



Working from Home Pre and Post Pandemic

Regional Patterns and Outlook



The Western Development Commission promotes economic and social development in the Western Region of Ireland (counties Donegal, Sligo, Leitrim, Mayo, Roscommon, Galway and Clare).

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Introduction

The pandemic prompted a huge shift to working from home, though there was some evidence of an increase in the trend before 2020, see [here](#) for trends national and regionally up to 2020. Examining the data (albeit relatively limited) over the longer term, there is some indication of a correlation between the economic cycle and levels of employment and the relative incidence of remote working. In periods of full or close to full employment the level of remote working increases and in periods of high unemployment the rate is lower. See [here](#) for a discussion on longer term trends related to economic cycles and the labour market.

However, this pattern of remote working all occurred pre pandemic. There are also regional differences evident, before, during and since the lifting of pandemic workplace restrictions. It is only now with the lifting of Government guidelines on working from home, that we can review the evidence pre, during and post pandemic and question has there been a pandemic effect?

In this Policy Briefing, I examine the regional and national data on working from home in the first quarter of early 2022. Following this I review trends over the past 4 years and consider what the outlook and new normal might be. Employment change by industry is examined and I consider the impact this may have on differing levels of working from home across regions.

Working from Home 2022

The CSO Labour Force Survey (LFS) data includes a question on working from home and data from 2022 is now available. While the phenomenon of remote working has taken on a much greater significance since the pandemic and can include not just home working but also working from a co-working or hub space, working from home is a very significant element of working remotely¹. For this reason the LFS time series data is a useful data set.

The CSO Labour Force Survey asks how often you worked at home. The definitions are as follows;

- If you worked for at least one hour from home in the last four weeks, it is categorised as 'sometimes works from home'.
- If the response is 'At least half of the days worked at home', then it is categorised 'as usually works from home'.

¹ In terms of preferences, up to 8% of survey respondents expressed an interest in working sometimes from a hub. <https://westerndevelopment.ie/wp-content/uploads/2022/05/Remote-Working-Survey-Report-2022-1.pdf>

Those who report 'At least half of the days worked at home', are categorised as usually works from home.

Nationally 28% were usually working from home, though there are quite significant regional differences.

The regions with the highest rates of usually working from home are Dublin (39%), followed by the Mid-East region (26%).

The Midlands region had the lowest rate – one fifth - of employment usually working from home in 2022

Working Usually from Home 2022

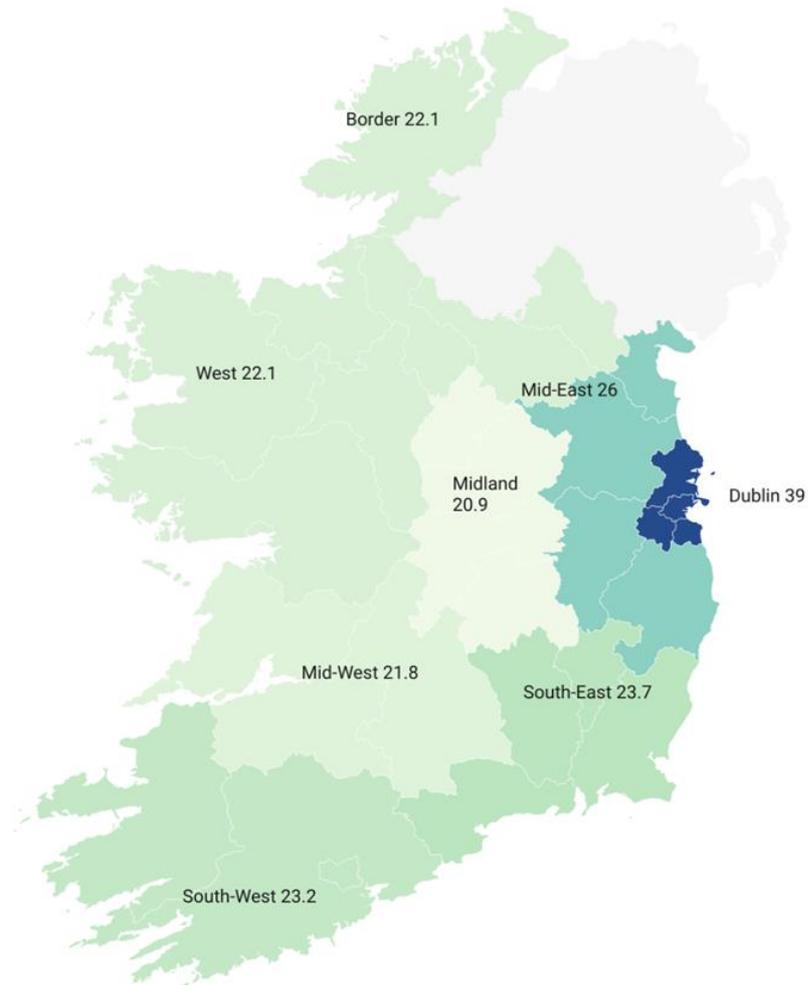
Map 1 below shows the levels of those *usually* working from home as a percentage of total employment at a regional level in 2022.

