SENEDD ECONOMY, INFRASTRUCTURE AND SKILLS COMMITTEE COMMISSIONED REPORT

OUTLINING THE CONTOURS OF THE 'GREAT HOMEWORKING EXPERIMENT' AND ITS IMPLICATIONS FOR WALES

Professor Alan Felstead*,
Research Professor,
School of Social Sciences,
Cardiff University,
Glamorgan Building,
King Edward VII Avenue,
Cardiff CF10 3WT.
Tel/fax: +44 (0) 29 2087 9050;
Email: alanfelstead@cf.ac.uk

January 2021

---

* Professor Felstead is Research Professor at Cardiff University. He has a long-standing interest in homeworking which started with a UK Government project in the early 1990s, followed by two ESRC projects on the changing location of work in the period 1999-2003. His outputs on the topic include 2 books, 10 refereed journal articles, and 11 book chapters, reports or short articles (http://www.cardiff.ac.uk/people/view/38073-felstead-alan).

EXECUTIVE SUMMARY

This Report was commissioned by the Senedd's Economy, Infrastructure and Skills Committee's Inquiry into 'Remote Working: Implications for Wales'. It addresses a number of questions which have been prompted by the unprecedented growth in homeworking since the coronavirus pandemic outbreak in early 2020. It answers these questions by drawing on a wide variety of datasets. Most of the findings presented are taken from published sources which have been converted into a series of digestible charts. Some primary data analysis has also been carried out.[1]

What is 'homeworking'?

- Homeworking is paid work which is done where the domestic tasks of childcare, cooking and cleaning are also carried out. This means that the worlds of work and domestic life directly overlap. Although this might seem straightforward, it routinely leads to conceptual confusion and accounts for the non-comparability of datasets and the production of varying estimates of 'homeworking'.
- Estimates also vary because: survey respondents may be asked to recall where they worked over different time periods; they may be asked about a variety of ways they used the home and other locations as places of work; the extent to which the home is used; and whether or not they could work at home if they wanted. Employers are also asked to provide data in different ways.
- This makes comparisons across different data sources hazardous. Nevertheless, when the same questions are asked time and time again by the same survey it is possible to track trends. Furthermore, patterns in these data can also be examined. This is the approach adopted in this Report.

How extensive is it and who has it affected most?

- Even before the pandemic, the location of work was changing, albeit gradually. There was a slow but steady rise in homeworking and as a result of mobile communication technology work was increasingly becoming detached from place.
- The outbreak of Covid-19 marked a sudden change with the evolution in work location giving way to a full-blooded revolution. Homeworking rocketed as a result of the Spring lockdown which began in March and lasted until June 2020.
- The proportion reporting that they worked exclusively at home in the UK rose from 5.7% immediately before the Spring lockdown to 43.1% in April 2020. In Wales, it rose almost ten-fold, leaping from 3.8% to 36.8%.
- This meant that the number of people working exclusively at home in Wales rose from 56,000 people before the pandemic to 485,000 in April. It then fell back to 231,000 in September 2020 before rising once again in November 2020 when it reached 308,000.
- More recent evidence suggests that homeworking may be on the rise yet again as social distancing restrictions have been tightened, and firebreaks and other lockdowns have been

[1] This includes analysis of the: Understanding Society Covid-19 Study; Labour Force Survey; Workplace Employment Relations Survey; Skills and Employment Survey; and the Living, Working and Covid-19 Survey. The first four have been accessed via the UK Data Service and the last has been supplied to the author by the European Foundation for the Improvement of Living and Working Conditions. None of the data owners or the UK Data Service bear any responsibility for the analysis or interpretation of the data reported here.

introduced.[2] While the proportion in the UK working at home had fallen to around one in four workers in late August 2020, it has since risen by 16 percentage points as workers across the UK have once again been told to work at home if they can.

- Over half of those questioned in Wales (56%) said that they could not work at home, even if they and their employer wanted them to do so. No English region came close. This means that the potentiality for homeworking in Wales is more limited than elsewhere.
- The recent surge in homeworking has been disproportionately taken up by those with better quality jobs as measured by the level of skill they exercise and the pay they receive. It has also been strongest in sectors – such as banking and finance – where Wales has disproportionately fewer workers and slowest in sectors – such as public administration – where Wales has more than its fair share of workers. However, the growth of homeworking has been spread more or less equally by gender, disability and ethnicity.

What effect does homeworking have on employee productivity?

- A common fear among employers is that without physical oversight employees will shirk and productivity will fall. However, enforced homeworking does not appear to have had a significant effect on productivity levels either way. Two-fifths (40.9%) of homeworkers reported that they were able to get as much work done in June 2020 as they were six months earlier. Over a quarter (28.9%) said that they got more done, while 30.2% said that their productivity had fallen.
- Furthermore, the September 2020 data suggest that as social distancing restrictions were relaxed and the prevalence of homeworking declined, the productivity of employees who continued to work at home rose. The proportion reporting being able to do as much, if not more, per hour rose by 15 percentage points between June and September 2020.
- However, those who reported higher domestic commitments – such as doing housework and carrying out home schooling – reported that their productivity had suffered.
- Those who reported that their productivity had changed were asked to identify the main reason for the change. Nearly half of full-time homeworkers put the increase in their productivity down to fewer interruptions, and around three out of ten put it down to not having to commute to and from work.
- Different reasons were given for falls in productivity. The main three reasons were lack of motivation (31.6%), more interruptions (21.5%) and equipment difficulties (11.4%).
- The main reason for falling productivity varied by gender with female homeworkers more likely than men to cite interruptions from family members. While this is outside the control of management, the finding that the lack of motivation and poor equipment can hinder homeworkers' productivity is something that management can address with better communication, regular meetings and more investment in information technology.
- However, increased productivity may come at a cost with homeworkers finding it more difficult to reconcile home and work life, working longer hours than they used to, and more frequently feeling drained and isolated. Low cost or Welsh Government supported community hubs may mitigate some of these problems by taking workers out the home for at least some of the time, thereby lessening the overlap between the worlds of work and home.

[2] To avoid confusion, this Report refers to the March-June 2020 UK-wide lockdown as the Spring lockdown. Other lockdowns have also been imposed throughout 2020, such as the 17-day 'firebreak' lockdown in Wales (23 October to 8 November 2020) and the English four-week lockdown (5 November to 2 December 2020). The January (or Winter) lockdown is similar to the Spring lockdown in that schools and colleges along with non-essential retail have been closed. However, the four UK nations announced their Winter lockdowns at different times and are likely to relax the restrictions according to the assessment of risk in their jurisdictions.

What knock-on effects does it have on the nature of Welsh towns and cities?

- On the positive side, pollution levels have fallen as workers in Wales have been told to work at home if they can. Pollution was almost halved in the Spring lockdown months of March-May 2020 with the greatest fall at roadside locations across Wales. Homeworking has therefore made a positive difference to air quality and environmental health.
- However, one of the most visible impacts of social distancing has been the negative effect it has had on the high street with workers no longer commuting to city centre offices and restrictions being placed on other forms of travel. If higher levels of homeworking become the norm, the purchasing power of office workers will shift from city centres to the neighbourhoods where they live.
- This will have implications for city and town planning. This includes the repurposing of vacant shopping centre units and office buildings in the heart of city centres, and more investment in developing local neighbourhood amenities near to where people live and work.
- Another spill-over effect has been the rise in house prices driven by people looking for more spacious homes suitable for homeworking. Some of the highest price rises have been in Welsh-speaking areas, such as Gwynedd, where the lack of affordable housing is already making it difficult for local inhabitants to buy their own homes.

Will it become a permanent feature of work?

- After months of working at home, both employers and their staff have got used to these working arrangements. As a result, around a fifth of employers surveyed by ONS said that they intended to continue using enhanced levels of homeworking in the future. Employer surveys carried out by the CIPD, IoD and CBI also suggest that homeworking is here to stay with productivity, if anything, expected to rise not fall as a result.
- Nine out of ten (88.2%) employees who worked at home in June 2020 reported that they would like to continue working at home in some capacity, with around one in two employees (47.3%) wanting to work at home often or all of the time. The same question was asked in September 2020. Despite the passage of time, the appetite for homeworking had not declined, but had in fact risen with well over nine out of ten (93.3%) wanting to continue to work at home.

How should its effects be monitored?

- Where possible, data on Wales has been provided in this Report, but the sample sizes are often too small for robust evidence to be presented, hence the use of UK-level data. This is a demonstration of the relative weakness of the data infrastructure for this new Welsh Government policy initiative which needs to improve.
- Nevertheless, some official sources of data have large Welsh sample sizes on which to track what percentage of jobs are being done at home, the socio-demographics of those involved and the type of jobs undertaken. However, these official sources of data do not collect data on the impact that homeworking has on productivity or its effect on aspects of job quality such as work stress, work-life balance, and managerial help and support, all of which are aspects of fair work as defined by Welsh Government.
- One way forward would be for the Welsh Government to plug the gap by including survey questions which are more closely aligned to its working at home policy goal in the National Survey for Wales.

- Employer data on homeworking in Wales is also weak. Again, there is a 'made in Wales' opportunity to gather this type of employer-level data as part of the proposed new Fair Work Wales Survey. The establishment of such a survey was one of a package of recommendations made by the Fair Work Commission and accepted by Welsh Government in 2019.

One of the major, and lasting outcomes of the Covid-19 pandemic, is likely to be greater acceptance of working at home as a viable option for many people and businesses. While the growth of homeworking brings benefits to the environment, businesses and workers, there are challenges too, not least for those who find it difficult to work in this way. Nevertheless, the Welsh Government's target of '30% of Welsh workers working from home or near to home' is certainly achievable given that it has been exceeded on many occasions in the last nine months. However, greater clarity is needed around what precise type of working arrangement the Welsh Government is intending to encourage, how the target will be monitored, and how its benefits and drawbacks will be assessed.

OUTLINING THE CONTOURS OF THE 'GREAT HOMEWORKING EXPERIMENT' AND ITS IMPLICATIONS FOR WALES

1. Introduction

In response to the Covid-19 pandemic millions of workers around the world have experienced prolonged periods of working at home. Almost overnight many workers converted their bedrooms into offices, their living room tables into desks and their kitchens into places of work. With the pandemic still raging, politicians continue to repeat the message 'work at home if you can'. The Welsh Government has recently gone a step further by stating that its long-term ambition is 'to see around 30% of Welsh workers working from home or near to home' even in the absence of the need for social distancing (Welsh Government, 2020a). Hence, the Economy, Infrastructure and Skills Committee's Inquiry into homeworking and its implications for Wales. As background to the Inquiry, the Committee commissioned this Report (Senedd Cymru, 2020).

The sudden and dramatic shift in the location of work raises a number of important questions. These include, but are not limited to, the following:

- What is 'homeworking'?
- How extensive has homeworking become and who is affected most?
- What effect does working at home have on employee productivity?
- What knock-on effects does it have on the nature of Welsh towns and cities?
- Will it become a permanent feature of work and, if so, how should its effects be monitored?

The aim of this Report is to provide an evidence-based response to these particular questions, thereby outlining the contours of the 'great homeworking experiment' and some of its implications for Wales.

The Report draws on a wide range of data sources to answer these questions. These sources include surveys of workers and employers carried out by the Office for National Statistics (ONS), academics and representative organisations, such as the Chartered Institute of Personnel and Development (CIPD), the Institute of Directors (IoD) and the Confederation of British Industry (CBI). The Report offers new evidence and updates previously published results. To enhance the Report's readability, the results are summarised in a series of bar charts and line graphs with an accompanying narrative.[3] More detailed evidence is provided in the Report's Appendices. This material is indicated in the text by references to tables and figures prefaced with the letters 'A' and 'B' respectively. However, the emphasis of the Report is on the presentation of findings and results based on robust data, and not on the technicalities of the analysis which can be found in the references. A thorough review of the literature and its implications for Wales can also be found elsewhere (see Carter and Johnson, 2021).

The Report is divided into five substantive sections. Section 2 argues that homeworking is unique since it is the only type of employment which puts the world of work and home together in the same locale. For this reason, previous research has examined how this distinctive

[3] Figures and tables have become new stories in themselves. As Gary Lineker – ex-footballer and TV presenter – recently tweeted: 'The only positive I can think of during this entire pandemic nightmare is that some of us may have learnt to read a graph' (https://twitter.com/garylineker/status/1320752920275652621?lang=en).

conjunction of worlds manifests itself in how time and space is organised (e.g., Allen and Wolkowitz, 1987; Boris 1996; Huws *et al.* 1996; Felstead and Jewson, 2000; Crosbie and Moore, 2004). The section also outlines how 'homeworkers' have been counted in Britain and why the estimates produced sometimes vary. Section 3 tracks the growth of homeworking from the 1980s to the present day. It also presents evidence of how the profile of homeworkers has changed since March 2020 when social distancing restrictions were first introduced and workers were told to work at home if they can. Section 4 considers the economic impact that the recent surge in homeworking has had on employees' productivity. It also reviews the impact the growth of homeworking has had on the high street. Section 5 assesses whether employees want to continue to work at home in the future and what effect this might have on their productivity. It also considers what appetite employers have for this way of working, what benefits of on-site working are missed and whether hybrid homeworking might be the way forward. Section 6 argues that more needs to be done to monitor and evaluate the Welsh Government's aim of getting 30% of the workforce working at home given that Welsh data infrastructure in this area is relatively weak (cf. Fair Work Commission, 2019: Technical Annex). Section 7 ends the Report with some general reflections on the Welsh Government's 30% ambition.

2. Concepts and Measures

A preliminary, but crucial, conceptual distinction concerns the extent to which work is spatially located within the home. It is vital to distinguish between people who:

- work *at home* (e.g., someone, such as the author of this Report, who writes reports and delivers lectures while sat in a spare bedroom room);
- work *from home* (e.g., a plumber or an electrician who carries out jobs on a building site, in a factory or in other people's homes);
- work *in the same grounds and buildings as home* (e.g., a farmer, a pub landlord or a bed and breakfast proprietor).

Although this division may at first sight seem straightforward, it routinely leads to conceptual confusion and accounts for the non-comparability of many datasets and the production of varying estimates of 'homeworking'.

Work and home overlap to varying degrees depending on whether work is done *at* home, *from* home or in the *same grounds and buildings* as home. This means that people who work from home or in buildings attached but separate from their home – such as a shed, garage or barn – undertake their work activities away from the spatial location where domestic work is also carried out. For example, a plumber who takes the odd one or two telephone calls at home, but does most of his work in other people's homes or a pub landlord who lives in a self-contained flat above the bar where she serves drinks and chats with the regulars. In contrast, working at home means that paid work is done in the private sphere of the home where childcare, cooking and cleaning are also carried out. Such workers therefore experience the full force of the conflicting pressures of the world of work and home. As a consequence, they and their fellow household members have to manage, reconcile and accommodate these pressures.

