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The Home as Workplace: A Challenge for Housing Research

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ABSTRACT

The aim of this paper is to examine the increasing use of the home as a workplace and establish its significance for housing studies. Firstly, the article sketches its historical growth founded in technological and business model changes. Using cross-country datasets, it identifies variations across the EU in the scale and characteristics of home working, which by 2015 was the practice for about 1 in 6 EU workers, a ratio that has been greatly boosted by responses to the coronavirus pandemic. Secondly, the article considers the implications of increasing home working for housing studies. This is illustrated through a consideration of influences on our understanding of housing demand, particularly in terms of housing form and location. Further, we consider consequences for other areas of theory on the meaning of home, boundaries between public and private realms, and gender perspectives on the division of domestic work and space.

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Working from home; housing location; housing prices; capital goods; gender; coronavirus

1 Introduction

Over recent decades, there has been a growth in the use of homes as locations for income-generating activities across many advanced economies. In other words, the home becoming not just a domain of domestic life, but also providing a physical base in which people earn a living (CIPD 2019; Crosbie and Moore 2014; Felstead and Henseke 2017; Mulcahy 2017). This is quite distinct from the use of the home *itself* as a source of income, such as through an increase in its capital value that can, at least in theory, be realized as an income (Arundel 2017; Allegré and Timbeau 2015), or through renting out (all or part of) the dwelling, whether traditional rental practices or through platforms such as Airbnb (Ronald and Kadi 2017; Fields and Rogers 2019). It is also distinct from the home as the site of work in the form of household chores, frequently unpaid and disproportionately undertaken by women (Crompton 2006; Mallett 2004). Rather, the "home as workplace" refers to any number of *income*-generating activities within the home by the householder, whether storing goods sold online, the artist home studio, the dog-minder using their home as a kennel, the trader investing in stocks, the software designer, or indeed any other casual, part-time, or freelancer working from home. The focus here,

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then, is on the dual use of the building to meet the needs of residents as somewhere both to live and to carry out income-generating work.

There are a number of sources and literatures, in areas such as business studies, labour market studies, the sociology of work, and architecture, that have identified and traced trends in using the home as a workplace. Collectively, as we report in the next section, these studies provide a picture of a trend that has been increasing for some decades to the point of constituting the modus operandi of a significantly sized minority of workers in many countries. Moreover, because the trend is grounded in technological and business model developments that seem likely to continue, the immediate future, at least, appears to be one in which the home will increasingly represent both a home and a workplace. Yet, up to this point, this trend has not been within the field of vision of most housing researchers. While literatures exist on the topic, there is not a housing studies literature on working from home; somewhat ironically given that many housing researchers – possibly a majority – have long carried out some of their research, reading and writing from home.

The overarching aim of the present paper is to redress this orientation, bringing the use of the home as workplace more firmly into the scope of housing researchers, and establishing the groundwork for a literature. We do so in two stages. Firstly, we trace how developments in home working can, historically, be related to changes in the prevalent economic model as well as the importance of the rise of technologies that have enabled working remotely. The interests of business and workers have increasingly coincided to support the development of a larger-scale adaptation to working at home. While this is starkly evident in the midst of the coronavirus pandemic, we situate these developments in longer-term trends of increasing home working. We use European statistical sources that portray the speed of growth of working at home, revealing its significance in the total labour force of many European countries – by 2015 about 1 in 6 workers across the EU. Analysing the available data, we examine the characteristics of those working at home in terms of gender, income, and occupation.