While, nationally the rate was 28%, there are quite significant regional differences. The regions with the highest rates of usually working from home are Dublin (39%), followed by the Mid-East region (26%). This reflects the relatively high rates of jobs in the capital amenable to working from home and the residence of workers, many of whom commute from the Mid-East. There is an 18.1 percentage point difference in the region with the highest level – Dublin (39%) and the region with the lowest – the Midlands region (20.9%).

Map 1 Usually working from home as a % of total employment

Percentage of employment Usually working from Home Q1 2022

% of those in employment usually working from home



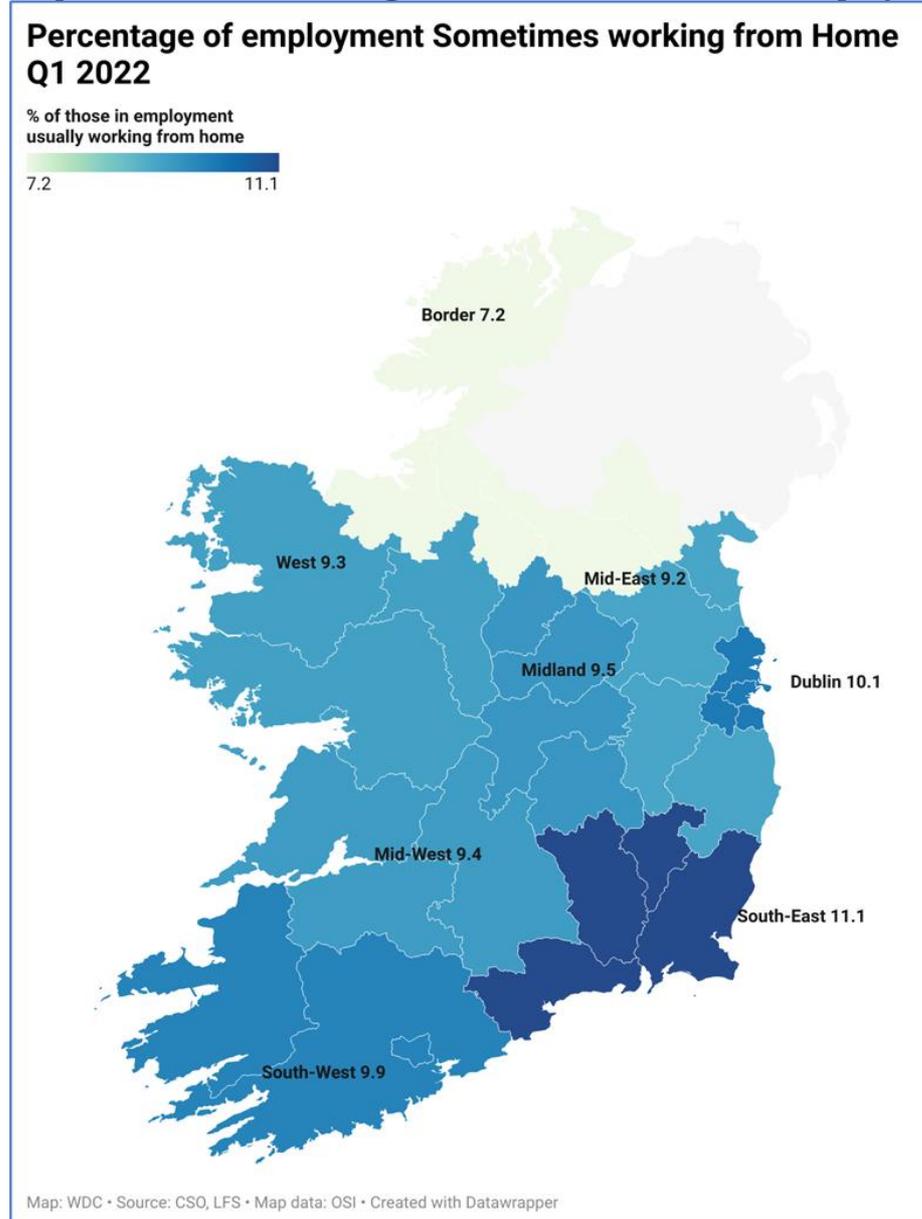
The profile of employment, in terms of both occupation and industry, are key factors explaining the regional differences in working from home. This will be discussed in a later section. Other factors such as distance to work and commuting times are also important in that they may incentivise the demand to work from home.

Working *Sometimes* from Home 2022

Map 2 below shows the levels of *sometimes* working from home as a percentage of total employment across regions in 2022. It is worth reiterating the different definitions. Those who report 'At least half of the days worked at home', are categorised as *usually* works from home. Those who worked for at least one hour from home in the last four weeks, are categorised as *sometimes* works from home.

Those who worked for at least one hour from home in the last four weeks, are categorised as sometimes works from home.