The conceptual divides between home and work are reflected in some of the survey instruments used to track homeworking. For example, in 1981 the annual Labour Force Survey (LFS) carried, for the first time, a question on where respondents worked. Respondents were asked 'do you work mainly' in one of four locations: 'in your own home; in the same building or

Table 2.1:
Examples of Worker-level Survey Questions

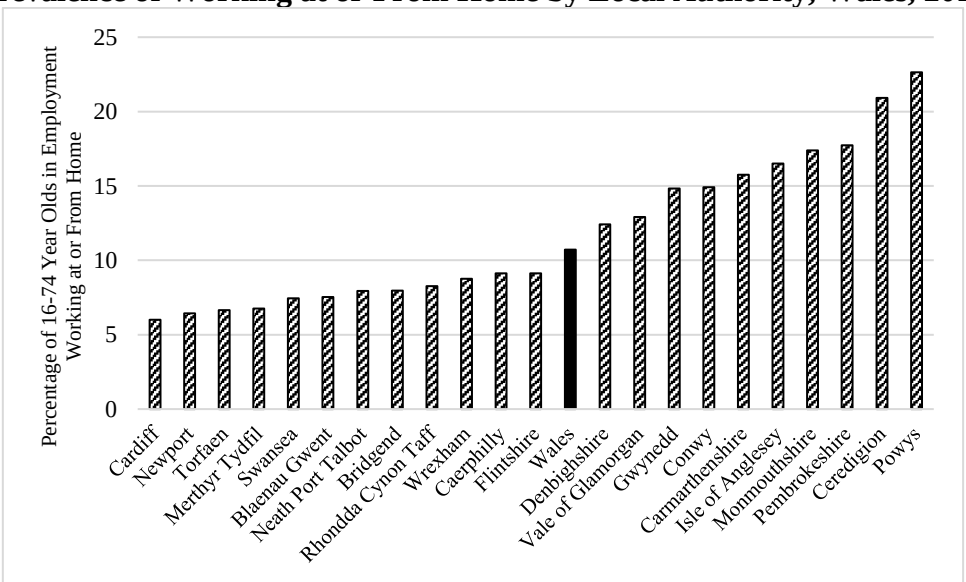
Worker-level Surveys	Question
Labour Force Survey	'(In your main job) do you work mainly in your own home; in the same grounds and buildings as your home; in different places using home as a base; or somewhere quite separate from home?'
Census	'How do you usually travel to work? Tick one box only. Tick the box for the longest part, *by distance*, of your usual journey to work'. Options given: 'Work mainly at or from home'; 'Underground, metro, light rail, tram'; 'Train'; 'Bus, minibus or coach'; 'Motorcycle, scooter or moped'; 'Driving a car or van'; 'Passenger in a car or van'; 'Bicycle'; 'On foot'; and 'Other'.
Skills and Employment Survey	'In your job, where do you mainly work? Please answer from this card. A. At home; B. In the same grounds and buildings as home (e.g., in adjoining property or surrounding land); C. At a single workplace away from home (e.g., office, factory or shop); D. In a variety of different places of work (e.g., working on clients' premises or in their homes); E. Working on the move (e.g., delivering products or people to different places)'.
Understanding Society	'Do you work mainly... At home; At your employer's premises; Driving or travelling around; Or at one or more other places?'
European Working Conditions Survey	'Where is your main place of work? My employers'/my own business' premises (office, factory, shop, school, etc.); Clients' premises; A car or another vehicle; An outside site (construction site, agricultural field, streets of a city); My own home; or Other'.
Understanding Society Covid-19 Study	'During the last four weeks how often did you work at home? Always; Often; Sometimes; or Never'.
Labour Market Survey	'Did you do any working from home in the week Monday [date] to Sunday [date, year]? Yes; No'.
Opinions and Lifestyle Survey	'In the past seven days, have you worked from home because of the Coronavirus (COVID-19) outbreak? Yes; No; Not able to'.
Living, Working and Covid-19	'Have you started to work from home as a result of the COVID-19 situation? Yes; No.
National Survey for Wales (telephone monthly)	'How much of your work can you do from home? None, some, most or all?'
Employee Rights and Experience Survey	'Are any of the following working arrangements available at your workplace? By "workplace" we're referring to *the site at which you work,* even if it is one of a number of establishments within a larger organisation. [List of 13 options, including the following] Working from home on a regular basis [add if necessary: where an employee works all or some of the time from home as part of their normal working hours]'. Also question: 'Currently, or within the last 12 months with your current employer, have you worked in any of the following ways…? [Same list of 13 options as above]'.
National Survey for Wales (face-to-face annual)	'I'm now going to list some different kinds of working arrangements. For each one, please look at this card and choose the option that best applies to you over the last 12 months. Choosing to work from home sometimes during your normal working hours: I do this; I don't do this, but my employer allows it; My employer doesn't allow it; I don't know if my employer allows it; or I always work from home'.

grounds as your home; in different places using home as a base; or do you work somewhere quite different from home?' Despite offering a unique perspective on the location of work in the UK, eleven years were to pass before the question was repeated. Presumably, because it was not considered to be of interest. Nevertheless, it reappeared in 1992 and has been asked in every quarterly LFS ever since. Other homeworking related questions have been added, and subsequently removed, over the years. These include questions identifying where people worked in the week before interview as well as questions on whether the use of a computer and telephone was necessary for respondents to work in this way (see Tables 2.1 and A1).

By definition individual-level surveys, such as the LFS, are based on samples of the population with considerable effort devoted to ensuring that they are representative. Only relatively rarely are questions asked of, and information gathered on, all those who are living in the UK. The Census of Population is the exception to this rule; it covers everyone and has to be completed by law. It is the only poll which provides a detailed picture of the entire population, and is unique because it covers everyone living in the UK on a particular day and asks the same core questions of everyone no matter where they live (with the exception of the Welsh language question only asked of those living in Wales in 2001, 2011 and 2021). The head of each household is given a form to complete.

The obvious advantage of the Census is its comprehensive coverage. The other major benefit it has over all the other data sources considered here is that it paints a picture of the human geography of the UK at a very fine level of spatial disaggregation. Whereas other individual-level sources can provide insights at the national, regional and sometimes local authority level, the Census goes much further in that it allows robust analysis to be carried out at ward/postal sector level and, in some cases, at the level of the Enumeration District (that is, geographic areas assigned to each Census collector comprising specific parts of wards/postal sectors) (Felstead and Jewson, 1995). Using these data, it is possible to plot the prevalence of working at or from home by local authorities across Wales. This reveals high rates of working at or from home in predominately rural areas such as Powys, Ceredigion and Pembrokeshire and low rates in the urban areas of Cardiff, Newport and Swansea (see Figure 2.1).

Figure 2.1:
Prevalence of Working at or From Home by Local Authority, Wales, 2011



Source: data downloaded from www.nomisweb.co.uk. It is focused on those aged 16-74; other sources may use a different denominator.

Census data on work location have been collected in slightly different ways. Since 1966 these data have been collected in the context of the individual's workplace address and how they travel to that address, such as by car, train or on foot (see Table A2). Included in the list of possible responses to the 1981 and 1991 Censuses was the option 'works mainly at home'. Since 2001 this option has become 'works mainly at or from home'. This will be the formulation used in the 2021 Census due to be carried later this year. However, the conflation of those who work at home with those who work from home results in imprecision about where paid work is actually carried out. Furthermore, the Census does not differentiate between those working at home as opposed to in the same grounds and buildings as their home. As a result, those who do not travel to work, such as farmers and agricultural workers, appear as 'homeworkers' in Figure 2.1, hence the high rates of 'homeworking' in rural parts of Wales.

These are major drawbacks because a key feature of working at home is the overlap of the worlds of work and domestic life – the experience of being 'in work at home' (Felstead and Jewson, 2000). This is at its greatest when work is carried out in the spaces where people conduct their daily lives – bedrooms, kitchens, dining rooms and so on. Another problem is that census data are only collected once every ten years with the results published a year or more after the census. The full results of the 2021 Census will not be available until March 2023. This further limits the usefulness of the Census as up-to-date portrayal of the extent of 'homeworking' and its prevalence across Wales (see Tables 2.1 and A2).

Nevertheless, both the Census and the LFS ask respondents to think about where they mainly work. This 'on the whole' frame of reference is used by other surveys such as the Skills and Employment Survey, the European Working Conditions Survey and Understanding Society (see Table 2.1). A different approach is to ask respondents where they were working immediately before being surveyed. The period can be a specific time period, such as during the last week or over the last four weeks, or be less specific, such as since the Covid-19 pandemic began. The Labour Market Survey is an example of the former, while the Living, Working and Covid-19 survey is an example of the latter. Respondents may also be asked the extent to which they work at home – always, often, sometimes or never as in the case of the Understanding Society Covid-19 Study.

Another tactic is to ask respondents to estimate what proportion of their work can be done at home. The telephone version of the National Survey for Wales adopts this approach. However, the same survey does not ask what proportion of work is actually carried out at home. This is unfortunate since both pieces of data could be used to assess the extent to which homeworking has the potentiality to grow further.

Some surveys collect homeworking data from a slightly different angle. They ask respondents if they have access to a variety of flexible working arrangements, including working at home. The Employee Rights and Experiences Survey, for example asks just such a question as well as a question on take-up of the opportunities identified. These data provide the basis on which to paint the profile of those who have the opportunity to work at home and to contrast this with those who do so. The profiles of these two groups may differ. Previous research has shown that access to working at home is restricted to the most privileged, while those who take it up tend to be poorer paid, less educated and in lesser skilled jobs (Felstead *et al*., 2002).

Homeworking data are collected from employers too. Since the outbreak of Covid-19 employer surveys have primarily sought to gather data on the prevalence of homeworking among the staff they employ. Most notably, the ONS has carried out a fortnightly business

survey since March 2020. The Business Impacts of Coronavirus Survey (BICS) has gathered data from around 5,500 employers and the weighted results are published on the ONS web site.[4] Data on homeworking have been collected in several waves of the survey with a special focus on productivity in late September as well as in subsequent waves (see Section 4).

Representative organisations – such as the CIPD and the IoD – have also collected data on the surge in homeworking prompted by Covid-19 (Brinkley *et al.*, 2020; IoD, 2020). The collection of data on homeworking was also a feature of employer surveys carried out before the pandemic. However, they have tended to focus on the existence or otherwise of arrangements to allow employees to work at home (see Table 2.2).

Table 2.2:
Examples of Employer-level Survey Questions

Employer-level Surveys	Question
Business Impacts of Coronavirus Survey	'Has your business had more staff working from home as a result of the coronavirus (COVID-19) pandemic?' and 'Does your business intend to use increased homeworking as a permanent business model going forward?'
CIPD Employer Survey	Results published without question specified, but employers were asked to report the proportion of their workforce working continuously at home in bands of up to a quarter, three-quarters to almost all and all.
IoD Employer Survey	'Relative to before the COVID-19 pandemic, which of the following best describes your organisation's intended level of "workplace" use in the long-term? Significantly more; Slightly more; No change; Slightly less; or Significantly more'.
Workplace Employment Relations Survey	'Looking at this card, do you have any of the following working time arrangements for *any* employees at this workplace? Working at or from home in normal working hours'.

3. Trends and Patterns

Different surveys use different questions, hence estimates of homeworking can vary. Worker respondents may be asked to recall different time periods, they may be asked about a variety of ways in which the home and other locations are used as a workplace, the extent to which the home is used, and whether or not they could work at home if they wanted. Employers are also asked to provide data in different ways. This makes comparisons across different data sources hazardous. Nevertheless, when the same questions are asked time and time again by the same survey it is possible to track trends. Furthermore, patterns in these data can also be examined.

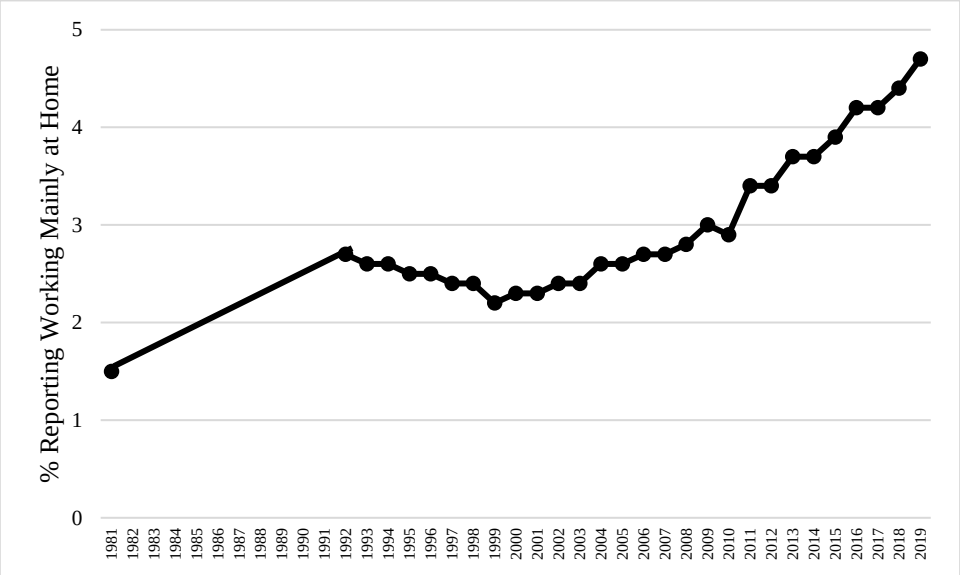
Over the last quarter of a century or more, forecasters and futurologists have produced wildly exaggerated predictions of the numbers of people working at home suggesting a revolution in where we work. However, until Covid-19 reality fell well short of these predictions. Nevertheless, even before the pandemic, the location of work was changing, albeit gradually. There was a slow but steady rise in homeworking and as a result of mobile communication

[4] https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/businessimpactofcovid19surveybicsresults

technology work was increasingly becoming detached from place. These two trends can be seen in the data.

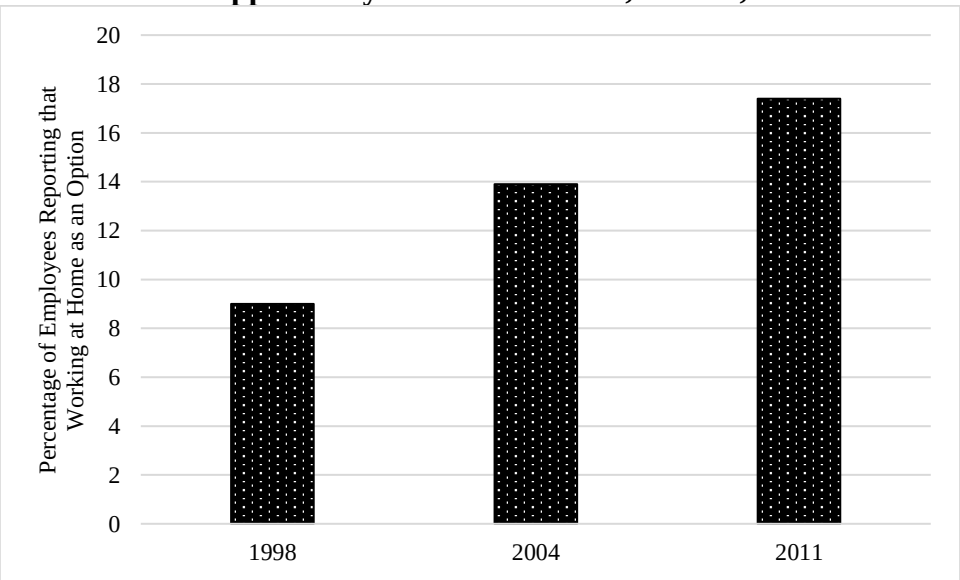
One of the longest running data series on the location of work is the Labour Force Survey (LFS). This is a large survey which is regularly carried out. It contains data from around 45,000 workers. It paints a picture of a long term shift towards homeworking before the outbreak of Covid-19. In the year immediately before the Spring lockdown, one in twenty (4.7%) of those employed worked mainly at home, double the proportion in 2003 and triple the proportion in 1981 (see Figure 3.1). So, it had taken almost 40 years to rise by a mere three percentage points. This is suggestive of an evolutionary rather than a revolutionary transformation in where we work.

Figure 3.1:
Working Mainly at Home in the UK, 1981-2019



Source: Felstead and Reuschke, 2020: Figure 1 based on Labour Force Survey data.

Figure 3.2:
Trends in Opportunity to Work at Home, Britain, 1998-2011

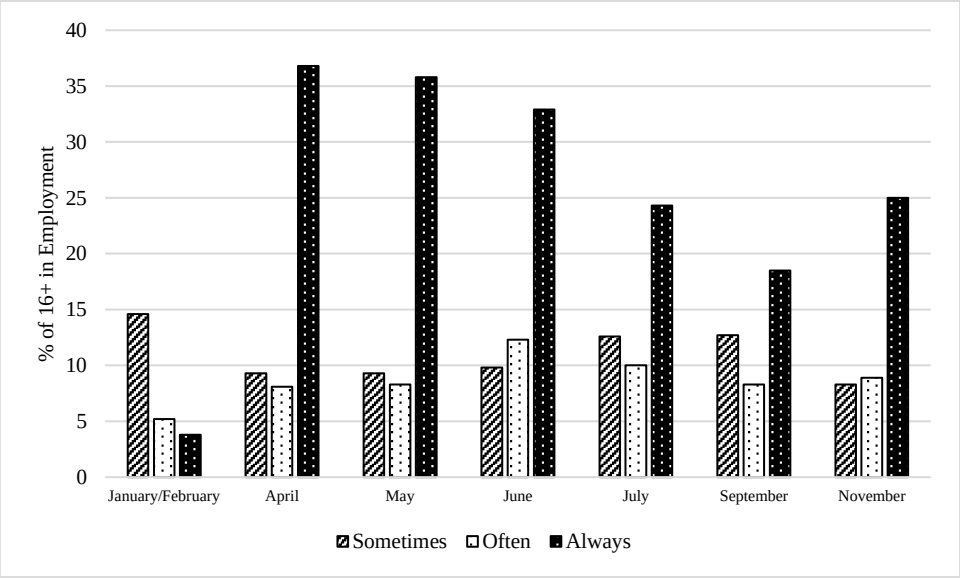


Source: own calculations from Workplace Employment Relations Survey 1998, 2004 and 2011.

More employers were also offering their employees the opportunity to work at home if they wished. In 1998, only one in ten employers (9.0%) allowed employees to work at home, but by 2011 it had risen to one in six employers (17.4%) (see Figure 3.2). The UK Government, too, was making it easier for employees to work at home if they wished by giving all those with a minimum of 6 months' service the statutory right to request homeworking. This 'right to request' became law in 2014. However, only workers whose work was highly valued or whose manager was sympathetic were likely to get it.

The outbreak of Covid-19 marked a sudden change with the evolution in work location giving way to a full-blooded revolution. Homeworking rocketed as a result of the Spring lockdown which began in March and lasted until June 2020. Evidence from the Understanding Society Covid-19 Survey suggests that the proportion reporting that they worked exclusively at home in the UK rose from 5.7% immediately before the Spring lockdown to 43.1% in April 2020 (see Figure B1).[5] In Wales, it rose from 3.8% to 36.8% – getting on for a ten-fold increase (see Figure 3.3). Even though prevalence levels have subsequently fallen, they remained at historical unprecedented levels throughout 2020 with an uptick in November. This rise reflects the Wales-wide 17-day 'firebreak' lockdown which overlaps with the period on which respondents were asked to report. The slightly later English 28-day lockdown is also reflected in the November figures for the UK (see Figure B1).