The second stage of the paper asserts that accepting the empirical evidence of an extension, of significant scale and resilience, in the ways in which many Europeans use their place of residence, necessarily impacts conceptualizations of housing and home. These developments generate new research questions that invite exploration of their consequences and the continued relevance of existing housing theories. We primarily focus on how a rising incidence of working from home affects economic theories of housing demand, which themselves have influenced a number of areas of housing studies theory. Given the changing role of housing as a workplace, households may make different decisions about the physical characteristics of the home and, given a decoupling from required daily travel to employer work premises, their location of residence. We argue more broadly how shifts towards the home as a workplace require an addition to existing theory. In recent decades, researchers have conceptualized housing demand as based on a two-element trade-off between housing as consumption and housing as investment. Using the home as a workplace, however, introduces a third element of housing as *capital good* in terms of an input for production. In order to illustrate the range of impacts on housing theory, we also reflect on how trends in home working, which in northern and western European contexts have

disproportionately involved men, necessitate understanding potential impacts on persisting gendered divisions in domestic space and labour.

2 The Fall and Rise of the Home as Workplace

2.1 The Home through Changing Economic Models

The dual use of buildings as both home and workplace is certainly not confined to the present. Historically, the relative incidence of the work-home has reflected changing economic models which in some eras have required the functions of living and working to be physically separated and in some to be brought together. In the pre-industrial eras of European countries, the economic models frequently favoured families working together as an economic and social unit, with children being born into a means of making a living. For merchants, furniture makers, clock makers, weavers and many others, the home was in practice a multi-purpose space which provided living accommodation with some combination of storage of raw materials and finished products, workshops in which goods were made, and shops from which goods could be sold or exchanged (Holliss 2015). The long progression towards industrialized economies brought about a gradual, though never complete, replacement of the home-work model with a spatial separation of living and working activities and consequent significant impacts on urban structure (Vance 1971). In a number of ways, this separation was functional to the new economic model. The means of producing cheaper goods required capital investments in the form of factories, machinery and the like that surpassed the means of individual families. Further, workers could be recruited on the basis of their availability and suitability rather than through parentage, thus enabling more rapid responses to the expansion and decline of specific industries (Edgell 2012; Schnore 1954). By the late nineteenth century, social thinkers concerned about the detrimental impacts of high densities and the juxtaposition of homes and noisy, noxious industries developed new ideas on city structure (More 2014). The introduction of town planning principles, such as those proposed by Ebenezer Howard in the UK, prioritized a separation of housing and workplaces – both in location and in ownership which previously had often been employer-owned housing next to factories (Howard 1946). These principles formed the foundations for the development of the twentieth-century "fordist" city (Schnore 1954). It thus became the norm across western economies that most workers lived in one place and worked in another, generally the premises of their employer (Davies and Frink 2014; Tony 2001). For most people, then, there was a clear distinction between the private space of the home and the public space of the workplace.

Even at the height of this period, change was foreseen in a prescient thesis that technological developments would bring about a new model in which the old, pre-industrial home-work cottage would be transmuted into a "post-industrial electronic cottage" (Toffler 1980). Indeed, one of the main enablers of increasing flexible working over recent decades has been developments in technology. Although some within the professional classes had long worked from home (e.g. artists, doctors, authors), Messenger and Gschwind (2016) identify three stages from the late twentieth century onwards that enabled an expansion of home working to an increasingly wider swath of the workforce. In the first, landline telephones and personal computers were able to facilitate the role of

the home as an office. In the second, mobile telephones, laptops and the internet enabled the development of the mobile office. Finally, in the third phase, the increase in mobile technology and the spread of wi-fi enabled the virtual connection of workers to the office or client from (almost) anywhere (Kurland and Diane 1999). At present, software, hardware and mobile connectivity can allow workers, whether employees or self-employed, to remain connected to colleagues, customers or company files at all times from nearly anywhere. Crucially, this includes forms of supervision and accountability for employees (Lee 2016), as well as providing numerous opportunities for home-based self-employment.