Map 2 Sometimes working from home as a % of total employment



The levels of sometimes working from home range from 7.2% in the Border region to 11.1% in the South East in 2022.



Both categories – usually and sometimes – could arguably capture a pattern of hybrid working, where the pattern could broadly be anywhere between 1 and 4 working days off-site (for a typical 5 day week).

The regional patterns for *sometimes* working from home are different to those *usually* working from home. The South-East region has the highest level of *sometimes* working from home, followed by Dublin, and the South-West. The Mid-East, West and Mid-West have similar rates, while the lowest rate of *sometimes* working from home is the Border region with 7.2%.

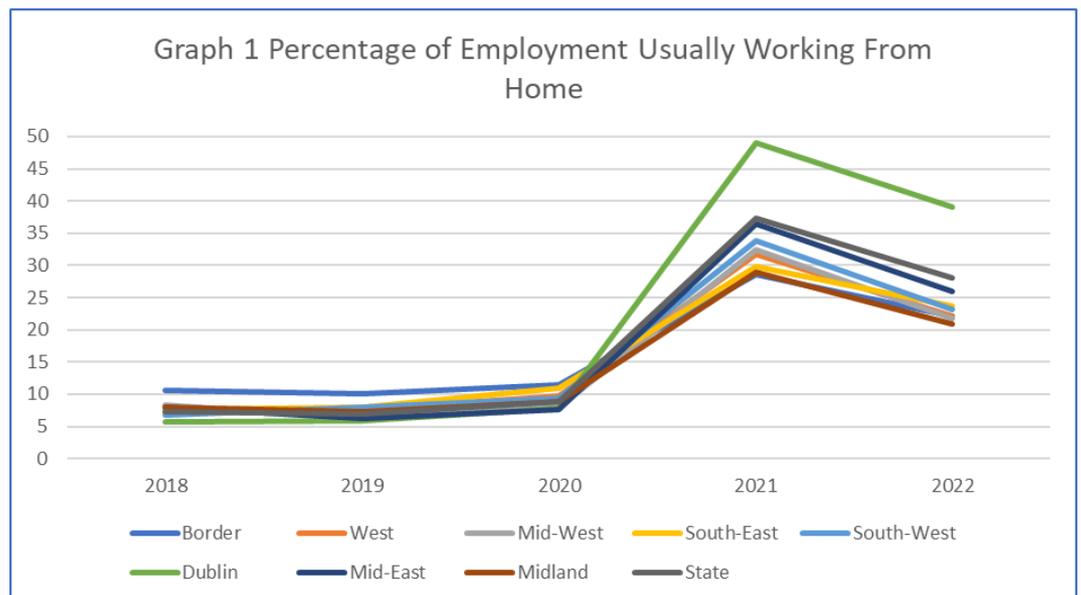
The differential in rates of *sometimes* working from home is less than those *usually* working from home – ranging from 11.2% to 7.2%, a difference of just 3.9 percentage points.(18.1 percentage points for *usually*).

In the context of the much discussed changing work patterns following the pandemic, both definitions could arguably capture a pattern of hybrid working, which typically describes a mix of remote working and onsite where the pattern could broadly be anywhere between 1 and 4 working days off-site (for a typical 5 day week).

Trends 2018-2022 – Usually Working from Home

This next section examines the trends in usually and sometimes working from home, looking at the pre pandemic situation in 2018 and examining the trends to 2022. The trends in *usually* working from home are first examined. The data in graph 1 shows the regional trends at NUTS² from 2018 through to 2022. Table 1 provides the data for the same period.

From 2018 to 2020 there is relatively little change in the share of those in employment working usually from home



From 2018 to 2020 there is relatively little change in the share of those in employment working usually from home³. All regions (with the exception of the Border) have less than 10% share in employment working usually from home.

²NUTS is an acronym for the EU Nomenclature of Territorial Units for Statistics. This regional classification in Ireland is Level 1 - Ireland, Level 2 - Regions and Level 3 - Regional Authorities.

³ In Q3 2017 there was a change in the data series when the QNHS changed to the LFS and there was a break in the data series. Nonetheless examining the data pre 2017 shows that the level of *usually* working from home remained relatively stable and below 5% between 2012 and 2016.

The pandemic effect is most clear in 2020-2021 with rates of usually working from home in most regions tripling and in the case of Dublin more than quadrupling.

A year later in the first quarter of 2022 the rates in all regions have declined, though all regions still have rates at least double that of pre pandemic rates

Nationally in 2022, there was a drop of 9.4 percentage points in the rates of usually working from home. This followed the lifting of Government guidelines on working from home

Most regions record small annual increases between 2018 and 2019. Note the data reported here is from Qtr 1 of the LFS (Jan-March)⁴. The pandemic effect is most clear in 2020-2021 with rates in most regions tripling and in the case of Dublin more than quadrupling. A year later in the first quarter of 2022 the rates in all regions have declined, though all regions still have rates at least double that of pre pandemic rates and the rate in Dublin is just below 40%. It is not clear why the pattern in the Border region is a little different. It is possible that the small sample sizes (particularly evident in the Border region) may be influencing the data. This will be discussed later.