Figure 3.3:
Prevalence of Homeworking in Wales During 2020



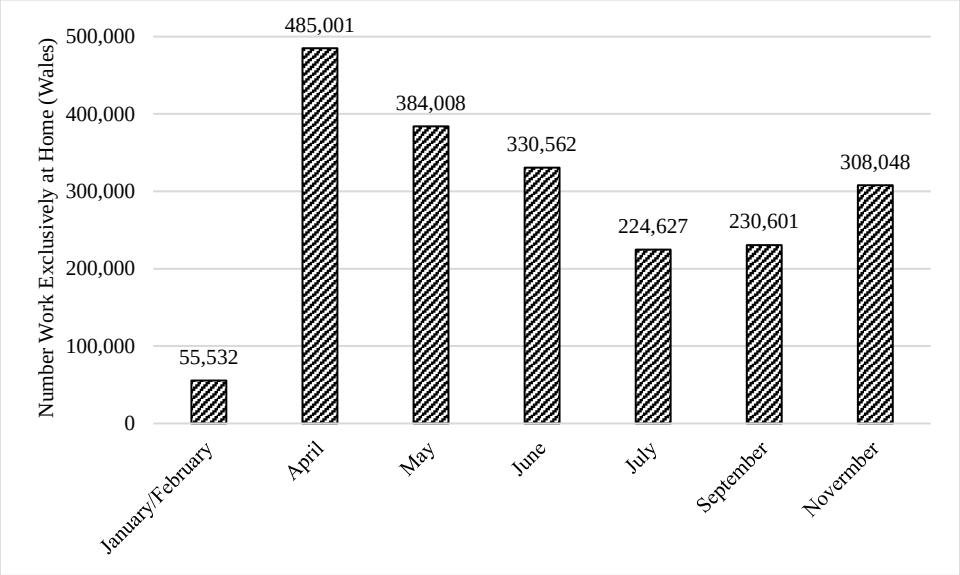
Source: Felstead and Reuschke, 2020: Tables A1, A2a, A2b and A2c, but updated using the Understanding Society Covid-19 Study July, September and November 2020 data.

Translating these proportions into numerical estimates emphasises the scale of the sudden and dramatic transformation to the landscape of work. In Wales, the number working exclusively at home rose from 56,000 people before the pandemic to 485,000 in April and then it fell back to 231,000 in September before rising to 308,000 towards the end of the year (see Figure 3.4 and Table A3b for detail). In other words, at its height full-time homeworking was being undertaken by around as many as all of those living in Cardiff and the Vale of Glamorgan. Although it fell during the summer, the number of full-time homeworkers in Wales has

[5] Institute for Social and Economic Research (2020) *Understanding Society: COVID-19 Study, 2020*, Colchester: University of Essex.

remained high throughout 2020 and is now on the up once again. The equivalent numerical estimates for the whole of the UK are much larger. These suggest that full-time homeworking in the UK rose from 1.8 million before the pandemic to 12.5 million at the start of the Spring 2020 lockdown. This number fell to 6.2 million in July before rising to 7.6 million towards the end of the year (see Figure B2 and Table A3a for detail).

Figure 3.4:
Numbers Exclusively Working at Home in Wales During 2020



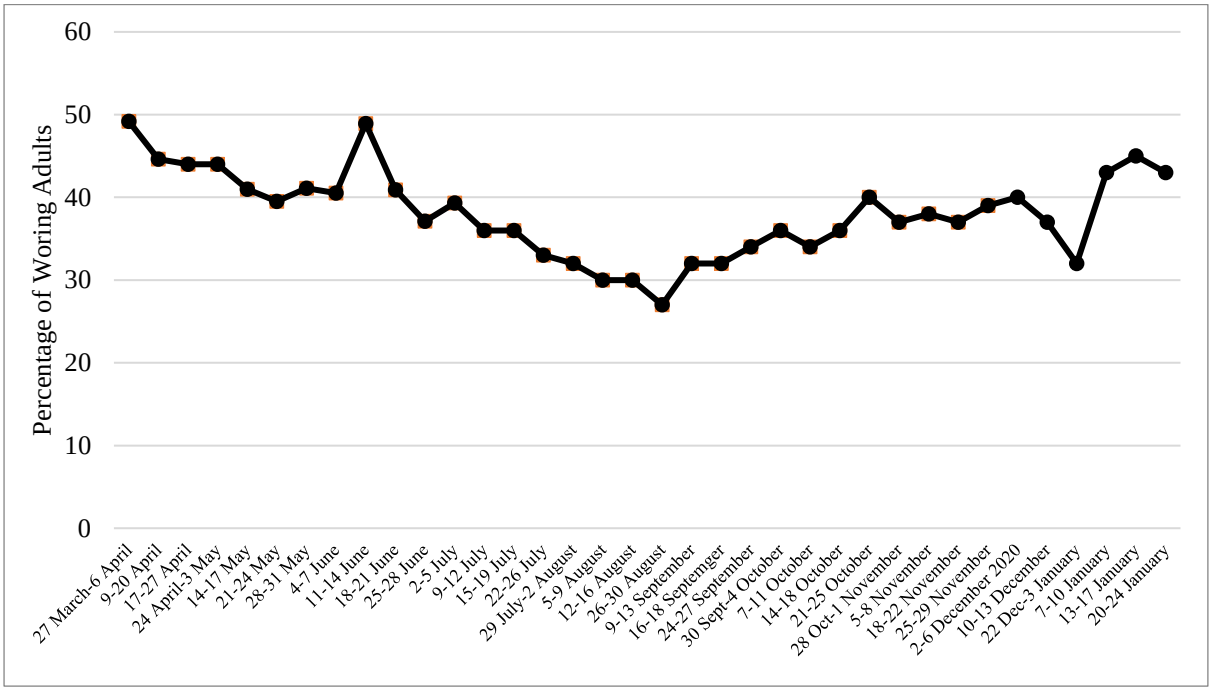
Source: own calculations reported in Table A3b.

Comparing the prevalence of homeworking across jurisdictions reveals that Wales lagged behind the UK throughout this period. Before the pandemic the gap was two percentage points, but since then the gap has widened to around five percentage points since the pandemic began.

More recent evidence suggests that homeworking may be on the rise yet again as social distancing restrictions have been tightened, and firebreaks and other lockdowns have been introduced. The data shown in Figure 3.5 are taken from the ONS's Opinions and Lifestyle Survey of around 2,500 working adults which has been carried out on almost weekly basis since March 2020. The results suggest that throughout the Spring lockdown between 40-50% of workers were carrying out work at home. However, the proportion fell to around one in four workers in late August 2020 as restrictions were lifted and there were calls for office workers to return to work. However, since then the proportion working at home has risen by 16 percentage points as restrictions have been reintroduced and workers across the UK have once again been told to work at home if they can. This means that the proportion working at home (43%) because of coronavirus in late January 2021 was similar to the level in April 2020.

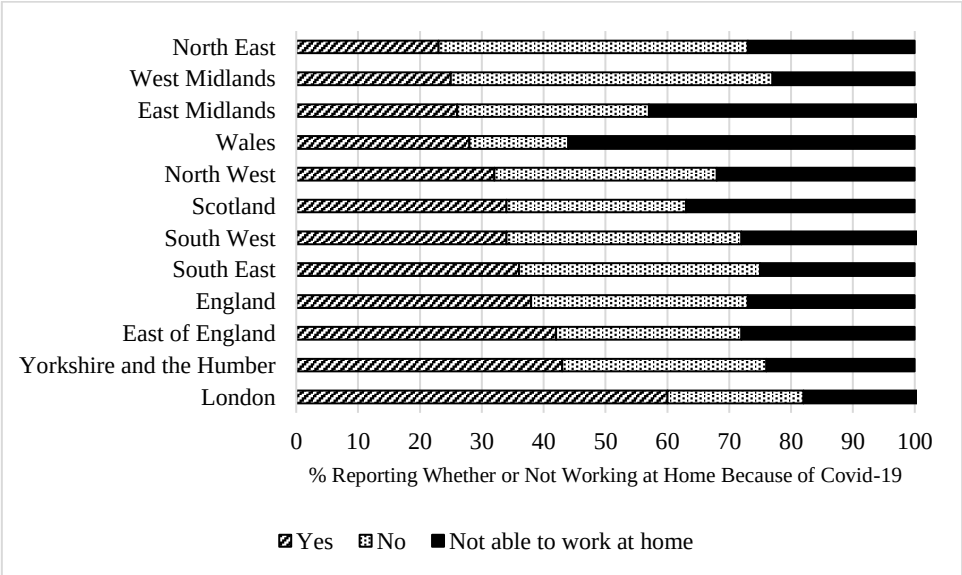
The same survey suggests that the potentiality for homeworking is lower in Wales than elsewhere in the UK. In the last week of October – that is, during the Welsh firebreak – fewer adults in Wales were working at home than in England. The gap was ten percentage points. Furthermore, well over half of those questioned in Wales (56%) said that they simply could not work at home, even if they and their employer wanted them to do so. No English region came close – the nearest was the East Midlands at 44% (see Figure 3.6). So, the potentiality for homeworking in Wales is more limited than elsewhere. But remember the prevalence of homeworking did reach 37% in the first month of the UK lockdown – this is well in excess of the Welsh Government's 30% aim.

Figure 3.5:
Prevalence of Working at Home Because of Covid-19, UK, March 2020-January 2021



Source: updated from Felstead (2020) with data taken from the Opinions and Lifestyle Survey.

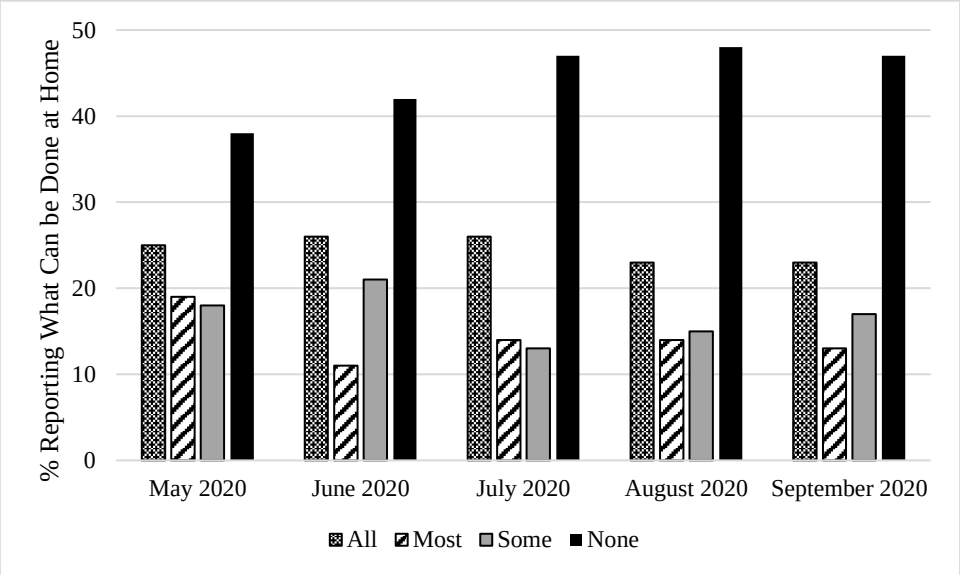
Figure 3.6:
Act of and Ability to Work at Home by Region/Country, 2020



Source: updated from Felstead (2020) with data taken from the Opinions and Lifestyle Survey, 28 October to 1 November 2020 and reported in Vizard (2020).

The National Survey for Wales suggests similarly high proportions of workers who say that none of their tasks can be completed at home. Around four out of ten of those working in Wales say that none of their work tasks can be done at home. Yet, a third or more of respondents say that all or most of their work tasks can done at home. Once again, this suggests that the Welsh Government's 30% homeworking target is within reach (see Figure 3.7).

Figure 3.7:
Potentiality for Homeworking in Wales During 2020



Source: own calculations from National Survey for Wales, May-September 2020.

Other research also suggests that the 30% target is plausible. For example, researchers in the US have classified 867 different types of jobs according to whether or not they can be done at home (Dingel and Neiman, 2020). The allocation process is based on responses given by job-holders to surveys carried out by the US Bureau of Labor Statistics. A total of 15 conditions have to be met for jobs to be considered appropriate for homeworking. These include the frequency with which email is used, the importance of outdoor work, the frequency of face-to-face interaction, the use of electrical and mechanical equipment, and exposure to hazards. Using this framework along with data taken from the LFS, it has been estimated that 'on average 39.9% of Welsh employees could plausibly perform their jobs from home' (Rodríguez and Ifan, 2020: 9).

Technology also continues to facilitate the detachment of work from place, and in particular the growth of homeworking (Boys, 2020). Data on the growing importance of computers at work and their ubiquity in the home are used to back up these claims. For example, in 2017 a computer was regarded as an essential tool to do half of all jobs (51%) compared to three out of ten jobs (30%) in 1997. Internet access in households has expanded even faster – rising from around 9% in 1998 to 96% in 2020 (ONS, 2020a). According to the LFS, around half (44.3%) of those working mainly at home in 1997 reported that they used both telephone and computer to do so. By 2019 this had risen to three-quarters (74.7%). The means to maintain, and even extend homeworking, are therefore in place.

Has the recent growth in homeworking been an equalising force or has it provided a refuge for only the most privileged? The short answer is the latter. The recent surge in homeworking has been disproportionately taken up by those with better quality jobs as measured by the level of skill they exercise and the pay they receive, but not according to their demographic characteristics. This is illustrated in Figures 3.8a-3.8d.

For example, if we compare those working exclusively at home before the lockdown with those doing so during the lockdown months of April, May and June 2020, we find that the biggest

