance sheets by reducing their debt levels.
- If a large proportion of businesses are paying down debt, they will not be focused on increasing investment and recruitment. If businesses and individuals are saving money or paying down debt, rather than spending, other businesses and individuals need to be spending or borrowing in order for the economy to recover.

[25] Financial News - World Bank warns global debt to reach new high at 99% of 2020 GDP
[26] Newsweek - A $10 Trillion Corporate Debt Bomb Is Waiting to Explode the U.S. Economy
[27] Bank of England - Money and Credit - December 2020
[28] LSE - A wave of COVID-related bankruptcies is coming to the UK. What can we do about it?

- If consumption does not increase following the reopening of the economy, the UK could be faced with a slow recovery period.
- Research has suggested that monetary policy levers during this type of recession tend to be unsuccessful, with fiscal stimulus being the key to helping the economy recover.

Long-term impact of rising corporate debt could leave NI businesses with cash flow and liquidity issues should economic activity not return to pre-lockdown levels. The long-term recovery position of the NI economy is at risk as businesses face debt repayments and plan to reduce capital investment.

- The COVID-19 pandemic continues to weigh heavily on the sentiment of NI businesses. The Chamber of Commerce reported that 69% of businesses surveyed believing that prospects for the NI economy will remain weak in 2021, with 38% of businesses believing that their own business prospects will remain weak. [29]
- To date, over 39,000 businesses in NI have received UK Government-backed support from either the Bounce Back Loan Scheme or the Coronavirus Business Interruption Loan Scheme. Total support received by NI businesses from the schemes reached over £1.5bn as of January 2021. Take-up accounted for approximately 32% of the business community in NI. [30]
- Lower levels of corporate insolvency suggest that the Government-backed loans are helping businesses survive in the short term. Only 24 company insolvencies were recorded in NI in Q3 2020 (70% lower than the same period in 2019).[31]
- At a UK level[32] the sectors receiving the most support (in relation to the size of the sector[33]) include; construction (17%), wholesale and retail (15%), professional services (11%), accommodation and food services (8%), and real estate (6%). Wholesale and retail and accommodation and food services are the sectors that will be most impacted should the shutdown of the local economy continue over the next number of months. They are also the sectors with the highest debt levels.
- Whilst the Government backed schemes have been welcomed and have been drawn upon by NI businesses, there remains a challenge in the year ahead as businesses begin repayments on these loans. This could have a negative impact on business cash flow and liquidity, and this may also restrict businesses ability to invest in R&D, skills and new employment.

[29] Northern Ireland Chamber of Commerce and Industry - Tough trading conditions hit confidence and investment hard
[30] Coronavirus loan schemes continue to support businesses evenly across the UK, new analysis shows - British Business Bank (british-business-bank.co.uk)
[31] The Insolvency Service - Quarterly Company Insolvency Statistics, Q3 July to September 2020
[32] Please note that a breakdown by sector at a NI level is unavailable.
[33] Breakdown by BBLS

Long-term impact #4: Personal debt

The COVID-19 pandemic has increased inequality levels within society, as those who have kept their jobs and have the ability to work from home have increased their savings rate, but those who have been made redundant or had their hours reduced are potentially increase debt levels. The most job-intensive and lower paid sectors of the economy have been hit the hardest by the pandemic as they are the ones that tend to interact most with the public and therefore have the highest disease transmission risk.
Consumption is essential to NI economic activity. Those with the lowest incomes are the ones that are spending a higher proportion of their income. If their purchasing power was significantly affected this could have a negative impact on NI long-term development.

A. COVID-19 may have a dramatic and long-lasting impact on personal debt levels.

While it is true that many have accumulated savings since the onset of COVID-19, so too have others needed to use existing savings or, eventually, borrowed funds to substitute lost income. Whilst 24% of citizens had saved more money during the pandemic, 25% had either borrowed more money or had used existing savings[34]. As such, increasing levels of personal debt across the globe as a result of the pandemic are likely to be recorded in 2021.

- The Institute for International Finance (IIF) has stated that the pandemic has pushed global debt levels to a new record high of $255 trillion. With debt levels now topping 322% of GDP, global debt is 40 percentage points higher than in 2007
- There has been a significant increase in household debt worldwide. Household debt has now reached $48 trillion, up from $35 trillion in 2007.
- Switzerland, Denmark, Norway and China have the world's most indebted household sectors relative to GDP. The build-up in household debt has been sharpest in China (up 35%pts) and Norway (up 30%pts) since 2007.[35]

Inequality is rising throughout the UK, with individuals with the lowest incomes in society facing increasing levels of debt.