Table 1 shows the percentage of employment by region, *usually* working at home over the period 2016-2022 and the percentage point change in 2021-22.

Table 1: Percentage of employment, usually working at home, 2018-22

Q1	2018	2019	2020	2021	2022	% points Change 2021-22
Border	10.6	10.0	11.5	28.6	22.1	-6.5
West	7.1	7.7	9.8	31.7	22.1	-9.6
Mid-West	8.4	6.3	8.0	32.4	21.8	-10.6
South-East	7.6	7.9	11.0	29.8	23.7	-6.1
South-West	6.7	7.9	9.3	33.9	23.2	-10.7
Dublin	5.7	5.9	7.8	49.1	39.0	-10.1
Mid-East	7.9	6.2	7.6	36.4	26.0	-10.4
Midland	7.9	7.2	8.8	29	20.9	-8.1
State	7.2	7.0	8.8	37.4	28.0	-9.4

CSO LFS, Special run.

From Table 1, the pandemic effect is clear when we examine quarter 1 in 2020 and 2021, with an over fourfold increase nationally, from 8.8% of the workforce to 37.4%. Every region recorded a significant increase in the percentage of those in employment *usually* working at home, with the highest increases in Dublin and the Mid-East. The next largest increases are in the regions home to the largest urban centres, the South-West (Cork), the Mid-West (Limerick) and the West (Galway) and this obviously reflects the profile of employment there with higher concentrations of occupations with an ability to work from home.

Examining 2021-2022, there has been a reduction in the proportions *usually* working from home. Nationally in 2022, 28% reported usually working from home a drop of 9.4 percentage points on a year earlier (37.4%). This followed the lifting of Government guidelines on working from home and the gradual return to the workplace. All regions experienced a similar decline between 2021 and 2022. The levels of change varied by region; those with the largest urban centres experiencing the greatest declines – the Dublin, Mid-East, Mid-West and South West.

⁴ The pandemic and work from home guidelines were just being introduced at the end of Qtr 1 2020.

Over the pre pandemic – post-pandemic (2018-2022) period, every region has shown a very significant increase in the share of those usually working from home.

In 2018 and 2019 Dublin had some of the lowest rates of usually working from home, whereas the more rural regions, such as the Border and West had some of the higher rates.

This pattern is reversed in 2022, where the Dublin region has the highest rate and the Mid-West and Midlands regions having the lowest rates.

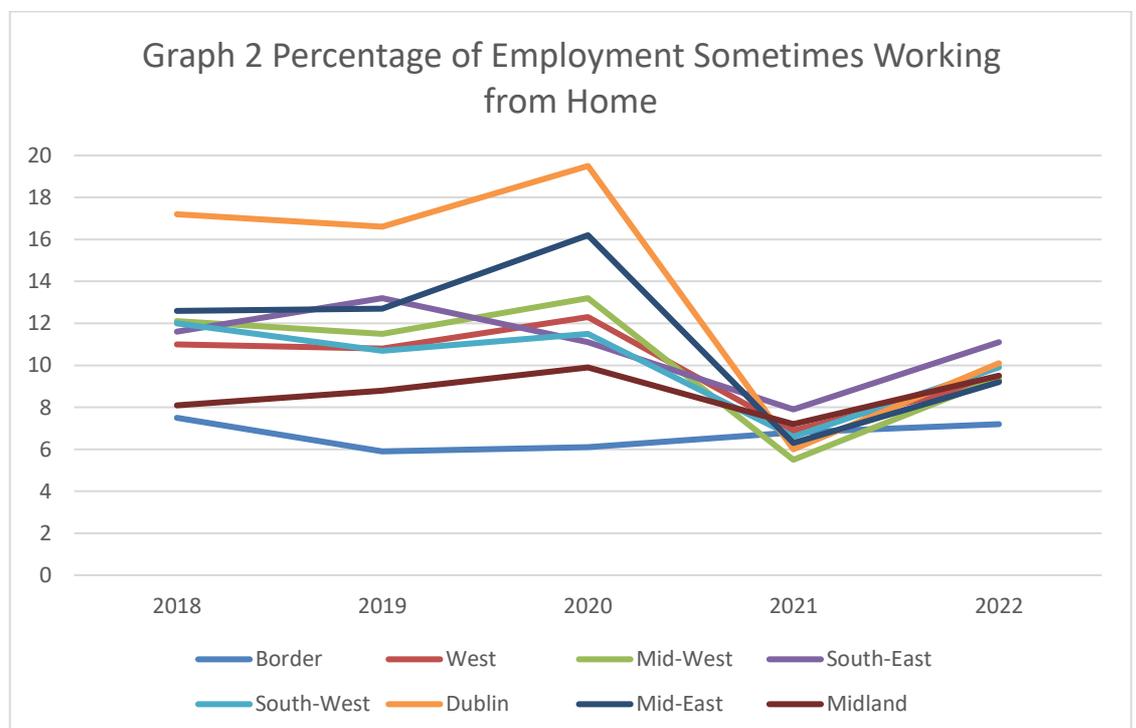
This is likely to be a pandemic effect where more employers are now accepting a greater incidence of working from home and this is most evident in Dublin

Over the pre pandemic – post-pandemic (2018- 2022) period, every region has shown a very significant increase in the share of those *usually* working from home. This ranges from a doubling of the rate in the Border region to an over six fold increase in the Dublin region. Generally the regions with the lowest rates pre pandemic have shown the greatest increases over the period.