Comparing Homeworking Profiles in the UK, Before and During the 2020 Lockdown

Figure 3.8a

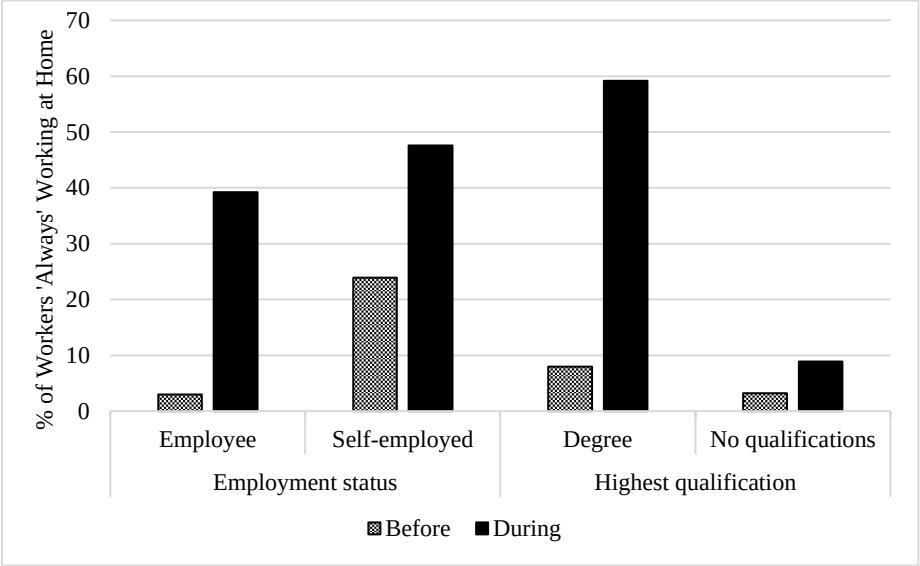


Figure 3.8b

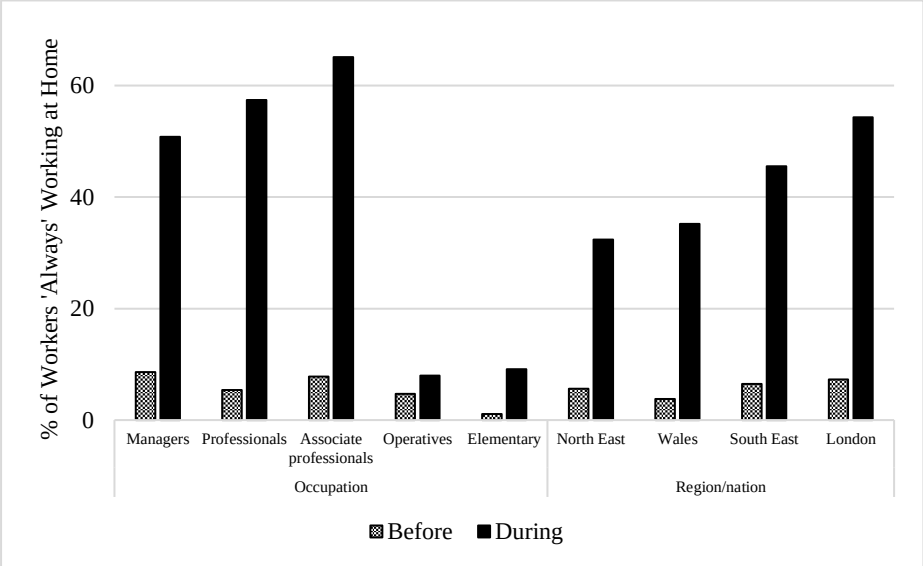


Figure 3.8c

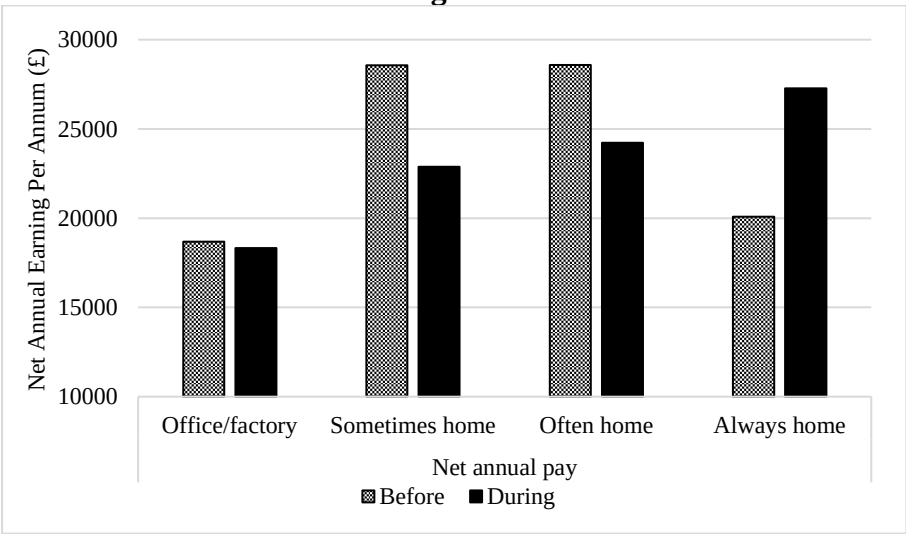
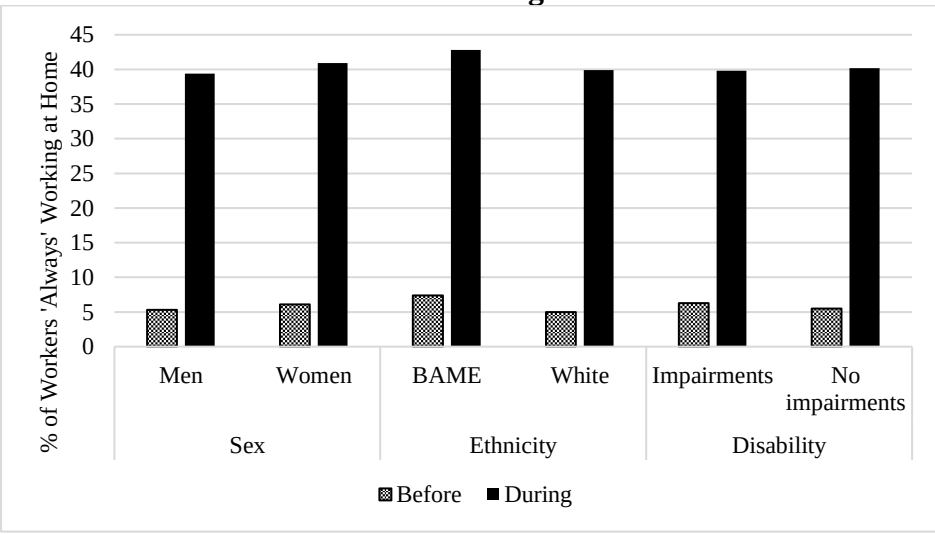


Figure 3.8d



Source: Felstead (2020).

rise in homeworking was among employees rather than the self-employed and among the highest qualified rather that the lesser qualified (see Figure 3.8a).

Growth was also stronger among those in higher skilled jobs, while it was weaker among the lesser skilled. During the Spring lockdown a majority of managers, professionals, associate professionals (e.g., computer assistants, buyers and estate agents), and administrative and secretarial staff (e.g., personal assistants, office clerks and bookkeepers) reported that they did all of their work at home. This was up from between 5-9% before the Spring lockdown (see Figure 3.8b). However, workers operating in lower skilled occupations continued to use the factory or office as their workplace both before and during the Spring lockdown. For example, more than four out of five operatives and elementary workers (e.g., machine operators, assemblers and labourers) reported that none of their work was carried out at home in lockdown (Felstead and Reuschke, 2020: Tables A2a, A2b and A2c).

Certain industries and regions also saw dramatic rises in the prevalence of homeworking. For example, during April-June 2020 approaching two-thirds of those working in 'banking and finance' (63.0%), over a half of those based in London (54.3%) and approaching a half of those based in the South East (45.5%) reported that they were fully working at home during lockdown. These proportions were up from around 7% before the lockdown (Felstead and Reuschke, 2020: 8-12). On the other hand, 'public administration, health and education' saw an increase from 4% to 38%, representing a rise but not as steep as elsewhere. Wales has disproportionately fewer people working in banking and finance and more people working in public administration (McCurdy, 2020: Figure 7). So, while the rise in homeworking in Wales was dramatic, it fell well short of the figures reported for London and the South East. Even so, around a third of workers in Wales reported doing all of their paid work at home during the Spring lockdown (see Figure 3.8b).

Consequently, the pay profile of homeworkers changed with the net annual pay of workers who did all of their work at home rising from around £20,000 before the three-month Spring lockdown to around £27,250 during the lockdown itself. On the other hand, the pay of those who worked at home less frequently fell, while those who worked outside of the home barely changed. This suggests the shift towards full scale homeworking was strongest among the higher paid (see Figure 3.8c).

Despite all of these changes to the profile of homeworkers, the prevalence of working at home did not vary by personal demographic characteristic. So, the growth of homeworking before and after the Spring lockdown varied little by the protected characteristics of gender, disability and ethnicity (see Figure 3.8d).

4. Economic Impacts

4.1 Impact on Productivity

A pressing issue for employers is what effect homeworking has on employee productivity. Several theories suggest that it has a negative effect, while others suggest that its effect is positive. The pessimists argue learning is impeded, trust is more difficult to build and sustain, and social capital between colleagues is weakened. Optimists, on the other hand, point to the benefits of being able to escape from the noise and disturbances encountered in the office environment, and the avoidance of stressful and tiring commutes to and from work.

The empirical evidence, too, is equivocal with some studies suggesting that homeworking boosts productivity, while others suggesting the reverse. One of the former is a randomised control trial of a Chinese call centre which employed around 1,000 operators (Bloom *et al*., 2015). Volunteers were randomly divided into a treatment group who worked at home and a control group who continued to work in the office. The working at home group's productivity was 13% higher. They achieved this by increasing the hours they spent logged onto the system and by increasing the number of calls they dealt with per minute. Employees reported that they were more productive because working at home allowed them more autonomy (e.g., to make a tea/coffee or use the toilet when they wanted) and because the home was relatively quiet.

On the other hand, studies sometimes suggest that homeworking reduces productivity (e.g., Van der Lippe and Lippényi, 2019). One such study is based on a large scale survey carried out in 2015 across nine European countries. The results suggest that individual work performance – measured by indicators such as planning to finish on time and being able work efficiently – was lower the longer employees worked at home. Furthermore, managers' rated team productivity significantly lower if team members worked more than eight hours a week at home (roughly equivalent to one day a week).

These studies were carried out before the outbreak of Covid-19 when homeworking was voluntarily undertaken rather than enforced on workers due to the health requirements of social distancing. However, many surveys of employees and employers have been carried out since the pandemic began. Some of these also collect data on the productivity effects of homeworking.

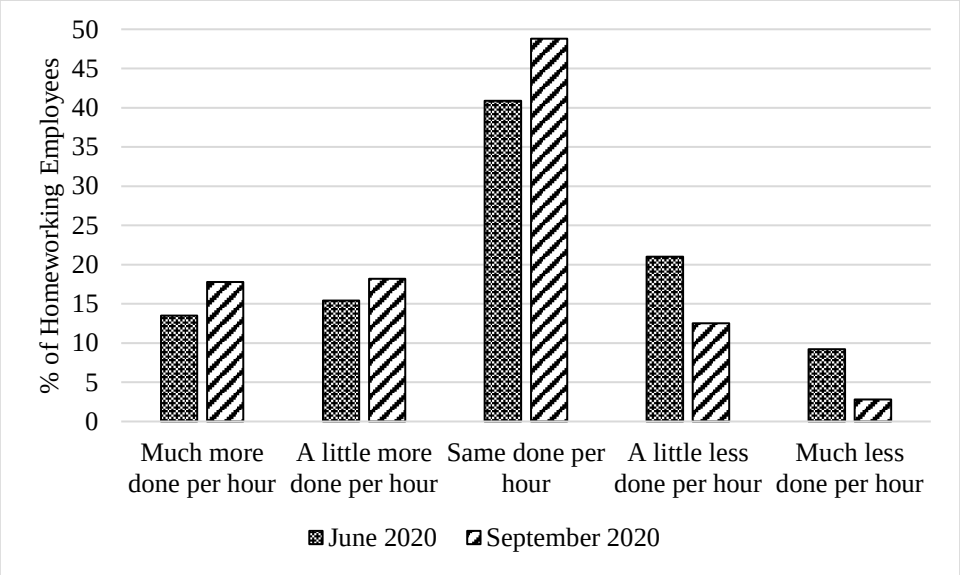
One such survey is the Understanding Society Covid-19 Study (USCS). This survey has been carried out at regular intervals since the pandemic began and will eventually consist of eight surveys. Six were carried out in 2020 – April, May, June, July, September and November – and a further two are planned for 2021 – January and March. Around 6,500 workers take part in each survey. They are asked how often they worked at home in the four weeks before completing the online survey. These data have already featured in this Report (e.g. in Figures 4, 5, 9a, 9b, 9c and 9d).

Respondents who reported working at home sometimes, often or always in the previous four weeks to the June 2020 version of the survey were also asked: 'Please think about how much work you get done per hour these days. How does that compare to how much you would have got done *per hour* back in January/February 2020 [and if they did not work at home in January/February 2020 a memory-jogger was added] when, according to what you have previously told us, you were not working from home?' (original emphasis). The data collected allow a 'then and now' productivity comparison to be made. The response scales were: 'I get much more done'; 'I get a little more done'; 'I get about the same done'; 'I get a little less done'; and 'I get much less done'. The same question was also asked of all respondents to the September 2020 version of the survey.

The results suggest that two-fifths (40.9%) of employees in June 2020 reported that they were able to get as much work done then as they did six months earlier. Over a quarter (28.9%) said that they got more done, while 30.2% said that their productivity had fallen (see Figure 10). On the whole, then, homeworking in the Spring lockdown did not appear to have had a significant effect on productivity levels. Furthermore, the September 2020 data suggest that as social distancing restrictions were relaxed and the prevalence of homeworking declined, the productivity of employees who continued to work at home rose. For example, the proportion

reporting that their they were able to less done per hour while working at home halved between June and September 2020, while the proportion reporting being able to do as much if not more per hour rose by 15 percentage points (see Figure 4.1).

Figure 4.1:
Productivity Effects of Homeworking, UK, June and September 2020



Source: Felstead and Reuschke, 2020: Table A8b, but updated using the Understanding Society Covid-19 Study September 2020 data.

The effect that the UK lockdown had on productivity varied according to the extent that people worked at home. Those who worked exclusively at home in June 2020 were most likely to report themselves as more productive rather than less. On the other hand, those working at home less frequently reported a significant downward shift in their productivity.

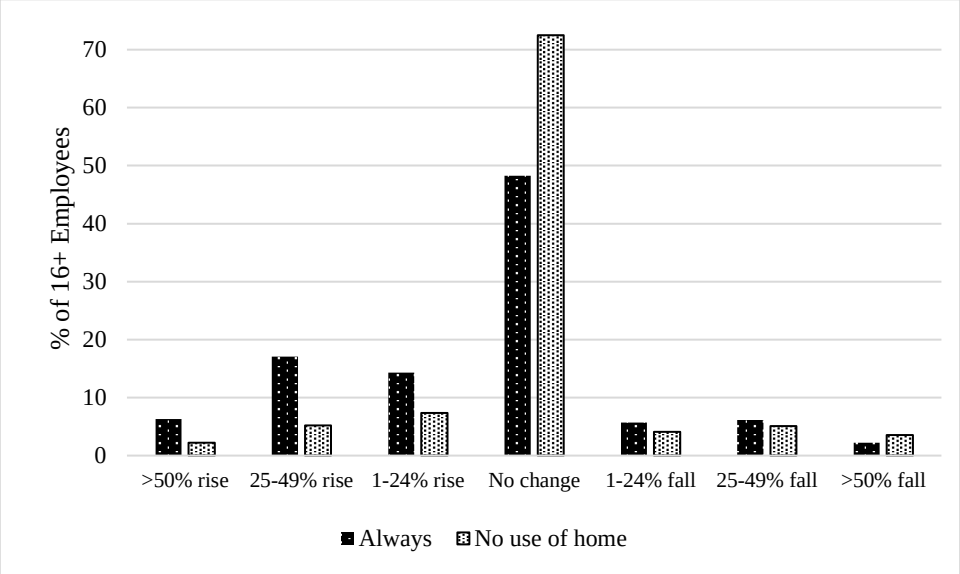
However, those who reported higher domestic commitments – such as doing housework and carrying out home schooling – reported that their productivity was significantly lower. This is in line with border theory which suggests that the invasion of home commitments is at its most pronounced when homeworking is undertaken. The closure of schools during the Spring lockdown was particularly challenging. During this time, parents were expected to care for their children, liaise with schools and even home school their children. Similar pressures will be placed on parents in the lockdowns imposed by all four home nations in January 2021.

On the other hand, longer working hours was positively associated with increased productivity. This provides further empirical support for theories which suggest that homeworking may lead to over-working as workers go the extra mile to prove that they are working effectively, out of obligation to their employer or in order to get noticed.

The September 2020 version of the Covid-19 Study also asked respondents to quantify how their productivity had changed. If they said that they were able to get more done per hour they were asked: 'Thinking about how much more you get done these days, would you say that what you can do in an hour now would previously have taken you: 1. Up to an hour and a quarter; 2. Between an hour and a quarter and an hour and a half or 3. More than an hour and a half?' If they said that they got less done, they were asked: 'Thinking about how much less you get done these days, would you say that what you can do in an hour now would previously have taken you:1. Between 45 minutes and an hour; 2. Between 30 and 45 minutes; or 3. Less than

30 minutes?'. For the purposes of presentation, the responses to both questions are presented in a single figure with the rises and falls converted into percentage changes (as displayed on the x-axis of Figure 4.2). Not surprisingly given rules around social distancing, some employees who did none of their work at home reported that their productivity had fallen compared to the situation before the pandemic. On the other hand, a slightly smaller proportion reported that they were able to get more done, possibly because the relative quietness of the workplace. However, the productivity effects were more marked among those who worked at home and were in the upward direction. For example, double the proportion of full-time homeworkers reported that their productivity had increased compared to those who did none of their work at home, whereas comparable proportions reported a fall in output per hour (see Figure 4.2).

Figure 4.2:
Quantified Productivity Effects of Social Distancing by Working at Home Intensity, UK, September 2020



Source: own calculations from the Understanding Society Covid-19 Study, September 2020.

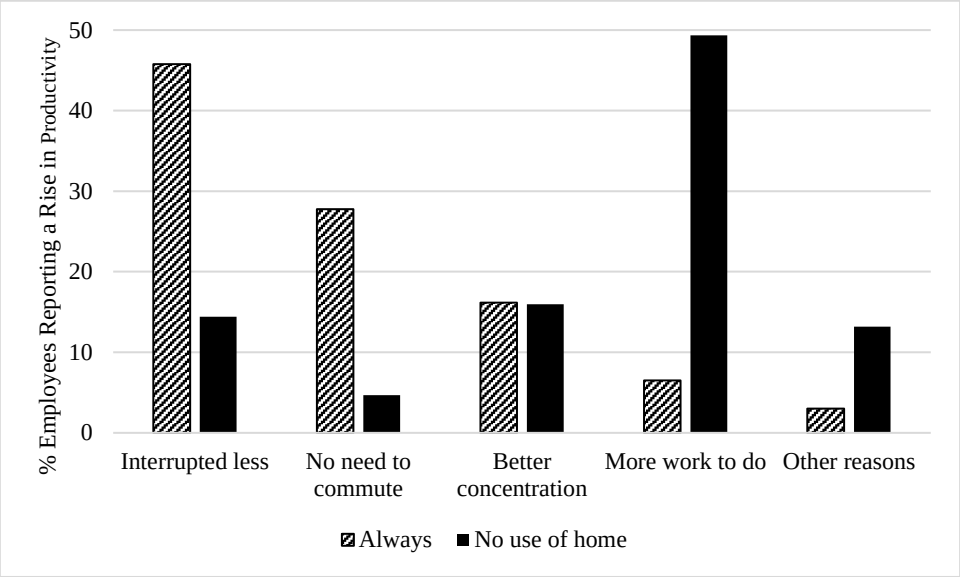
Those who reported that their productivity had changed since January/February 2020 were asked to identify the main reason for the change. Nearly half of full-time homeworkers (45.8%) put the increase in their productivity down to fewer interruptions and around three out of ten (27.8%) put it down to not having to commute to and from work. Those who did none of their work at home but who reported an increase in their productivity gave different reasons. Having to do more work came top of the list (49.4%) (see Figure 4.3).

Different reasons were given for falls in productivity. Of those doing all of their work at home and reporting that their output per hour had fallen, the main three reasons were lack of motivation (31.6%), more interruptions (21.5%) and equipment difficulties (11.4%). These factors were barely mentioned by those who did not work at home. For these employees, the three main reasons for the fall were 'other factors' (35.9%) followed by less work to do (21.6%) and the requirement to be at work (11.1%) (see Figure 4.4).