- UK households in higher income brackets have financially benefited from COVID-19. Many higher-income households have spent less during the pandemic whilst working from home, resulting in an increased pot of savings and even paying down existing debt. Bank of England data shows that over £12bn of consumer credit was repaid, mainly by higher-income households, in the second quarter of 2020.
- In contrast to this, a report by Legatum Institute shows that more than 15m people – 23% of the UK population – are now in poverty. The report also calculates that the pandemic has pushed nearly 700,000 additional people in the UK into poverty, with 9.6m people's household incomes 25% or more below the official definition of poverty.
- Prior to the pandemic, the Money Advice Service estimated that 8.3m people in the UK were over-indebted, and that 22% of UK adults had less than £100 in savings – making them highly vulnerable to a financial shock such as job loss or large unexpected bills. This type of financial shock is exactly what the pandemic has created: by May 2020, 4.6m people in the UK had accumulated over £6bn in debt and arrears.
- Citizens' Advice's data shows that roughly 6m adults have fallen behind on at least one household bill during the pandemic.[36]

[34] Respondents from Great Britain, 'How has the pandemic changed borrowing behaviours?' from YouGov's Global Banking and Finance Report 2021
[35] IIF - Global Debt Monitor - COVID-19 Lights a Fuse
[36] The Guardian - Covid has exacerbated soaring problem debt levels in the UK

- According to the Resolution Foundation, 54% of adults in families from the lowest income brackets increased their borrowing levels during the first lockdown (March-June 2020) to cover every day essential costs such as food and housing. Groups such as; renters, those from minority ethnic groups, carers, disabled people and young people have been the most impacted. [37]
- As a result of the ongoing economic uncertainty surrounding the pandemic, many people are looking at consolidating their debt, whether through secured loans, balance transfer credit cards or re-mortgaging – and lowering the interest they are paying.

B. The COVID-19 crisis has increased income inequalities which could weaken a consumption-driven economy in NI in the medium term.

A majority of NI households were in a weak financial position prior to the pandemic, which has only heightened financial stress.

- Prior to the pandemic, NI household debt levels were some of the highest in the UK. The Financial Conduct Authority estimate that on average, NI individuals owed £3,990 in unsecured debt (£670 above the national average). 12% of NI individuals have no cash savings at all and 60% of individuals have less than £10,000 in savings. [38]
- Whilst data is unavailable regarding NI households' current financial positions, UK Finance estimates that in 2020, one in six mortgages in the UK were subject to a payment deferral. [39]
- This is concerning for NI, which is a consumption-driven economy, with c.20% of tax revenue generated in NI from VAT, whereas the likes of Scotland, South, West and East England along with London, predominately raise tax revenue via the collection of Income Tax.[40]
- The most job-intensive and low-paid sectors have been those hit the hardest. Employees in these sectors are being penalised twice with immediate earnings reductions in the short term followed by uncertain and prolonged recovery for these sectors over the longer term.
- A higher proportion of households are facing increasing debt levels, however some are seeing an increase in savings.
- The question remains, will those households who have managed to build up savings during the pandemic, spend that money once the economy reopens or is there likely to be leakage as they choose to travel or add money to their pensions?
- There is a risk that household expenditure taken out of the economy in 2020 and early 2021 will not be fully recovered for some time. Incentive mechanisms from governments will be key in this regard to increase consumption in NI and support medium-term recovery.

[37] Coronavirus: Impact on household savings and debt - House of Commons Library (parliament.uk)
[38] BBC - Personal debt levels in Northern Ireland 'highest in UK'.
[39] Lenders grant 1.9 million payment deferrals to mortgage holders in three months | UK Finance
[40] ONS

Long-term opportunity #5: Balanced regional development

Evidence suggests that successive lockdown periods have changed preferences regarding city life versus life in smaller towns or rural areas. This particularly relates to concerns around health, work-life balance and housing prices. It is enabled by transport and broadband infrastructure that will need further public investment over the coming years. This "invisible circulation of wealth" based on people rather than firms can support balanced regional development in NI and could represent a positive legacy from the pandemic. Additional public investments in transport and broadband infrastructure will be key to maximise this positive impact.

A. Metropolitan areas may not drive economic growth forever, with the need to adapt to the expectations of new and existing talent.