It is worth noting that these regional patterns have changed somewhat since before the pandemic. For example in 2018 and 2019 the Dublin region had some of the lowest rates of *usually* working from home, whereas the more rural regions, such as the Border and West regions had some of the higher rates of those *usually* working from home. This pattern is reversed in 2022, where the Dublin region has the highest rate and the Mid-West and Midlands regions having the lowest rates. This is likely to be a pandemic effect where more employers are now accepting and supporting a greater incidence of working from home and this is most evident in Dublin with a greater share of occupations amenable to working from home, to be discussed below.

Trends 2018-2022 – Sometimes Working from Home

Those categorised as *sometimes* working from home are those who have worked for at least one hour from home in the last four weeks. Graph 1 below shows the share of employment of those working *sometimes* from home by region over the period 2018-2022. Between 2018 and 2020 the trends across the regions vary but it is apparent that there are increases in the Dublin and Mid-East regions suggesting a pre-pandemic increase in *sometimes* working from home, see also Table 2.



Source: CSO, LFS

Between 2020 and 2021, all regions apart from the Border, showed a decline in the share of those sometimes working from home

Examining pre and post pandemic shares, nationally the rate sometimes working from home is lower in 2022

This has corresponded with a greater shift to usually working from home

Working from home is more suitable to some occupations than others. Where these occupations are located is likely to influence the extent of regional working from home patterns

Between 2020 and 2021, all regions apart from the Border, showed a decline in the share of those *sometimes* working from home, which can be explained by the move to usually work from home, following Government guidelines introduced as part of the pandemic response. Examining the trend between 2021 and 2022, following the lifting of Government guidelines to work from home, every region recorded an increase in the share of those *sometimes* working from home. It is clear that many of those who were *usually* working from home during 2020 and 2021 reverted to work *sometimes* from home.

Examining pre and post pandemic shares, nationally the rate *sometimes* working from home is lower in 2022. This is also evident in every region apart from the Border and Midlands regions – the more rural regions. This has corresponded with a greater shift to *usually* working from home. To what extent this is a pattern that will remain is not clear but the tight labour market and close to full employment is an additional factor likely to support continuing high rates compared to pre pandemic levels.

Table 2: Percentage of employment, sometimes working at home, 2018-2022

Q1	2018	2019	2020	2021	2022	% point Change 2021-22
Border	7.5	5.9	6.1	6.8	7.2	0.4
West	11.0	10.8	12.3	6.9	9.3	2.4
Mid-West	12.1	11.5	13.2	5.5	9.4	3.9
South-East	11.6	13.2	11.1	7.9	11.1	3.2
South-West	12.0	10.7	11.5	6.6	9.9	3.3
Dublin	17.2	16.6	19.5	6.0	10.1	4.1
Mid-East	12.6	12.7	16.2	6.3	9.2	2.9
Midland	8.1	8.8	9.9	7.2	9.5	2.3
State	13.0	12.6	14.3	6.5	9.6	3.1

CSO LFS, Special run.

Working from home potential

The introduction of Government guidelines to work from home created a situation where many who did not choose to work from home (both employer and employee) had to engage in the practice. Under normal working conditions, working from home or remotely are more suitable to some occupations than others. Where these occupations are located is likely to influence the extent of regional working from home patterns. Similarly the rate of working from home will be impacted by the extent to which these sectors and occupations are increasing in prevalence.

The following section reviews some recent international and national research on sectors and occupations and work from home potential. It then examines recent



Research suggests that that 37 percent of jobs in the United States can be performed entirely at home

There is significant variation across cities and industries and also that these jobs typically pay more than jobs that cannot be done at home.

The proportion of Nordic workers who reported sometimes or usually working from home has been increasing steadily since 2002 and was considerably higher than the European average

This can be explained in part by labour market structure – the Nordic countries have quite high shares of workers in sectors where distance work is more common e.g., knowledge and IT intensive sectors

employment growth and the extent to which there is growth in those sectors with a relatively high prevalence of work from home potential. There is an analysis of the employment shares in these sectors across the regions and the extent to which they have changed.

While some degree of working from home (previously referred to as e-work, telework and now remote work), has been evident for many decades, the pandemic prompted research into the extent to which the practice is feasible. The international and national literature have highlighted some sectors and occupations which have a greater work from home potential.