Furthermore, the main reason for falling productivity varied by gender with female homeworkers more likely than men to cite interruptions from family members. While this is outside the control of management, the finding that the lack of motivation and poor equipment can hinder homeworkers' productivity is something that management can address with better communication, regular meetings and more investment in information technology. These

findings are echoed by others using a broader range of research methods such as qualitative interviews with homeworkers themselves and some of their employers (e.g., Skountridaki *et al*., 2020; Bevan, 2020; Parry, 2020; Morris and Hassard, 2020).

Figure 4.3:
Main Reason for Rise in Productivity, UK, September 2020



Source: own calculations from the Understanding Society Covid-19 Study, September 2020.

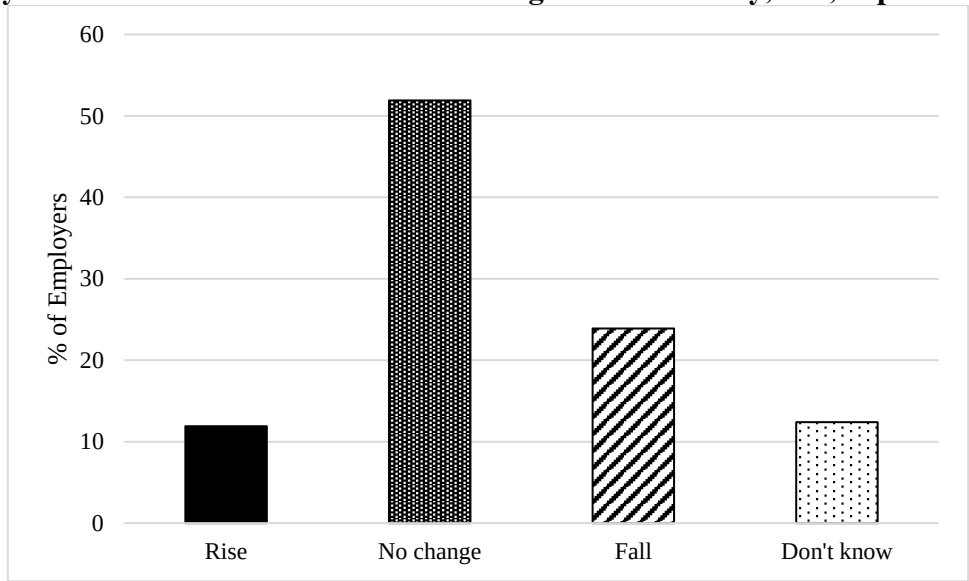
Figure 4.4:
Main Reason for Fall in Productivity, UK, September 2020

Source: own calculations from the Understanding Society Covid-19 Study, September 2020.

Evidence from employer surveys also corroborates the finding that homeworking appears to have had no detrimental effect on productivity. For example, in September 2020 the Business Impacts of Coronavirus Survey (BICS) asked employers about the effect that homeworking was having on employees' productivity. Around 5,500 employers took part. A majority said that productivity had not changed (51.9%), but around a quarter (23.9%) said that productivity

had fallen and a similar proportion said it had either increased or that they did know what effect it had had (24.3%) (see Figure 4.5).

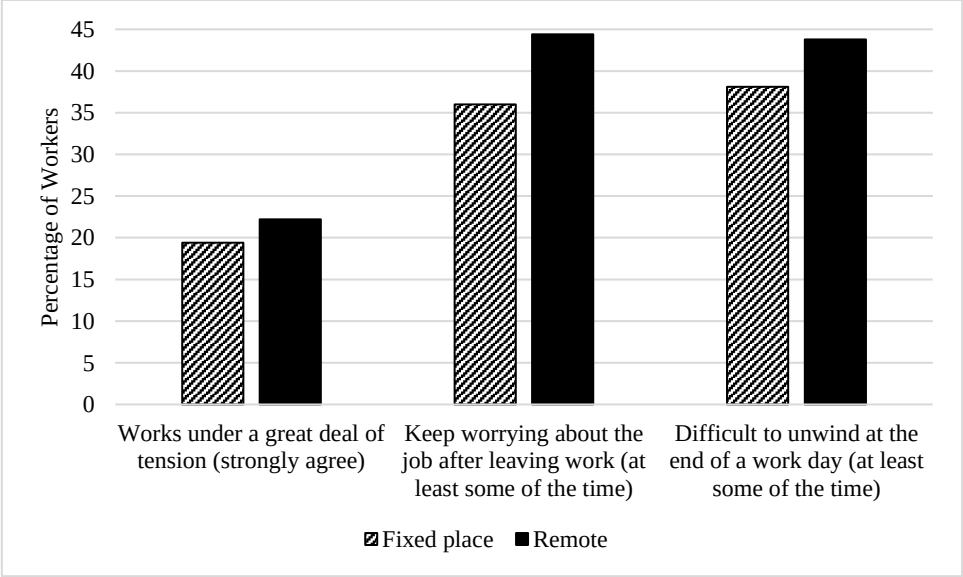
Figure 4.5:
Employers' Estimated Effect of Homeworking on Productivity, UK, September 2020



Source: taken from Felstead (2020).

Other employer surveys also suggest that, on average, productivity has not been reduced by the recent surge in working at home. For example, the CIPD conducted a survey of 1,046 establishments. It found that around a third of employers (37%) said that homeworking had made no difference to employee productivity. A similar proportion of employers reported that it had either had a small positive effect (18%) or a small negative effect (22%). A smaller share of employers perceived stronger impacts, again in both directions, with 11% reported strong positive effects and 6% strong negative effects (Brinkley *et al*., 2020:14-17).

Figure 4.6:
Remote Working and Well-being, Britain

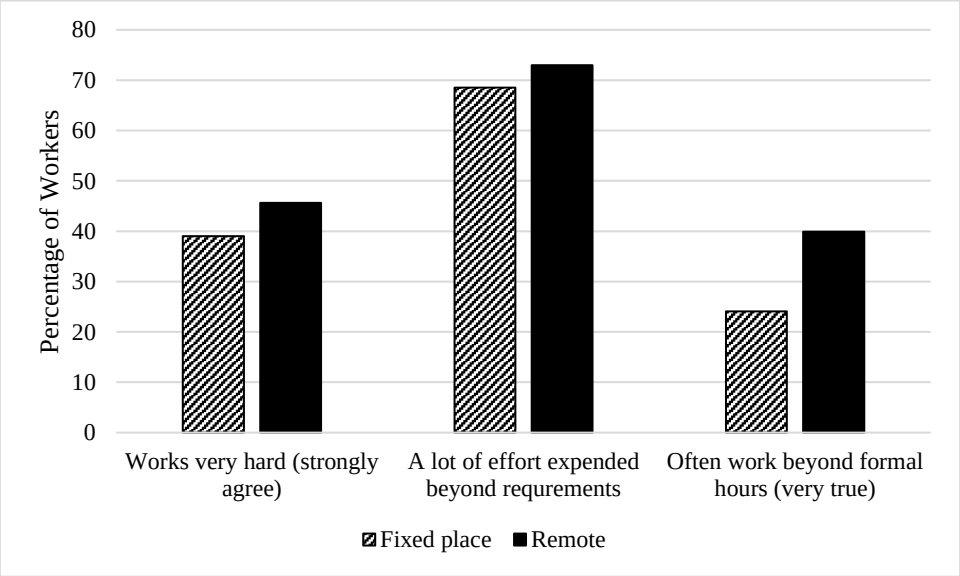


Source: data taken from Felstead and Henseke (2017), pooled Skills and Employment Surveys 2001, 2006 and 2012.

However, increased productivity may come at a cost. For example, according to research carried out before the pandemic, 'remote workers' found it more difficult to reconcile home and work life. They found it harder to unwind at the end of the work day and more often reported worrying about work. Around a third (36.0%) of conventionally sited workers kept worrying about job problems at least some of the time even when they were not working, but among remote workers the proportion was eight percentage points higher (see Figure 4.6).

As a result, remote workers were more prone to work longer hours than their office-based counterparts. For example, 39.9% of remote workers said that it was 'very true' that 'I often have to work extra time, over and above the formal hours of my job, to get through the work or to help out' compared to 24.1% of those in conventional workplaces (see Figure 4.7). However, in this analysis 'remote workers' are defined as those carry out their work mainly or partly away from the premises of the employer. Such a definition captures more than simply those who carry out work at home and for whom the worlds of work and home overlap most (cf. section 2).

Figure 4.7:
Remote Working and Effort, Britain

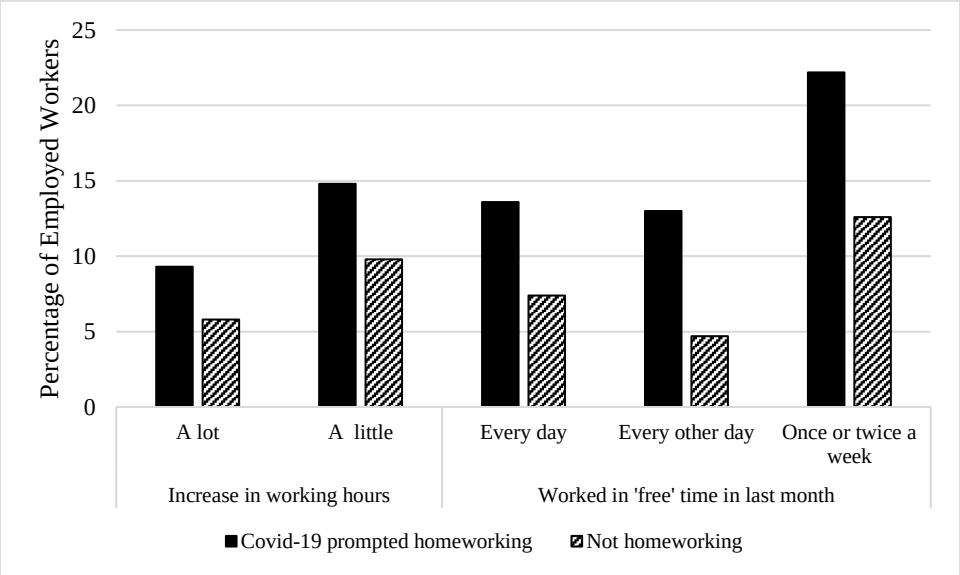


Source: data taken from Felstead and Henseke (2017), pooled Skills and Employment Surveys 2001, 2006 and 2012.

Nevertheless, these findings are confirmed by the Living, Work and Covid-19 Survey which collected data on around 87,000 people living and working in the European Union in the period April-July 2020 (excluding the UK). The survey shows that employees working at home were more likely to report that: at least sometimes they did not 'have enough time to get the job done'; they were 'emotionally drained by work' most or all of the time; and they felt isolated most or all of the time. They were also less likely to think that they were doing a useful job than those who did not work at home (Eurofound, 2020b: 35-43). In addition, those working at home because of the Covid-19 pandemic were more likely to report that their working hours had increased and that they had to work in their free time to get things done (see Figure 4.8).[6]

[6] Eurofound (2020a) *Living, Working and COVID-19 Dataset*, Dublin: European Foundation for the Improvement of Living and Working Conditions, http://eurofound.link/covid19data.

Figure 4.8:
Working Hours, European Union (excluding the UK), April 2020



Source: own calculations from Eurofound's Living, Working and Covid-19 Survey, April 2020 (excluding the UK because of Brexit).

Furthermore, there are reports that some employers have gone further by using software to monitor homeworkers' activities – such as looking at how long they take to read and reply to messages, checking their attendance at meetings and even secretly filming them (BBC News, 2020b; *The Metro*, 19 January 2021). According to a YouGov survey of around 2,000 employers carried out in November 2020, 12% were using software to monitor staff working at home in these ways and a further 8% were planning to do so (Skills cast, 2020). However, the legality of these forms of surveillance, without informing employees, is questionable and their use suggests that employers feel that some of their staff cannot be trusted.

These issues, together with the sudden switch to homeworking in the UK, has taken its toll on the mental health of homeworkers. For example, over 30% of those working always or often at home in June 2020 – the third month of the Spring lockdown – reported that they were able to concentrate less or much less than usual compared to less than 20% of those who reported that they had not worked at home at all. Similarly, those who worked mainly at home – always or often – reported greater difficulties in enjoying normal day-to-day activities and more often felt constantly being under strain and unhappy with life. Furthermore, multivariate analysis shows that those who were exclusively working at home during the first two months of lockdown had significantly lower levels of mental health overall than those who did not work at home at all. However, by the third month the fall was not as steep and not statistically significant from other workers. This may be because those working at home became more accustomed to working in this way and/or those who found it difficult to do so had voted with their feet and moved back to the office (Felstead and Reuschke, 2020: 14-16).

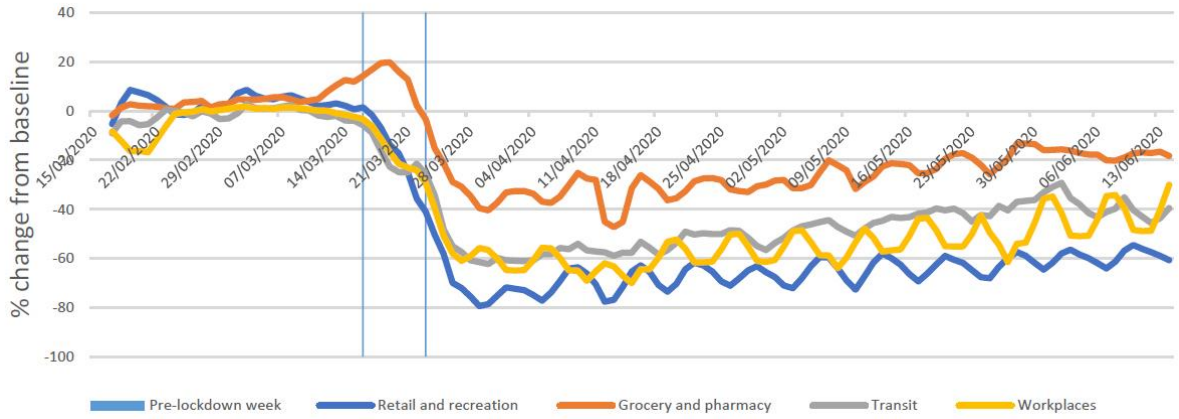
4.2 Spill-over Effects

The surge in homeworking has had other effects too. Some positive, some negative. On the positive side, pollution levels have fallen as workers – in Wales, if not in England – have consistently been told to work at home if they can. For example, between 16 March to 31 May 2020 air quality in Wales improved substantially on pre-lockdown levels – the presence of nitrogen oxides almost halved (down 49%) and levels of nitrogen dioxide in the atmosphere

fell by a third (36%) with the greatest reduction at roadside locations across Wales (Thomas, 2020: ii).

Motorised travel is a well-documented source of air pollution with vehicle numbers strongly related to the production of hydrocarbons (Brunt, 2020). Traffic declined significantly when the Spring lockdown was announced on 23 March 2020 and it has remained below pre-lockdown levels. As Figure 4.9 shows all types of travel fell as Wales along with the rest of the UK was put into lockdown. However, as restrictions have been eased, all forms of travel have increased, but not to their previous levels. On this evidence, Public Health Wales have suggested that: 'home working arrangements … could make a positive difference to air quality, public health and wider environmental health in Wales' (Brunt, 2020: 4).

Figure 4.9:
Travel Patterns, Wales, February-June 2020



Source: Brunt (2020) trends in travel behaviours (three-day rolling averages) data taken from https://www.google.com/covid19/mobility/.

However, one of the most visible impacts of social distancing has been the negative effect it has had on the high street. During the Spring lockdown, this was frequently illustrated with photographs of deserted city centres and empty high streets with bars, restaurants and shops boarded up. Even when lockdown restrictions were eased and hospitality and retail were permitted to re-open, footfall has not bounced back to pre-lockdown levels. Many workers continue to refrain from commuting into high density offices. These are often based in city centres and are designed to promote high levels of social, physical and visual contact (Felstead *et al*., 2005).

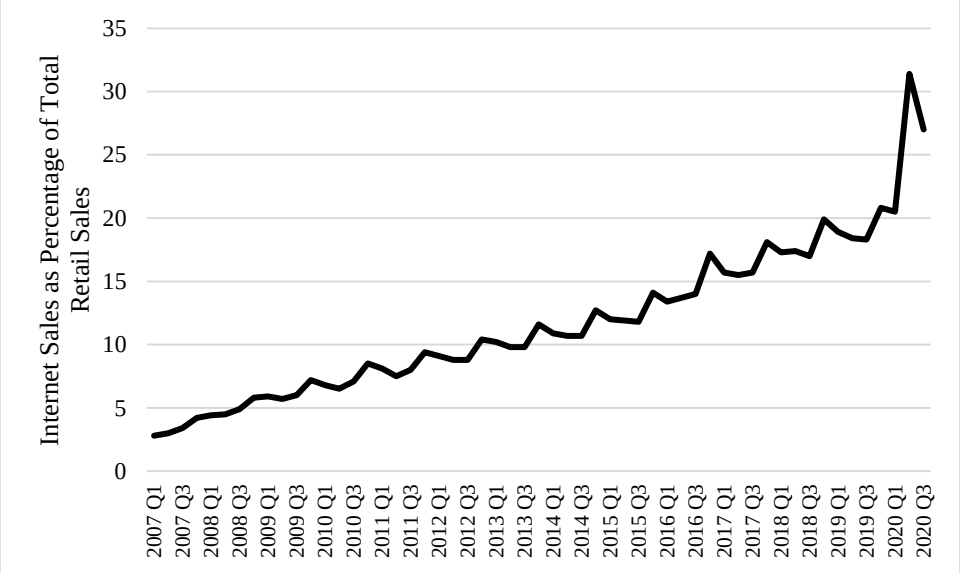
Nevertheless, even before Covid-19 the landscape of retail was changing with shoppers making more of their purchases online and some major high street stores going out of business altogether. For example, internet sales were growing steadily from 2% in 2006 to around 20% before Covid-19. But in May 2020 internet sales hit 33%. They have come down a little since, but remain high (see Figure 4.10).