International surveys suggest that we could be at the start of a de-urbanisation trend.

- The Harris Poll Survey conducted in August 2020 across the major cities in the US found that 40% of 'urbanites' considered moving from cities to less-crowded environments.
- Nearly half of all US adults said that they would prefer to live in a small town or rural area in 2020, which is a nine percentage-point increase from 2018, when just 39% responded this way. Those between the ages of 18-34 had a 10 percentage-point increase over the last two years, with 39% preferring rural/small-town life.[41]

Rebalancing: a possible positive consequence for regional development.

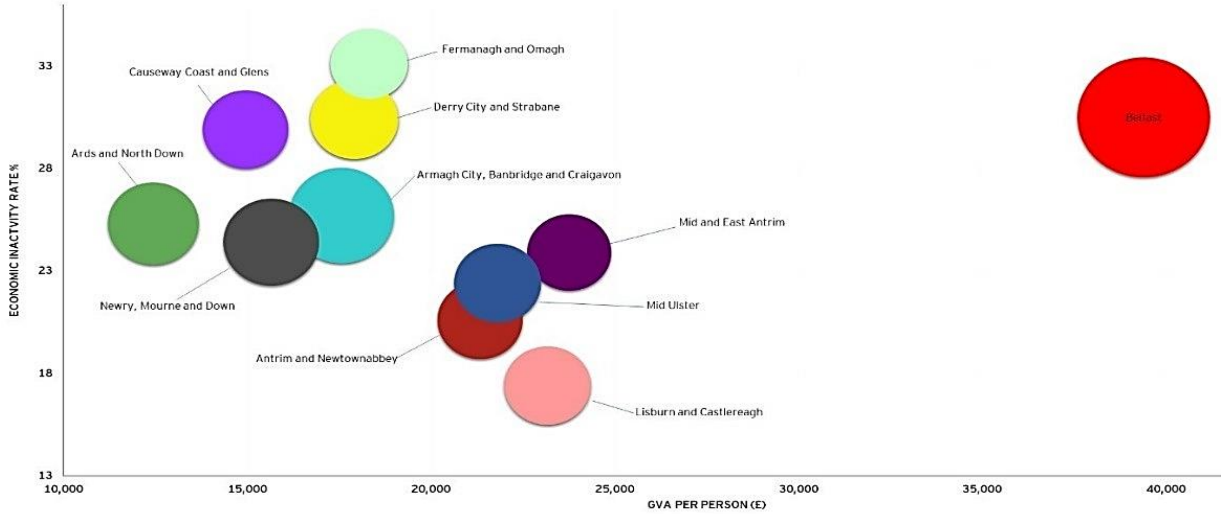
In the UK, estate agents have found a sharp increase in interest from city residents wanting to relocate to the countryside.

- The population of London is expected to decline by over 300,000 in 2021 from 9m in 2020. This would be the first time that the population of the capital has fallen in over 30 years.[42]
- According to Rightmove, enquiries about buying a home in a village jumped by 126% in June and July 2020 compared to the same period in 2019, with the uplift in village enquiries most notable among people living in Liverpool, Edinburgh, Birmingham and London.[43]
- The number of enquiries from Liverpool residents looking for a village lifestyle has almost tripled (275%) compared with a year earlier, while there has been a 63% increase in inquiries about towns. The city is followed by Edinburgh, where village enquiries are up 205%, Birmingham (up 186%) and London (up 144%).[44]

B. COVID-19 could lead to more balanced regional development in NI.

- NI had a particularly sharp inequality index prior to COVID-19, while Belfast was the outlier that saw the majority of economic growth and investment and had a very large population of skilled workers (see graph below). With the surge of remote working due to the pandemic, this highlights the need for regional development and investment across all of Northern Ireland.

[41] Harris Poll Survey, August 2020
[42] CNBC - London's population could decline in 2021 for the first time this century. Here's why people are leaving
[43] The London Economic - Escape to the country: Surge in city dwellers inquiring about homes in villages
[44] The London Economic - Escape to the country: Surge in city dwellers inquiring about homes in villages



Source: Economic inactivity rates and GVA per person in Northern Ireland, NISRA 2018, EY Analysis