Research from Dingal & Neiman (2020)⁵ is one of the most widely cited which suggests that that 37 percent of jobs in the United States can be performed entirely at home. This analysis, prompted by the social distancing of the pandemic, classified occupations on the basis of the feasibility of working from home and the employment counts of those occupations. The research notes that there is significant variation across cities and industries and also that these jobs typically pay more than jobs that cannot be done at home. The research also found that homeworking is more feasible in certain industries, including ICT, finance and education. However, in accommodation and food, just 3 per cent of jobs could be done from home. This highlights the potential for difference in regional and sub regional rates of working from home as well as the income effects.

The proportion of Nordic workers who reported *sometimes* or *usually* working from home has been increasing steadily since 2002 and was considerably higher than the European average in 2019 before the pandemic. These higher shares can be explained in part by labour market structure – the Nordic countries have quite high shares of workers in sectors where distance work is more common (e.g., knowledge and IT intensive sectors). Using a similar methodology to the US study, work from Nordregio has found that approximately 37% of all Nordic jobs, can theoretically be performed remotely⁶. This research showed that while 37% is the overall figure there is a lot of variation within and between the Nordic countries.

In Ireland, ESRI research⁷, using LFS data pre 2019 notes that before the pandemic 14 per cent of employees *usually* or *sometimes* work from home. The study notes that during the pandemic the incidence of homeworking is highest in the Education (37%), ICT (36%) and Finance (26%) sectors contain the highest percentage of employees that work from home, while just 2 per cent of employees in Accommodation and food work from home. This research was undertaken when all levels of education were being delivered remotely due to Government guidelines. Similar to other studies, the ESRI find that homeworking is far more likely in higher paid occupations compared to elementary occupations.

⁵ https://bfi.uchicago.edu/wp-content/uploads/BFI_White-Paper_Dingel_Neiman_3.2020.pdf

⁶ (Randall & Norlén, 2022). <http://norden.diva-portal.org/smash/get/diva2:1657805/FULLTEXT01.pdf>

⁷ <https://www.esri.ie/publications/who-can-work-from-home-in-ireland>



During the pandemic the incidence of homeworking is highest in the Education (37%), ICT (36%) and Finance (26%) sectors ...Just 2 per cent of employees in Accommodation and food worked from home

Research found that during the pandemic remote work favours workers located in the Dublin region and provincial city regions and are also higher in more affluent, larger, more densely populated, better educated and better broadband provisioned towns.

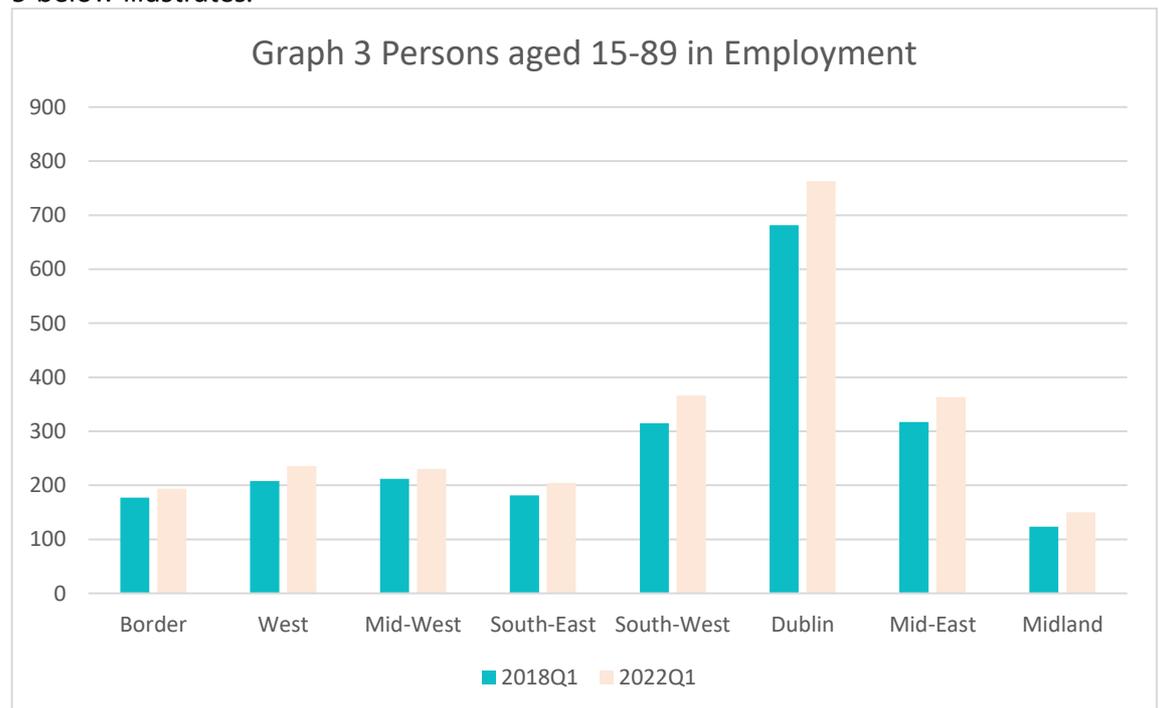
Over the period 2018-2022 all regions experienced employment growth

A paper by Doran et al, UCC⁸ finds a correlation between social distancing and remote working potential; so that if social distancing potential in an occupation, sector or place is high, then it is also likely that remote working potential is high. They also note regional differences noting remote work favours workers located in the Dublin region and provincial city regions and these measures are also higher in more affluent, larger, more densely populated, better educated and better broadband provisioned towns. Other research also points to regional differences; the NWRA study Regional Co-Working Analysis⁹, while limited to private sector workers, estimates there are 42,100 private sector workers in Northern and Western Region and 253,600 in the Eastern & Midlands region capable of operating remotely, Q2 2020.