High street year-on-year footfall fell by a half in the lockdown months of April, May and June 2020, and by between a quarter and a third in the months which have followed (Statista, 2020). One reason for this decline in footfall is the exodus of office workers from city centres. Occupancy levels in shopping centres have plummeted. The biggest decline across the UK has been in Wales. In the first six months of 2020 there was a 6.1% fall in occupancy levels in Welsh shopping centres, where brand name stores such as Debenhams, Topshop, Burtons and

Dorothy Perkins are often located and are now closing (Local Data Company, 2020: 34). Falls in occupancy have been especially high for the following:

- Festival Park in Ebbw Vale where 23 units were vacated between April to August equating to a decline of 74% in occupancy;
- Rhiw Shopping Centre in Bridgend where occupancy fell by 20%;
- Deiniol Shopping Centre in Bangor where occupancy dropped by 17%;
- Friars Walk Shopping Centre in Newport where occupancy shrunk by 14% (recent reports suggest a further fall in occupancy, see Wales Online, 2021).

Figure 4.10:
Internet Sales, UK, 2007-2020



Source: ONS, 2020b, https://www.ons.gov.uk/businessindustryandtrade/retailindustry/timeseries/j4mc/drsi

However, if higher levels of homeworking become the norm, office workers are likely to patronise businesses nearer to where they live as opposed to in the city centres where they used to work. So, instead of picking up a coffee on the way to the office, popping out to have a haircut in their lunch hour or doing a spot of shopping after work, their demands for such services will be met by businesses operating in the local neighbourhood and not in the city centre. In other words, some of the purchasing power of office workers who spend more time working at home will shift from city centres to local neighbourhoods (Shone, 2020; Ramuni, 2020). This is reflected in the stories of local business owners in cities such as Newport (see Wales Online, 15 October 2020).

That said, the extent to which such demands are displaced will depend on the future level of homeworking (see Section 5). This will have implications for city and town planning, including the repurposing of vacant shopping centre units and office buildings in the heart of city centres. For example, Nottingham City Council has recently announced plans to demolish completely the Broadmarsh Shopping Centre in the heart of the city and replace it with a green space (Nottinghamshire Wildlife Trust, 2020). This is part of the Council's response to declining levels of footfall, hastened by the outbreak of coronavirus, and its goal of becoming the UK's first carbon-neutral city. A sustained level of homeworking in the future will also necessitate investing more in local neighbourhood amenities near to where people live and work.

Another spill-over effect of the surge in homeworking has been the rise in house prices. In September 2020 average house prices in six of the 22 local authorities in Wales reached their highest level. Five out of the six had the highest proportion of detached or semi-detached houses. Evidence suggests that the rise is being driven by people looking for more spacious homes suitable for homeworking. Furthermore, house prices in Wales are predicted by to outstrip those in England in 2021 as people anticipate spending more time working at home. Some of the highest price rises have been in Welsh-speaking areas, such as Gwynedd, where the lack of affordable housing is already making it difficult for local inhabitants to buy their own homes (Principality Building Society, 2020; BBC News, 2020a).

5. The Future of Homeworking

Evidence from both employees and employers suggests that the great homeworking experiment will become an entrenched and widely accepted feature of work even when social distancing restrictions are fully lifted. After months of working at home, both employers and their staff have got used to these working arrangements. As a result, around a fifth of employers (18.8%) surveyed by ONS said that they intended to continue using enhanced levels of homeworking in the future (see Figure 5.1a). Increased productivity was the third most popular reason reported for doing so (see Figure 5.1b). However, reduced productivity was not a strong reason for not using homeworking in the future. The more likely cause was the inappropriateness of homeworking for the business, that is some jobs simply cannot be done at home such as lorry drivers, firefighters, paramedics and cleaners (see Figure 5.1c).

Other employer surveys also suggest that homeworking is here to stay. For example, the Institute of Directors (IoD) carried out a survey in September 2020 of around 1,000 company directors. It found that nearly three quarters said they intended to carry on allowing staff to work at home. Furthermore, more than half said their organisation intended to reduce their long-term use of office space and more than one in five reported their usage would be significantly lower (IoD, 2020). Similarly, a survey of 573 businesses carried out by the CBI suggests that homeworking is here to stay. Almost half (47%) predicted that in two or three years' time the majority of their staff would be working in split locations – half the time in the office and half of the time working at or from home. This is up from one in ten (8%) employers in 2019. They also overwhelmingly expect homeworking to have a positive rather than negative effect on productivity. Those predicting that homeworking will boost productivity outnumber those predicting that it will fall by two to one (41% versus 20%) (CBI, 2020: 4-5).

Inevitably there are some employees who do not wish to work at home at all and are doing so because there is no other option. On the other hand, there are many who enjoy working at home and would like to continue to do so in the future. In fact, according to the Covid-19 Study, nine out of ten (88.2%) employees who worked at home in June 2020 said that they would like to continue working at home in some capacity, with around one in two employees (47.3%) wanting to work at home often or all of the time. The same question was asked in the September 2020 wave of the survey. Despite the passage of time, the appetite for homeworking had not declined, but had in fact risen with well over nine out of ten (93.3%) wanting to continue to work at home (see Figure 5.2).[7]

[7] It must be noted, however, that the June and September 2020 future preference item varied slightly with the latter adding the word 'fully' to the question: 'Once social distancing measures are [fully] relaxed and workplaces go back to normal, how often would you like to work from home?'

Figure 5.1a:
Employers' Current and Future Use of Homeworking, UK, 2020

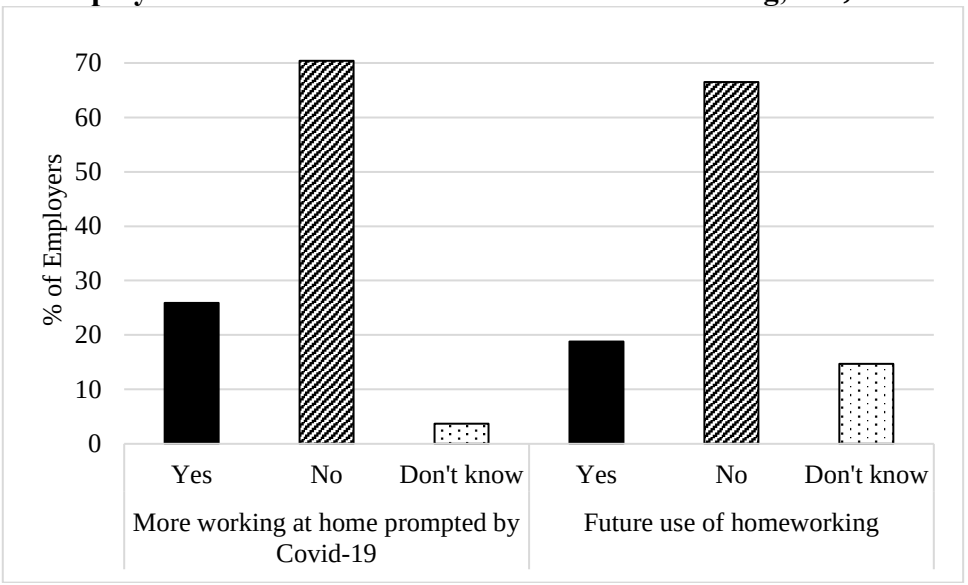


Figure 5b:
Employers' Reasons for Future Homeworking, UK, 2020

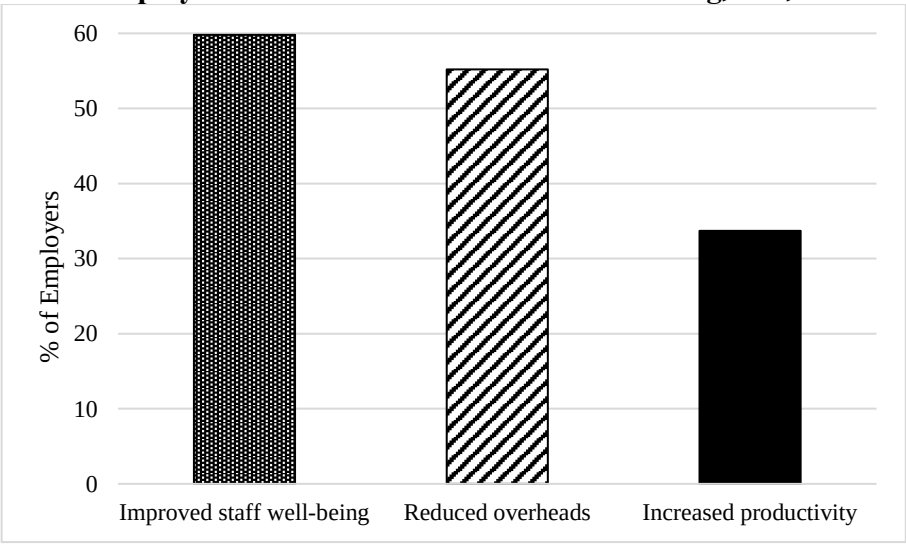
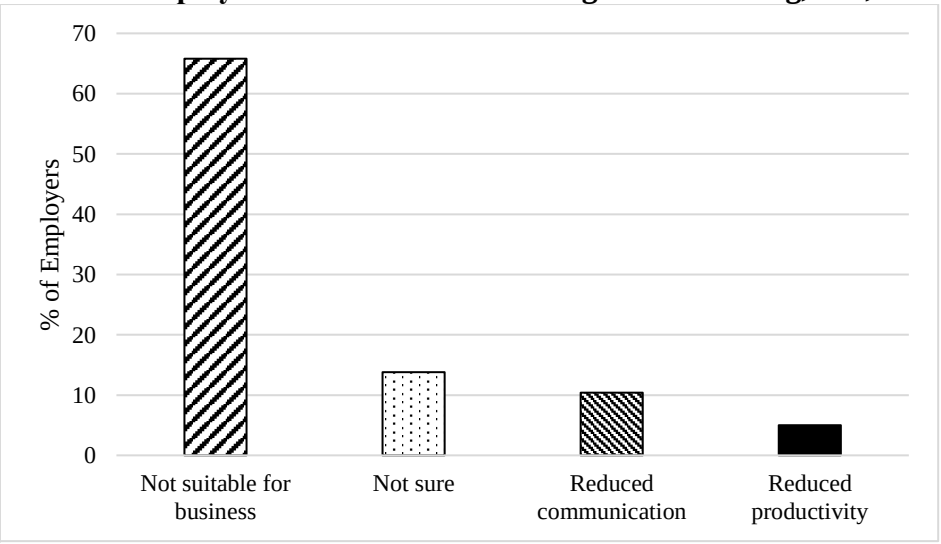
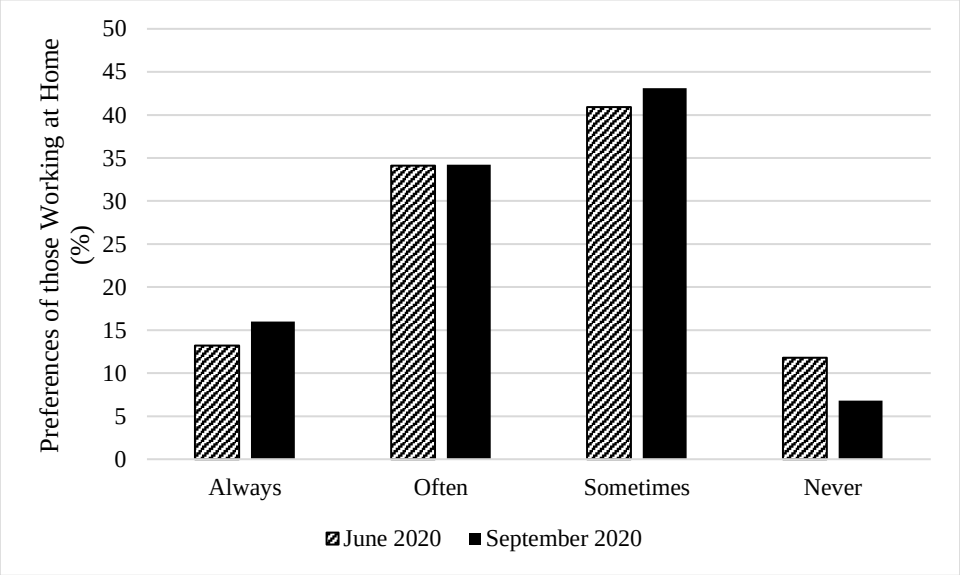


Figure 5c:
Employers' Reasons for *Not* Using Homeworking, UK, 2020



Source: taken from Felstead (2020) and based on data from the Business Impacts of Coronavirus Survey, wave 14, 7-20 September 2020.

Figure 5.2:
Future Preferences of those Working at Home, UK, June and September 2020,



Source: Felstead and Reuschke, 2020: Table A11b, but updated using the Understanding Society Covid-19 Study September 2020 data.

Furthermore, putting the data on future homeworking preferences together with self-assessed evaluations of the effect of homeworking on productivity suggests that the upsurge in interest in homeworking is unlikely to be detrimental to productivity but may, in fact, boost it. Two-thirds (65.5%) of employees who reported that they were able to produce much more per hour while working at home in June 2020 wanted to continue to work at home in the future. In comparison, just 6.4% of those who said that their productivity was much higher when they worked at home did not want to do so in the future.

6. Monitoring and Evaluation

The foundation of good evidence-based policy is robust and timely data. If homeworking becomes a more accepted and widespread feature of the economic landscape, more needs to be known about its impact on businesses, workers, and the towns and cities in which we live and work. However, it is also imperative that from the onset we are clear about the type of work we are monitoring.

Unfortunately, the current debate and existing evidence on homeworking is littered with unhelpful conceptual confusions. Most notably in the context of Covid-19, reference is frequently made to working *from* home by policy makers, academics and commentators alike, which given its ubiquity is now often referred to as 'WFH' for short (e.g., Shone, 2020). However, in actual fact we are being asked to work *at* home in order to limit our mobility and hence lessen the spread of Covid-19 ('at' conveys greater fixity than 'from').

The Welsh Government's recently announced ambition to have '30% of Welsh workers working from home or near from home' compounds the confusion by widening the focus further to those working near to their home. Specific reference is made to local community hubs and coworking spaces, but it is not clear how near or far away from the home they need to be included in the target (Welsh Government, 2020a and 2020b). Either way, they ensure that work is *not* carried out at home. This is not a matter of semantics. The juxtaposition of

two worlds within one locale makes working at home unique as well as challenging (hence the unhyphenated term 'homeworking'). Spatial co-location maximises the extent to which the worlds of work and home overlap. However, the overlap is lessened for those who use their home as a base from which to work, but do most of their work elsewhere. This may entail workers travelling to other people's homes to undertake jobs or walking into a coworking space where they rent a desk and congregate with others, but carry out their own independent work (Gandini, 2015). Either way, the worlds of work and home are kept separate and so the defining feature of homeworking is lost.

Nevertheless, hybrid forms of working – doing some work at home, some in the office and the remainder while in transit – were becoming increasingly popular well before the outbreak of Covid-19 (Hislop and Axtell, 2007; Halford, 2005; Felstead *et al*., 2005). For example, those reporting that they had no fixed place of work – simply because it changed day to day – rose from 2.3% in 1951 to 8.2% in 2011 according to the Census of Population (see Table A4). This trend is confirmed by other data which shows that work carried out away from a single place of work, such as a shop, factory or office, was rising. According to the Skills and Employment Survey this figure rose by 12 percentage points between 2001 and 2017 across Britain and by five percentage points in Wales. This means that work was becoming increasingly detached from place well before the pandemic began, hence the term 'remote working' (Government of Ireland, 2021; Felstead and Henseke, 2017).

Future data collection needs to follow these trends and, in particular, the 'hybridisation' of homeworking which is likely to become more prevalent in the years ahead. Almost half of employers (47%) surveyed by the Confederation of British Industry (CBI) expect that the majority of their staff will split their working time evenly between the office and the home in two or three years' time. This is up from less than one in ten (8%) employers in 2019 (CBI, 2020).

The evidence supplied to policy makers needs to reflect these working patterns and it needs to be robust and consistent. Existing surveys such as the Labour Force Survey, the Skills and Employment Survey and the European Working Conditions Survey (cf. Table 2.1) offer tried and tested questions which have collected such data over several decades. However, none of these long-running national surveys collect data on the use of local community hubs which Welsh Government also includes in its definition of 'remote working' (Welsh Government, 2020b).

Where possible, data on Wales has been provided in this Report, but the sample sizes are often too small for robust evidence to be presented. For example, some of the evidence in this Report is taken from the Covid-19 Study which was carried out on six occasions across the UK in 2020.[8] However, the sample sizes for Wales are small (circa 350 cases) and the series will end in March 2021. On some occasions, the sample sizes are even smaller. For example, since November 2020, the Opinions and Lifestyle Survey, carried out by ONS, has published fortnightly estimates of working at home in Wales. These are based on sample sizes of 40 or less. Wide margins of error are put around the published estimates. They are, therefore, a poor basis on which to track homeworking in Wales.