- The NI government has identified the need for investment in regional areas, under the Regeneration and Neighbourhood Renewal Project undertaken by the Department for Communities (DfC) in NI, resulting in a draft allocation of £824.8m to the DfC in 2021.[45]
- The various public investments in broadband and the digital transformation of businesses are an opportunity to attract NI workers located in key cities such as London. Their spending locally would have a positive indirect effect on local towns and cities.
- Project Stratum, the NI national broadband plan worth £165m in 2021 has a rollout timeline that requires more than 76,000 extra premises across some of the hardest to reach areas in NI (e.g. rural) by the end of 2025.[46]
- The Draft NI Programme for Government (PfG) 2021 has also stated that a key priority area will be to tackle the issues that result in inequality and disadvantage in both urban and rural communities. [47]
- The Draft NI PfG also includes the aim of growing the economy to attract and stimulate investment across NI and to encourage business start-ups and development through City and Growth Deals whilst supporting sustainable development of rural industries, including increased digital access.[48]

[45] Department for Communities
[46] Department for the Economy
[47] Northern Ireland Executive - Consultation on the Programme for Government draft Outcomes Framework
[48] Northern Ireland Executive - Consultation on the Programme for Government draft Outcomes Framework

Long-term opportunity #6: Innovation and digitalisation could drive economic growth

Evidence suggests that increased innovation investment has long-term benefits for an economy. Prior to the pandemic, NI had seen a decrease in the level of innovation amongst local businesses. However, the pandemic appears to have pushed a number of firms towards increased innovation efforts in order to remain competitive in an ever-changing market. Should this increased level of innovation continue, the economy could benefit from increased productivity, efficiency and export activity in the long term.

A. Increased innovation witnessed in businesses across world as a response to the pandemic.

International research suggests that businesses have accelerated their innovation plans in order to remain competitive during the crisis.

- A survey by McKinsey Global has suggested that as a result of the COVID-19 pandemic, firms have been forced to react by innovating. The survey results suggested that businesses have accelerated the digitisation of supply chain interactions and internal operations by three to four years. [49]
- The majority of respondents stated that their companies had put in place temporary solutions to meet the changing demands of customers at a quicker pace than they had ever expected.

UK firms step up innovation plans in response to the pandemic which could have long-lasting impacts on productivity.

- Innovation is a key policy area for UK Government as economic growth and innovation are linked closely together.
- The unique nature of the COVID-19 crisis appears to have encouraged many firms to rapidly change their ways of working and adopt new digital technologies or management practices to enhance productivity.
- A joint survey by the London School of Economics and the Confederation of Business Industry suggested the majority of firms that responded, have adopted productivity-enhancing technologies and practices and/or introduced new products/services in response to the pandemic.[50]
- Over 60% of respondents have adopted digital technologies and new management practices, and 38% adopted new digital capabilities. 90% of those firms that have adopted new ways of working state they intend to continue with these innovations. [51]
- Should this level of innovation continue, it could have a significant, long-lasting impact on productivity and businesses performance in the long term.

B. The impact of COVID-19 has resulted in increased levels of innovation which could benefit the NI economy in the long term.

Northern Ireland businesses increased innovation during the pandemic which could result in stronger productivity and business growth.

- Prior to the pandemic, the volume of innovation-active businesses in NI had continued to decline, with 32% engaging in innovation in 2016-2018 (compared with 39% in 2014-2016, and 45% in 2012-2014).[52]

[49] McKinsey and Company - How COVID-19 has pushed companies over the technology tipping point—and transformed business forever
[50] LSE - COVID has forced many firms to innovate, with possible lasting impacts
[51] LSE - COVID has forced many firms to innovate, with possible lasting impacts
[52] DfE - A third of Northern Ireland businesses are engaging in innovation

- However, the rapidly changing business environment caused by COVID-19 has resulted in NI businesses seeking to innovate in order to remain competitive
- Invest NI have seen an increase in the volume of innovation voucher applications. Over 170 innovation vouchers have been awarded as of the end of 2020, which is over double the volume from the same period in 2019.[53]
- Research has suggested the impact of public funding for innovation on private funding for innovation results in no deadweight/crowding out. For every £1 of public funding for innovation, this also generates and additional 30p in private funding. [54]
- Should these levels of innovation continue, there could be significant long-term benefits for the NI economy including: increased productivity, higher propensity to export, increased efficiency (e.g. reduced use of energy), increased crowding in effects (increased business investment in innovation following public investment) and increased cluster effects/collaboration between public, private and academia.[55]

[53] InvestNI - Innovation in the face of COVID-19
[54] Department for Business Innovation and Skills - Estimating the effect of UK direct public support for innovation
[55] Qub - How Will Innovation Drive Our Future Economy?