These technological developments have supported the emergence of economic systems that have placed more emphasis on intangible assets, such as ideas, information and software, rather than physical products, in turn reducing the imperative for fixed, centralized workplaces (Haskel and Westlake 2018). This enabled the development of new business models, in which firms seek, in response to changing production demands, to rapidly adjust workforces in numbers, skills and locations. Additionally, reducing the number of workers operating from a central location has enabled cuts in production costs and even increased productivity (Felstead and Henseke 2017; Mulcahy 2017; Choudhury, Larson, and Foroughi 2019). These business models have also fed into changing societal norms, responding to employees' domestic and personal circumstances that prioritize more flexible work conditions, eliminating commuting, and adapting working time to needs (Chartered Institute of Personnel and Development (CIPD) 2019; Crosbie and Moore 2014; Eurofound 2016; Wheatley 2017).

Enabled by technological developments, then, the rise of remote working has offered many more opportunities – for both employers and workers. While they have increased the ability of self-employed workers to use their home as a base for their businesses, they have also resulted in growing numbers of people, both self-employed and employees, who do not spend (all of) their working time at an employer's premises. Some of these remote workers operate from co-work spaces, from a café or from the train, however, many use their home as a workplace. While the vision of the "electronic cottage" may not have become the norm, by the 2010s home working was increasingly common across many advanced economies, with housing becoming no longer just a place of residence or a source of investment, but, for many, also a location supporting paid work.

2.2 The Statistical Evidence

Interpreting measures of the use of the home as a workplace crucially depends on what exactly is meant. Different terms have been used in the literature, including teleworking, telecommuting, mobile working, e-working, and more broadly captured by the notion of "remote working" (see Sullivan 2003; Wilks and Billsberry 2007). Remote working, however, does not necessitate working in the home, since it may involve working on the train, at the airport, in a coffee shop, or even a temporarily leased office space (Leclercq-Vandelannoitte and Isaac 2016; Merkel 2015). Using the home as a workplace may also differ between doing so occasionally, even if regularly, and doing so routinely, such as every work day. The former would imply a continued locational link between home and employer's workplace, the latter would not. There might also be a distinction between the terms "working from home" which implies that an employee works away from the

premises of an employer, and "working at home" which might imply self-employment or a small business based in the home. Finally, there will be cases of mixed practice, such as among different household members or cases where a householder has a first job at an employer's premise, and a second job, or part-time business, that they pursue from home.

The practical problem is that different national statistical offices and surveys use varying definitions, often making direct comparisons on scale difficult. Nonetheless, several valuable international datasets provide harmonized measures for cross-country comparison. The measure applied by Eurostat is the percentage of employed persons aged 15 to 64 who usually work from home (Eurostat 2019). Across the EU as a whole in 2017 this stood at 5.0% varying from the highest shares in the Netherlands (13.7%), followed by Luxembourg (12.7%) and Finland (12.3%), to the lowest in Bulgaria (0.3%) and Romania (0.4%). In contrast, the OECD uses a measure of whether an employed person has worked at home at least once in the previous 12 months (OECD, 2016). This records a similar geographic differentiation across European countries to the Eurostat data but with much higher rates, in some nearing half of the working population.

Here, we turn to a more detailed look at the 2005 and 2015 waves of the European Working Conditions Survey (EWCS) conducted by Eurofound. This survey is selected as it provides a greater number of relevant correlates and allows the generating of a cross-country harmonized measure of whether workers report usually working at home. Set against this, a limitation is that the two waves ask marginally different questions. A worker is considered usually working from home in 2005 if they respond doing so "around half the time" or more, while in 2015, this is coded as "several times a week" or more.[1] Despite this caveat, given the dearth of harmonized international data over time, the dataset serves as a useful measure for looking at cross-country trends and disentangling home working rates across several crucial characteristics. The ECWS measure reveals estimates somewhere between those from Eurostat and the OECD.