[8] A further two waves of the survey are planned for January and March 2021. However, for obvious reasons, these data were not available for analysis at the time of writing (January 2021).

Unfortunately, then, like many other Welsh labour market policy initiatives, the data infrastructure for evaluation and monitoring is relatively weak (Fair Work Commission, 2019). However, the Labour Force Survey and the Annual Population Survey do provide a starting point. They also have a long-term future, even though they are undergoing transformation.[9] More importantly, they have larger sample Welsh sizes on which to track what percentage of jobs are being done at home, the socio-demographics of those involved and the type of jobs undertaken. Given that the Welsh Government's target for homeworking was only recently announced, it is not surprising that these data do not routinely appear on 'the go-to' web site for Welsh data – https://statswales.gov.wales. However, these official sources of data are limited. For example, they do not collect data on the impact that homeworking has on productivity or its effect on aspects of job quality such as work stress, work-life balance, and managerial help and support, all of which are aspects of fair work as defined by Welsh Government (Fair Work Commission, 2019; Felstead *et al*., 2019).

One way forward would be for the Welsh Government to plug the gap by including questions in the National Survey for Wales (NSW) which are more closely aligned to the policy goal of having at least '30% of Welsh workers working from home or near to home'. Those currently carried by the NSW miss the mark. In the May-September 2020 telephone versions of the NSW, for example, respondents were asked 'how much of your work can you do at home … none, some, most or all?' The annual version of the NSW in 2019-2020 asks about flexible working opportunities by asking respondents whether they can choose 'to work from home sometimes' (cf. Table 2.1). However, neither version of the survey asks whether work is actually carried out at home. This is crucial since the Welsh Government's stated aim is to ensure that 30% of jobs involve work being regularly carried out at home or near to home. Furthermore, there are no follow-on questions with which to evaluate the impact of homeworking on the health and mental well-being of workers and its effect on business outcomes such as productivity. These are key features of the Senedd Committee's Inquiry and will be crucial for any on-going evaluation of the Welsh Government's aim for remote working. Yet the annual NSW is a large survey which questions around 5,400 working adults and the monthly telephone variant of the survey questions around 500 workers a month. It would therefore provide a good vehicle from which to monitor and evaluate the Welsh Government's long-term ambition in this area.

Employer data on homeworking in Wales is also weak. For example, wave 17 of the ONS Business Impacts of Coronavirus Survey (BICS) gathered responses from around 870 employers in Wales, but the homeworking results were only published for the UK as a whole. Furthermore, unlike the ONS's Opinion and Lifestyle Survey which regularly carries questions on homeworking, employers who respond to the BICS series have been asked about their use and experience of homeworking less regularly.

Again, there is a 'made in Wales' opportunity to gather this type of employer-level data as part of the proposed new Fair Work Wales Survey. The establishment of such a survey was one of a package of recommendations made by the Fair Work Commission and accepted by Welsh Government in 2019 (Fair Work Commission, 2019: recommendation 45). Building in questions on homeworking and its impact on businesses would offer another way of monitoring progress towards the achievement of the Welsh Government's new long-term ambition of getting more people to work at home and its consequences for issues such as productivity.

[9] The APS consists of data taken from four sequential LFSs along with a Welsh boost. Each annual survey contains data from around 13,500 respondents who were in paid work at the time of interview and domiciled in Wales.

7. Concluding Remarks

Covid-19 has swept across the world. To hold it in check, policy makers have frequently requested – and sometimes ordered – members of the public to work at home if they can. This Report uses a series of figures and charts to outline the contours of what headline writers refer to as 'the great homeworking experiment'.

Forecasters and futurologists in the past frequently produced estimates suggesting a revolution in where we work with many of us predicted to be working at home. All of these predictions proved to be well wide of the mark. However, ever since the lockdown in March 2020 working at home has skyrocketed and remains at an historically high level. Almost overnight dining tables have been turned into desks, bedrooms have become offices and sofas have replaced office chairs. These makeshift arrangements have become the norm for almost half a million workers in Wales at the height of the Spring lockdown in March 2020 and following the January 2021 lockdown this figure is likely to be approached yet again.

Enforced homeworking is challenging, especially for parents having to provide home-schooling while also working and living in sometimes cramped flats and houses. However, on the whole those who are working at home are among the most privileged members of the labour market as measured by the level of skill they exercise and the pay they receive. They are markedly different from the homeworkers of the past, many whom were low paid, from BAME communities and sometimes working illegally (Felstead and Jewson, 2000). These workers included those working in the boot and shoe, and clothing industries as well as packers and assemblers of items such as Christmas crackers, handbags, nappies and children's toys (Felstead and Jewson, 2000: Table 1.1). These types of homeworkers have largely disappeared from view in contemporary debates. Instead, attention has focused on the twenty-first century version of homeworking. This refers to office workers who work at home using digital devices, such as a mobile phone, a laptop and an internet connection to stay connected to the office.

This modern day version of homeworking has advantages and disadvantages. Evidence shows that productivity has at least been maintained and for some employers increased productivity is the reason they intend to make homeworking a long-term feature of their employment offer. Employees, too, have an appetite for this way of working with more than nine out of ten wanting to work at home at least some of the time even when social distancing restrictions are fully lifted. Those who work at home no longer need to commute, and so traffic and congestion levels have been cut. As a consequence, levels of roadside pollution have fallen.

The move towards homeworking does, however, have its drawbacks. Evidence suggests that homeworkers find it more difficult to reconcile home and work life, they work longer hours, and more frequently report feeling drained and isolated. Low cost or Welsh Government supported community hubs may mitigate some of these problems by providing workers with the opportunity to work in a 'third space' which is neither home or office. Such spaces also include the vehicles workers drive, the buses, trains and planes they use, and the venues they frequent. However, none of these entails workers living and working in the same space as in the case of homeworking where the worlds of work and home directly overlap.

Another drawback of homeworking is that city centre based businesses, such as bars, restaurants and shops, are deprived of high value customers which are the mainstay of their trade. Instead office workers' demands for a coffee, a drink or meal after work or some retail therapy may reappear elsewhere. If homeworking becomes a long-term feature of the world

of work, this shift in demand is likely to benefit bars, restaurants and shops based in local neighbourhoods near to where office workers live.

All of these outcomes need to be monitored and evaluated by Welsh Government. This is especially so in the context of its well-publicised (*Financial Times*, 13 September 2020; *Y Cymro*, Tachwedd 2020) ambition to see 30% of Welsh workers working in ways which only a year ago would have been considered improbable and even impossible.

Appendix A: Additional Tables

Table A1:
Labour Force Survey Questions, 1981-2020

Question	Frequency
Mainly Work at Home '(In your main job) do you work mainly … • in your own home • in the same grounds and buildings as your home • in different places using home as a base • or somewhere quite separate from home?'	Asked in 1981, then Spring and Autumn quarters from Spring 1992 to Winter 1996/7. Every seasonal quarter thereafter. Then, asked every calendar quarter when the LFS moved to calendar quarters in 2006. This question was asked of respondents' main and second jobs.
Partially Work at Home '(Although you do not work *mainly* at home), have you spent at least one FULL day in the seven days ending Sunday the (date) working … • in your own home • in the same grounds and buildings as your home • in different places using home as a base • or not worked at home during reference week?'	Initially, it was asked in every Spring and Autumn quarter from Spring 1997 to Winter 1997/8. But from then, it was asked in the Spring quarter only. In 2006, it was asked in quarter 2 when the LFS moved to calendar quarters. This question was asked of respondents' main and second jobs. However, the question was dropped in 2015.
Sometimes Work at Home Do you ever do any paid or unpaid work at home for your (main) job? • Yes • No	Asked in Spring and Autumn quarters since Spring 1992 until Winter 1997/8. Asked only once a year thereafter in the Spring seasonal quarter. Then, in quarter 2 when in 2006 the LFS moved to calendar quarters. This question was only asked of respondents' main job. The question was dropped in 2016.
Use of Technology to Support Working at Home Do you use both a telephone *and* a computer to carry out your work at home? • Yes • No	Every Spring and Autumn quarters from Spring 1997 to Winter 1997/8. Asked only once a year thereafter in the Spring seasonal quarter. Then, in quarter 2 when in 2006 the LFS moved to calendar quarters. Only asked of main job and those using home as a base on either a one day a week or mainly basis.
Would it be possible to work at home (or use home as a base) without using both a telephone and a computer? • Yes • No	Every Spring and Autumn quarters from Spring 1997 to Winter 1997/8. Asked only once a year thereafter in the Spring seasonal quarter. Then, in quarter 2 when in 2006 the LFS moved to calendar quarters. Only asked or main job and those using home as a base on either a one day a week or mainly basis.

Table A2:
Census Questions on the Location of Work, 1951-2021

Census	Location of Work Questions	
	Address of Place of Work	Daily Journey to Work
2021	'Where do you mainly work? At a workplace or report to a depot; At or from home; An offshore installation; No fixed place'.	'How do you usually travel to work? Tick one box only. Tick the box for the longest part, *by distance*, of your usual journey to work'. Options given: 'Work mainly at or from home'; 'Underground, metro, light rail, tram'; 'Train'; 'Bus, minibus or coach'; 'Motorcycle, scooter or moped'; 'Driving a car or van'; 'Passenger in a car or van'; 'Bicycle'; 'On foot'; and 'Other'.
2011	'In your main job, what is the address of your workplace? If you work at or from home, on an offshore installation, or have no fixed workplace, tick one of the boxes below. If you report to a depot, write in the depot address'. Boxes to tick include mainly work at or from home, offshore installation or no fixed place.	'How do you usually travel to work? Tick one box only. Tick the box for the longest part, by distance, of your usual journey to work'. Options given: 'Work mainly at or from home'; 'Underground, metro, light rail, tram'; 'Train'; 'Bus, minibus or coach'; 'Motorcycle, scooter or moped'; 'Driving a car or van'; 'Passenger in a car or van'; 'Bicycle'; 'On foot'; and 'Other'.
2001	'What is the address of the place where you work in your *main* job? • If you report to a depot, write in the depot address'. Blank space given for entry plus three tick boxes if not relevant: 'mainly work at or from home'; 'offshore installation'; and 'no fixed place'.	'How do you usually travel to work? • √ *one box only* • √ the box for the longest part, *by distance*, of your usual journey to work'. Options given: 'Work mainly at or from home'; 'Underground, metro, light rail, tram'; 'Bus, minibus or coach'; 'Motor cycle, scooter or moped'; 'Driving a car or van'; 'Passenger in a car or van'; 'Taxi'; 'Bicycle'; 'On foot'; and 'Other'.
1991	'Please give full address of the person's place of work. For a person employed on a site for a long period, give the address of the site. For a person employed on an offshore installation write "offshore installation". For a person not working regularly at one place who reports daily to a depot or other fixed address, give that address. For a person not reporting daily to a fixed address, tick box 1. For a person working mainly at home tick box 2'. 'No fixed place' given as box 1 and 'Mainly at home' given as box 2.	'Please tick the appropriate box to show how the longest part, by distance, of the person's daily journey to work is normally made. For a person using different means of transport on different days, show the means most often used. Car or van includes three-wheeled cars and motor caravans'. Options given: 'British Rail train'; 'Underground, tube, metro'; 'Bus, minibus or coach (public or private)'; 'Motor cycle, scooter, moped'; 'Driving a car or van'; 'Passenger in car or van'; 'Pedal cycle'; 'On foot'; 'Other please specify'; and 'Works mainly at home'.

1981	'Please give the full address of the person's place of work. For a person employed on a site for a long period give the address of the site. For a person not working regularly at one place who reports daily to a depot or other fixed address, give that address. For a person not reporting daily to a fixed address tick box 1. For a person working mainly at home tick box 2'. 'No fixed place' given as box 1 and 'Mainly at home' given as box 2.	'Please tick the appropriate box to show how the longest part, by distance, of the person's daily journey to work is normally made. For a person using different means of transport on different days show the means most often used. Car or van includes three-wheeled cars and motor caravans'. Options given: 'British Rail train'; 'Underground, tube, metro etc'; 'Bus, minibus or coach (public or private)'; 'Motor cycle, scooter, moped'; 'Car or van – pool, sharing driving'; 'Car or van – driver'; 'Car or van – passenger'; 'Pedal cycle'; 'On foot'; 'Other (please specify)'; and 'Works mainly at home'.
1971	'What is the full address of the person's place of work? (see note B20). *If the work is carried on mainly at home write* "AT HOME". Supplementary note B20 reads: 'For people who do not work regularly at one place or who travel during the course of their work (for example, sales representatives, seamen and some building and transport workers): (a) if they report daily to a depot or other fixed address give that address; (b) if they do not report daily to a fixed address write "NO FIXED PLACE". For people such as building workers employed on a site for a long period give the address of the site. For dock workers give the name and address of the dock or wharf at which they are usually employed'.	'What *means of transport* does the person normally use for the longest part, by distance, of the daily journey to work (see note B21)? *If the person walks to work, or works mainly at home, write* 'NONE'". Supplementary note B21 reads: 'If the person uses different means of transport on different days give the means used most often. Do not use terms such as "public transport" or "private transport" but give the actual means used, for example, "train", "bus", "car", "bicycle"'.
1966	'What is the full address of the place of work for the job given in reply to question 13 [job in the week ending 23 April 1966]? (For transport workers, building workers, dock workers, seamen and people with no regular place of work, see Notes). If the work is carried out mainly at home write "At home". Notes for guidance were as follows: '(i) For people with no regular place of work such as sales representatives, transport inspectors, certain building workers and others who do not work daily at or from a fixed address or depot, write "No fixed place". (ii) For people working daily at or from a fixed address or depot, such as certain transport workers, and building workers employed on	'What method of transport does the person normally use for the longest part, by distance, of the journey to the place of work given in reply to question 15 [address of place of work]?' Options given: 'Train'; 'Tube'; 'Bus (private as well as public)'; 'Car (including motor cycle combination)'; 'Goods vehicle (i.e. lorry, van, etc.)'; 'Motor cycle (excluding combinations)'; 'Pedal cycle'; 'Foot (excluding people who live and work at the same address)'; 'Other (i.e. horse, ferry, etc.)'; 'None (i.e. working at home, including seamen who usual residence is aboard ship)'; and 'Not stated (including people stating

	a site for a long period, give the address of the depot, site or other fixed address. (iii) For dock workers registered under the National Dock Labour Scheme who are in possession of a Pay Voucher Book issued by the National Dock Labour Board, give the address of the call stand or control point where they are required to prove attendance. For registered dock workers not issued with a Pay Voucher by the Board and other dock workers, give the name and address of the dock or wharf at which they are usually employed. (iv) For seamen give the name of the ship and, if it is in the United Kingdom, the port in which it is lying, otherwise the name of the home port'.	"None" but whose usual address was different from address of workplace)'.
1961	'State the full postal address of the *place of work*. (For transport workers, building workers, dockers, seamen and persons with no regular place of work see Note 24). If the work is carried on mainly at home write "at home"'. Note 24 was as follows: '*Persons with no regular place of work* such as *sales representatives*, *inspectors* and *building workers*, who do not work daily from or at a fixed address should state "No fixed place". Those working daily from or at a fixed address or depot, e.g. certain *transport workers*, and *building workers* employed on a site for a long period, should give the address of the depot or site or other fixed address. Dock workers registered under the National Dock Labour Scheme, who are in possession of a Pay Voucher issued by the National Dock Labour Board, should give the address of the call stand or control point where they are required to prove attendance. Registered dock workers not issued with a Pay Voucher Book by the Board, and other dock workers, should give the name and address of the dock or wharf at which they are usually employed. *Seamen* should give the name of their ship and the port in which it is lying'.	Not asked.
	'State the *full address* of each person's place of work. [Note – Persons working *regularly* from a depot, garage, employer's premises, etc. (for example, bus drivers) should	

1951	state that address. But persons working on a site for a long period (for example, building operatives) should state the address of the site]. For a person with no regular place of work, write “No fixed place”. If the work is carried on mainly at home, write “At home”’.	Not asked.

Table A3:
Numbers Working Exclusively at Home, Wales and UK, 2020

(a) UK

Number	January/ February 2020	April 2020	May 2020	June 2020	July 2020	September 2020	November 2020
Employed population (a)	32,815,815	32,713,937	32,713,937	32,713,937	32,382,750	32,382,750	32,382,750
Furloughed employees (b)	0	3,800,000	8,696,000	9,373,900	9,601,700	2,437,200	3,868,200
Self-employed claiming support (c)	0	0	2,380,000	2,553,000	2,604,000	2,261,000	1,924,000
Working adults (a-b-c) = (d)	32,815,815	28,913,937	21,637,937	20,787,037	20,177,050	27,684,550	26,590,550
Working at home exclusively (%) (e)	5.7	43.1	40.8	36.5	30.5	23.5	28.7
Number working exclusively at home (e*d)	1,870,501	12,461,907	8,828,278	7,587,269	6,154,000	6,505,869	7,631,488

Notes:

a. These figures are derived from the relevant quarterly LFS using frequency weights to arrive at employed population estimates. The November employed population estimate uses the third quarter data since fourth quarter data were not available at the time of writing.
b. These data for the relevant month are taken from Table 3 (and Table 10 for September and November 2020) of the Coronavirus Job Retention Scheme statistics published https://www.gov.uk/government/collections/hmrc-coronavirus-covid-19-statistics#history. However, the April 2020 data are taken from the summary report on this page.
c. These data for the relevant (or nearest) month are taken from Table 2 of the Self-Employed Income Support Scheme (SEISS) statistics published on https://www.gov.uk/government/collections/hmrc-coronavirus-covid-19-statistics#history. However, the April 2020 data are taken from the summary report on this page.
d. Calculation made as stated.
e. This is taken from the Understanding Society Covid-19 Study and are updates to Felstead and Reuschke, 2020: Tables A1, A2a, A2b and A2c.