The following section examines sectoral employment at a regional level and work from home potential.

Regional Sectoral Employment and Work from home potential

Over the period 2018-2022 all regions experienced employment growth as Graph 3 below illustrates.



Source CSO LFS

However employment growth was unequal across sectors as Graph 4 below shows.

⁸ https://www.ucc.ie/en/media/projectsandcentres/srerc/COVID19_FC_JD_2020_website.pdf

⁹ <https://www.nwra.ie/wp-content/uploads/2020/10/regional-co-working-analysis-22102020.pdf>

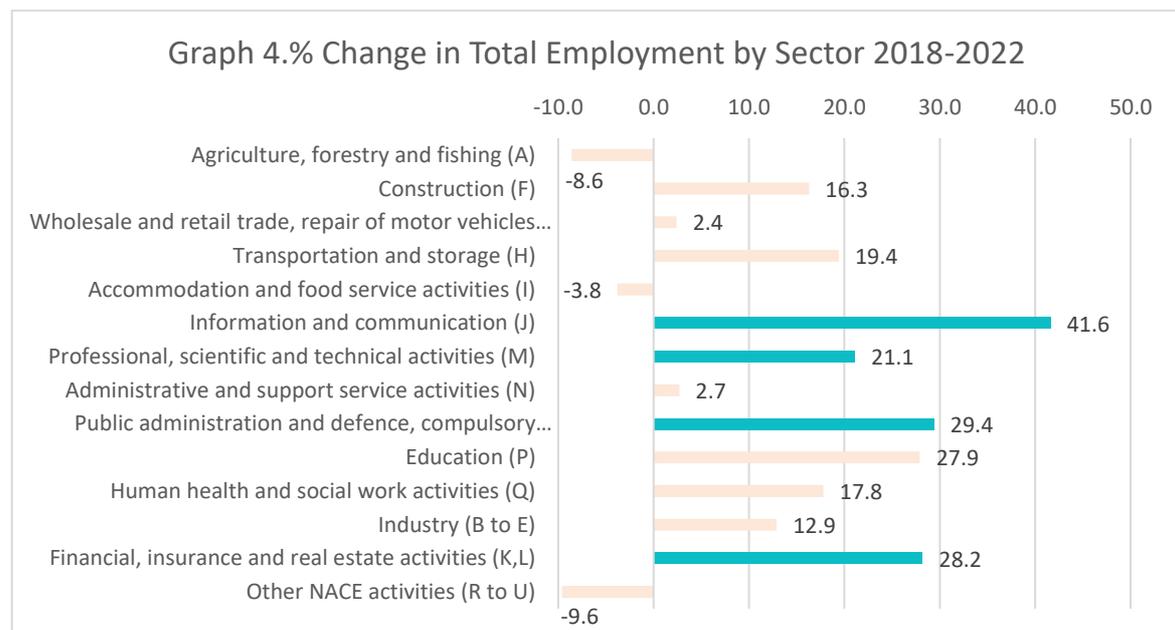
However employment growth was unequal across sectors

The two sectors that recorded a decline in employment were Agriculture, Forestry & fishing and Accomodation and Food services.

The 4 sectors deemed to have the highest work from home potential are (1) Information and communications (2) Professional, scientific and technical activities (3)Public administration and defence, compulsory social security (4) Financial, insurance and real estate activities

The change in sectoral employment at a national level is clear in the chart below. There are different factors influencing the changes. For example the decline in agricultural employment can be seen as a continuation of a long term trend, with greater use of technology and larger farms. The decline in employment in Accomodation and food services could largely be accounted for by the pandemic effect.

The sectors highlighted in green are those sectors identified in the research as the sectors most associated with working from home potential. It is clear that at a national level these sectors have shown particularly strong employment growth over the period 2018-2022.



The table below has aggregated the following 4 sectors deemed to have the highest work from home potential. (1) Information and communication (J), (2) Professional, scientific and technical activities (M), (3)Public administration and defence, compulsory social security (O), (4) Financial, insurance and real estate activities (K,L).