(b) Wales

Number	January/ February 2020	April 2020	May 2020	June 2020	July 2020	September 2020	November 2020
Employed population (a)	1,461,359	1,491,147	1,491,147	1,491,147	1,435,193	1,435,193	1,435,193
Furloughed employees (b)	0	173,209	316,500	378,400	400,800	95,700	125,000
Self-employed claiming support (c)	0	0	102,000	108,000	110,000	93,000	78,000
Working adults (a-b-c) = (d)	1,461,359	1,317,938	1,072,647	1,004,747	924,393	1,246,493	1,232,193
Working at home exclusively (%) (e)	3.8	36.8	35.8	32.9	24.3	18.5	25.0
Number working exclusively at home (e*d)	55,532	485,001	384,008	330,562	224,627	230,601	308,048

Note:

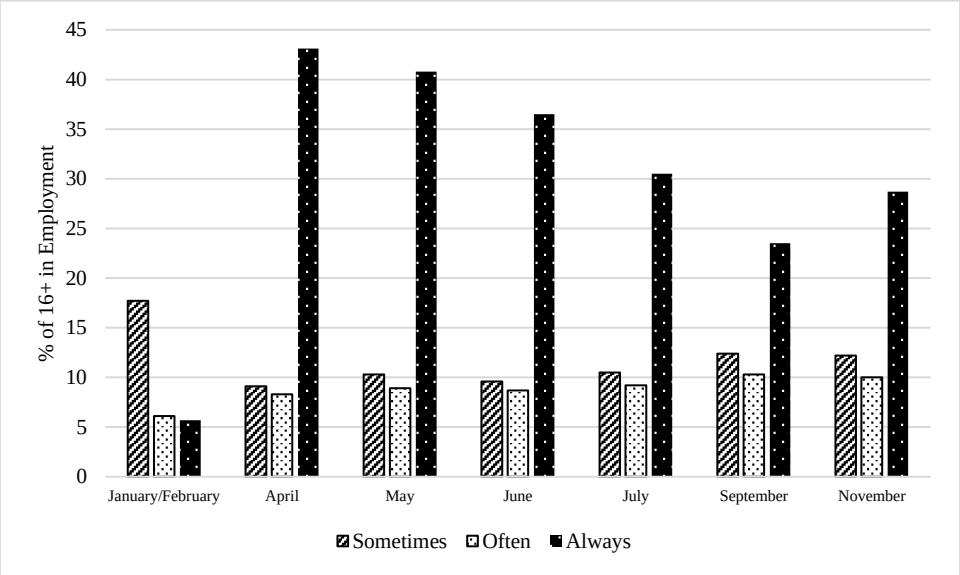
As above, except for the April 2020 furlough figure which is a proportionate estimate of the UK figure.

Table A4:
Trends in the Location of Work, Census Estimates, 1951-2011

	1951	1961	1966	1971	1981	1991	2001	2011
'No fixed place' (in response to address of place of work)	476,107 (2.3%)	675,730 (3.2%)	979,900 (4.4%)	1,291,590 (5.7%)	1,431,140 (6.7%)	1,394,625 (6.4%)	NA	2,153,036 (8.2%)
'Work mainly at or from home' (in response daily journey to work)	Question not asked.	Question not asked.	Home not separately coded.	Home not separately coded.	708,430 (3.4)	1,063,317 (4.9)	2,170,547 (9.2)	2,723,998 (10.3)
Coverage	England and Wales, all those in employment the week before the census and aged 15 or over.	England and Wales, all those in employment the week before the census and aged 15 or over.	England and Wales, all those in employment the week before the census and aged 15 or over.	England and Wales, all those in employment the week before the census and aged 15 or over	England and Wales, all those in employment the week before the census and aged 16 or over.	England and Wales, all those in employment the week before the census and aged 16 or over.	England and Wales, all those in employment the week before the census and aged 16-74. Data now refer to those working mainly at or from home.	England and Wales, all those in employment the week before the census and aged 16-74. Data now refer to those working mainly at or from home.
Notes	The 'no fixed place' includes only those who reported that they had 'no fixed place' of work when asked to provide their workplace address. Estimates are based on a full count.	The 'no fixed place' includes only those who reported that they had 'no fixed place' of work when asked to provide their workplace address. Estimates are based on a full count.	Under the 1920 Census Act quinquennial censuses can be held. This provision has only been used once – in 1966 when a 10% sample census was held.	The 'no fixed place' estimate also includes a small proportion (about 6% according to the 1966 Sample Census) of respondents who gave no answer.	The 'no fixed place' estimate also includes a small proportion (about 6% according to the 1966 Sample Census) of respondents who gave no answer.	These estimates (like 1961, 1966, 1971 and 1981) are based on a 10% coding. To take account of the under-enumeration in 1991, the 10% counts have been multiplied by 10.21.	The published results have been adjusted to account for under-enumeration.	Data generated from NOMIS.
Source	General Register Office, 1956: Table 6.	General Register Office, 1966: Table 1.	General Register Office, 1968: Table 1.	OPCS, 1974: 1.	OPCS, 1984: Tables 1A and 7.	OPCS, 1994: 17.	ONS, 2003: Table S119.	NOMIS, 2020.

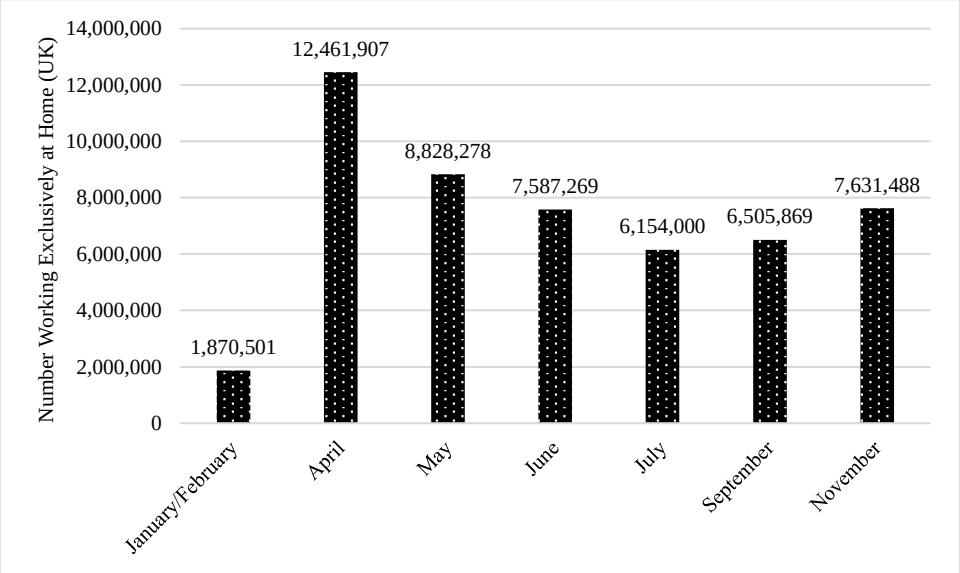
Appendix B: Additional Figures

Figure B1:
Prevalence of Homeworking in the UK During 2020



Source: Felstead and Reuschke, 2020: Tables A1, A2a, A2b and A2c, but updated using the Understanding Society Covid-19 Study July, September and November 2020 data.

Figure B2:
Numbers Exclusively Working at Home in the UK During 2020



Source: own calculations reported in Table A3a.

References

Allen, S and Wolkowitz, C (1987) *Homeworking: Myths and Realites*, London: Macmillan.

BBC News (2020a) 'Covid-19: working from home leads to house price rise in Wales', https://www.bbc.co.uk/news/uk-wales-55085184 (accessed 3 January 2021).

BBC News (2020b) "I monitor my staff with software that takes screenshots"', by Lora Jones, https://www.bbc.co.uk/news/business-54289152 (accessed 19 January 2021).

Bevan, S (2020) 'Interim survey results: local government survey', presented at the Work at Home: Transitions and Tensions Seminar, 10 December 2020.

Bloom, N, Liang, J, Roberts, J and Ying, Z J (2015) 'Does working from home work? Evidence from a Chinese experiment', *Quarterly Journal of Economics*, 130(1): 165-218.

Boris, E (1996) 'Sexual divisions, gender constructions', in Boris, E and Prügl, E (eds) *Homeworkers in Global Perspective: Invisible No More*, London: Routledge.

Boys, J (2020) *Working from Home: What's Driving the Rise in Remote Working?* London: Chartered Institute of Personnel and Development.

Brinkley, I, Willmott, B, Beatson, M and Davies, G (2020) *Embedding New Ways of Working*, Chartered Institute of Personnel and Development, London.

Brunt, H (2020) 'Air pollution impacts of Covid-19 response (Wales): a public health opinion', *Environmental Public Health Service, 03/07/20*, Cardiff: Public Health Wales.

Carter, I and Craig, C (2020) *The Economic Impacts of Remote Working*, Cardiff: Wales Centre for Public Policy.

CBI (2020) *No Turning Back*, London: Confederation of British Industry.

Crosbie, T and Moore, J (2004) 'Work-life balance and working from home', *Social Policy and Society*, 3(3): 223-233.

Dingel, J I and Neiman, B (2020) 'How many jobs can be done at home?', *NBER Working Paper Series, Working Paper 26948*, Cambridge, Massachusetts: National Bureau of Economic Research.

Eurofound (2020a) *Living, Working and COVID-19 Dataset*, Dublin: European Foundation for the Improvement of Living and Working Conditions.

Eurofound (2020b) *Living, Working and COVID-19*, Luxembourg: Publications of the European Union.

Fair Work Commission (2019) *Fair Work Wales: Report of the Fair Work Commission*, Cardiff: Welsh Government.

Felstead, A (2020) 'Examining the recent surge in homeworking, its effect on productivity and its long-term future', paper presented to the Cardiff University Business Breakfast Series, Working at Home: The Impact of Covid-19, 15 December, https://www.youtube.com/watch?v=yhyQqpchoB0

Felstead, A and Jewson, N (1995) 'Working at home: estimates from the 1991 Census', *Employment Gazette*, 103(3); 95-99.

Felstead, A and Jewson, N (2000) *In Work, At Home: Towards an Understanding of Homeworking*, London: Routledge.

Felstead, A and Reuschke, D (2020) 'Homeworking in the UK: before and during the 2020 lockdown', *WISERD Report*, August, Cardiff: Wales Institute of Social and Economic Research.

Felstead, A, Gallie, D, Green, F and Henseke, G (2019) 'Conceiving, designing and trailing a short form measure of job quality: a proof-of-concept study', *Industrial Relations Journal*, 50(1): 2-19.

Felstead, A, Jewson, N and Walters, S (2005) *Changing Places of Work*, Basingstoke: Palgrave Macmillan.

Felstead, A, Jewson, N, Phizacklea, A and Walters, S (2002) 'The option to work at home: another privilege for the favoured few?', *New Technology, Work and Employment*, 17(3): 188-207.
Financial Times (2020) 'Welsh Government's "work from home" message contradicts No 10', by Jim Pickard and Daniel Thomas, 13 September.
General Register Office (1956) *Census 1951, England and Wales: Report on Usual Residence and Workplace*, London: HMSO.
General Register Office (1966) *Census 1961, England and Wales: Workplace Tables*, London: HMSO.
General Register Office (1968) *Sample Census 1966, England and Wales: Workplace and Transport Tables, Part I*, London: HMSO.
Government of Ireland (2021) *Making Remote Work: National Remote Work Strategy*, Dublin: Department of Enterprise, Trade and Employment.
Hakim, C (1987) 'Home-based work in Britain: a report on the 1981 National Homeworking Survey and the DE research programme on homework', *Department of Employment Research Papers, No. 60*, London: Department of Employment.
Halford, S (2005) 'Hybrid workspace: re-spatialisation of work, organisation and management', *New Technology, Work and Employment*, 20(1): 19-33.
Hislop, D and Axtell, C (2007) 'The neglect of spatial mobility in contemporary studies of work: the case of telework', *New Technology, Work and Employment*, 22(1): 34–51.
Huws, U, Podro, S, Gunnarsson, E, Weijers, T, Arvanitaki, K and Trova, V (1996) 'Teleworking and gender', *Institute for Employment Studies Report*, No. 317.
Institute for Social and Economic Research (2020) *Understanding Society: COVID-19 Study, 2020*, Colchester: University of Essex.
IoD (2020) 'Home-working here to stay, new IoD figures suggest', *IoD Press Release*, 5 October 2020.
Local Data Company (2020) *GB Retail and Leisure Market Analysis: H1 2020*: London: Local Data Company.
McCurdy, C (2020) *From Locking Down to Levelling Up*, London: Resolution Foundation.
Morris, J and Hassard, J (2020) 'Home working? The present and future of how and where we work in the context of COVID-19', *Cardiff Business School Working Paper*, Cardiff: Cardiff University Business School.
NOMIS (2020) *Census Tables WP701EW and WP702EW (Workplace Population)*, https://www.nomisweb.co.uk/, data downloaded, 11 December 2020.
Nottinghamshire Wildlife Trust (2020) 'Broadmarsh re-imagined', https://www.nottinghamshirewildlife.org/broadmarsh-reimagined (accessed 4 January 2021).
Office for National Statistics (2003) *Census 2001: National Report for England and Wales*, London: The Stationary Office.
Office of Population Censuses and Surveys (1974) *Census 1971, England and Wales: Workplace and Transport to Work Tables, Part 1 (10% Sample)*, London: HMSO.
Office of Population Censuses and Surveys (1984) *Census 1981: Workplace and Transport to Work, England and Wales*, London: HMSO.
Office of Population Censuses and Surveys (1994) *1991 Census: Workplace and Transport to Work, Great Britain*, London: HMSO.
ONS (2020a) *Internet Access – Households and Individuals, Great Britain: 2020*, Newport: Office for National Statistics.
ONS (2020b) *Internet Sales as a Percentage of Total Retail Sales (Ratio) (%)*, Newport: Office for National Statistics.

Parry, J (2020) 'Flexible working: lessons from the great work-from-home mass experiment', *The Conversation*, 21 December 2020.
Principality Building Society (2020) 'Demand for homes after first lockdown sees house prices rise in Wales', https://www.principality.co.uk/en/about-us/Latest/20201123-House-Price-Index-Q3-2020 (accessed 3 January 2021).
Ramuni, L (2020) 'Why working from home hurts the high street', *Centre for Cities Blog Post*, 1 July 2020, https://www.centreforcities.org/blog/why-working-from-home-hurts-the-high-street/ (accessed 4 January 2021).
Rodríguez, J and Ifan, G (2020) *Covid-19 and the Welsh Economy: Working from Home*, Cardiff: Wales Fiscal Analysis.
Senedd Cymru (2020) 'Remote working: implications for Wales', Economy, Infrastructure and Skills Committee, https://business.senedd.wales/mgConsultationDisplay.aspx?ID=414
Shone, G (2020) *Shifting Working Patterns: How WFH Could be the High Street's Saviour*, London: Radius Data Exchange.
Skillcast (2020) 'Remote-working compliance YouGov survey', by Vivek Dodd, 25 November, https://www.skillcast.com/blog/remote-working-compliance-survey-key-findings (accessed 19 January 2021).
Skountridaki, L, Zschomler, D, Marks, A and Mallett, O (2020) 'Work-life balance for home-based workers admist a global pandemic', *The Work-Life Bulletin*, 4(2): 16-22.
Statista (2020) 'Retail footfall year-on-year change in high streets in the UK 2019-2020', https://www.statista.com/statistics/1097669/retail-monthly-footfall-year-on-year-high-streets-united-kingdom-uk/ (accessed 3 January 2021).
The Metro (2021) 'Work from home spies alert: one in five firms now linked to snooping on staff', *The Metro*, by Aidan Radnedge, 19 January.
Thomas, J (2020) *Provisional Analysis of Welsh Air Quality Monitoring Data – Impacts of Covid-19*, Didcot: Ricardo Energy and Environment.
Van der Lippe, T and Lippényi, Z (2019) 'Co-workers working from home and individual and team performance', *New Technology, Work and Employment*, 35(1): 60-79.
Vizard, T (2020) *Coronavirus and the Social Impacts on Great Britain: 6 November 2020*, Newport: Office for National Statistics.
Wales Online (2021) 'The story of Friars Walk's original shops and how many are left now', by Ryan O'Neill, 28 January.
Wales Online (2020) 'The devastating effect home working has had on cafes and lunchtime businesses in Wales', by Marcus Hughes, 15 October.
Welsh Government (2020a) 'Aim for 30% of the Welsh workforce to work remotely', *Welsh Government Press Release*, 13 September 2020, Cardiff: Welsh Government.
Welsh Government (2020b) 'Remote working: how and why we want to promote remote working', *Welsh Government Press Release*, 14 September 2020, Cardiff: Welsh Government.
Y Cymro (2020) 'Anelu at gael 30% o'r gweithlu i weithio o bell', Techwedd.