Q1	2018	2022
Border	15.5	18.0
West	14.4	16.6
Mid-West	16.2	16.6
South-East	15.5	21.0
South-West	16.6	16.2
Dublin	30.2	35.0
Mid-East	20.2	23.5
Midland	13.2	18.8
State	20.7	23.7



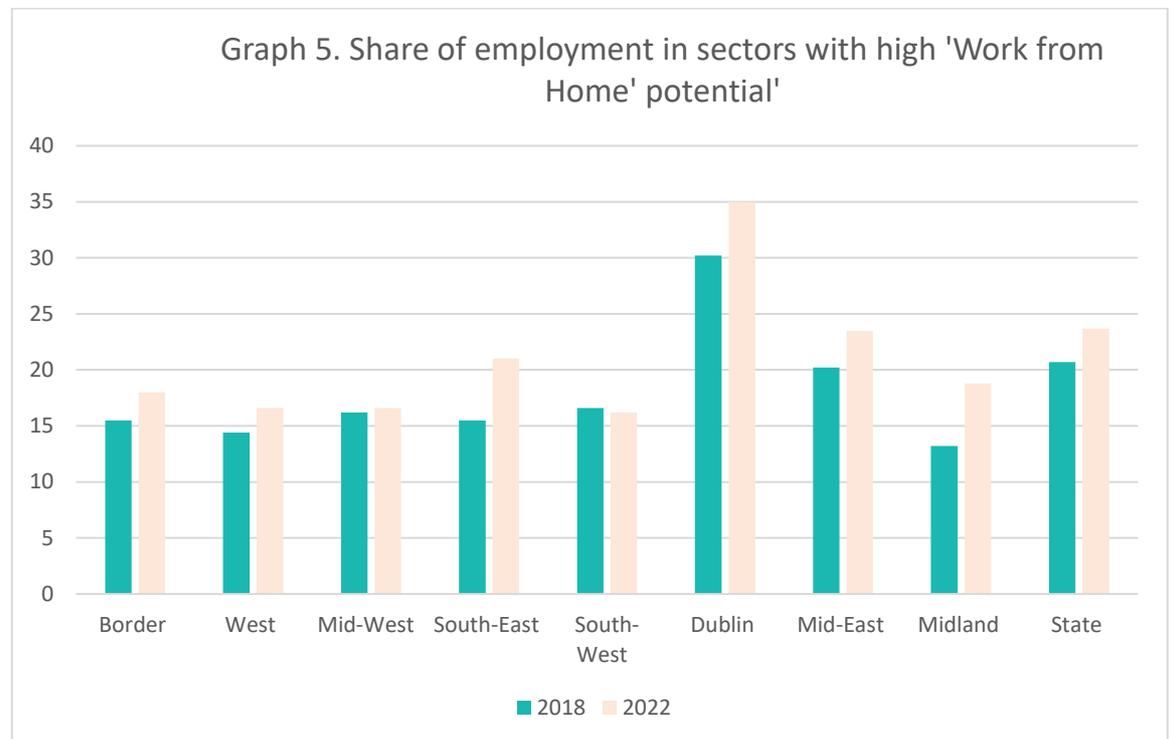
All regions have experienced an increasing share in employment associated with greater work from home potential

It is also clear that the Dublin region, followed by the mid-East have much greater concentrations of employment in these sectors.

Examining the share of employment in the four sectors with the highest 'work from home potential', from the table above and graph below, it is clear there are changes over time as well as regional differences.

All regions have experienced an increasing share in employment associated with greater work from home potential. It is also clear that the Dublin region, followed by the mid-East have much greater concentrations of employment in these sectors.

Graph 5. Share of employment in sectors with high 'Work from Home' potential'



Those regions with greater working from home potential have been those with large urban centres, and in large enterprises with significant working from home potential.

Regional employment growth needs to be strong and distributed across many sectors as well as in those sectors with greater work from home potential to support wider employment opportunities in rural and regional locations

Policy Conclusions

This briefing discussed national and regional data on work from home patterns from the Labour Force Survey over the period 2018-2022 and therefore provides a pre, pandemic and post pandemic picture of the extent of working from home at a regional level.

Working from home; the post pandemic outlook

The rates of working from home are clearly dependent on occupational profile and working from home potential and Government guidance due to the pandemic. Those regions with greater working from home potential have been those with large urban centres, and in large enterprises with significant working from home potential. During the pandemic enterprises which had heretofore not engaged in any remote work practices such as many manufacturing enterprises, now have significant percentages of employees working from home, see case studies in the following [report](#).

To what extent regional differences will persist in a post pandemic environment will depend on various factors such as;

- the sectoral profile of employment as well as employee preference
- the extent to which employers continue to support the practice.
- Government support for continued home working

The current tight labour market, relatively high house prices, high fuel costs and the more established practice of remote working compared to just a few years ago are also key factors.

Regional employment growth needs to be strong and distributed across many sectors as well as in those sectors with greater work from home potential to support wider employment opportunities in rural and regional locations. While there is a greater prevalence of remote working than before the pandemic it is also clear that it is generally a hybrid pattern. Consequently accessibility to the office will remain an important consideration.

To what extent these patterns will continue will be interesting. The WDC will continue to examine these issues in subsequent analyses.

WDC reports on publications on Remote Work are all available on <https://westerndevelopment.ie/policy/policy-areas/remote-work/>

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