As with the Eurostat and OECD sources, EWCS confirms the considerable variability across member states with those in northern and western Europe (with the exception of Germany) having rates of home working some two or three times the rates in many southern and eastern states (Figure 1). In most countries the shares are significant in size, averaging about 17%, across both the EU15 and EU28 countries, thus representing roughly 1 in 6 workers. Moreover, from 2005 to 2015, the rates have increased rapidly, at least doubling for both sets of countries. While not perfectly comparable, these rates are consistently confirmed by surveys in a range of individual countries (e.g. Felstead and Henseke 2017; Chartered Institute of Personnel and Development (CIPD) 2019). Looking at the change in the distribution of rates, increases in home working have been particularly strong in north-western European countries. At the other end of the spectrum are most southern European countries – albeit these have still seen some substantial relative increases – with eastern member states clustering in the middle ranges. Overall, the data clearly reveal that home working involves substantial shares of the workforce, with all but two countries seeing more than 1 in 10 workers usually working from home. In other words, this can no longer be considered an insignificant feature of labour or housing markets.

While data remain scarce, one would expect a continuation of this growth in the years since 2015. Writing in 2020, the coronavirus pandemic measures loom large as a major catalyst in driving increased home working. While national coronavirus mitigation policies

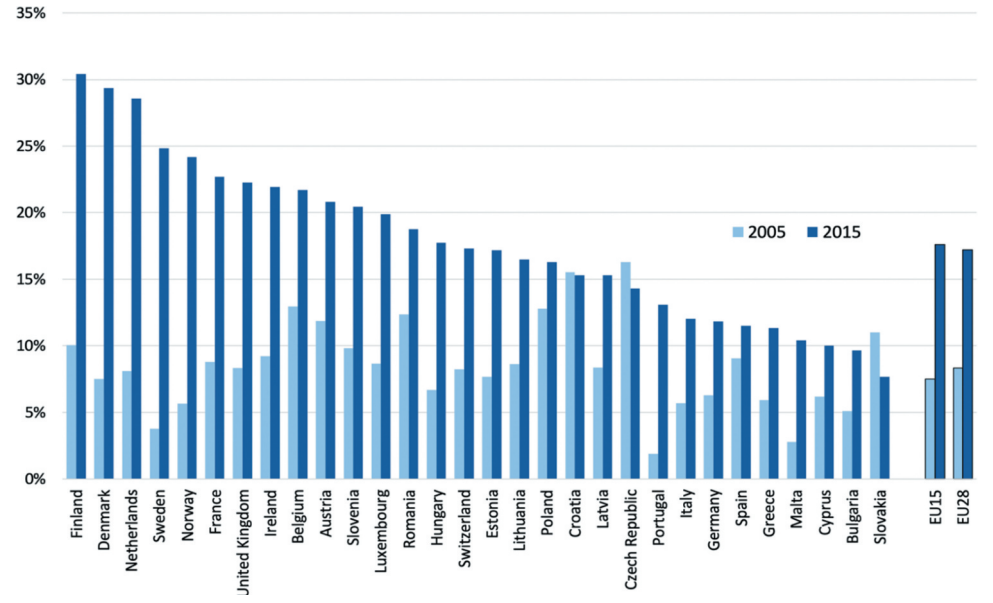

Figure 1. Share of workers usually working from home. *Data source: European Working Conditions Survey (2005; 2015)*

have varied, most governments have encouraged working at home wherever possible. The impacts of the "Great Lockdown" across European countries have been a dramatic and widespread adoption of working from home, albeit to differing extents across economic sectors and countries (Reuschke and Felstead 2020). A survey conducted by Eurofound during this period (April 9th, 2020) revealed over a third of workers across the EU had shifted to working at home due to coronavirus measures (Eurofound 2020). This represented *over half* of workers across Finland, Belgium and The Netherlands with very high shares also in many other EU countries – i.e. Italy (40.8%), France (37.2%), and Germany (36.9%).

The degree of disruption of all aspects of national economies as well as the uncertain time dimension do not support accurate predictions of the future of employment practices. Anecdotal evidence and ad hoc reports, many from the media, however, point to an eventual return to a "new normal" involving a lasting increase in working from home (see Hern 2020; Burr and Endicott 2020; Lindsey 2020). On the one hand, the foundations for such claims lie in the rapid, large and forced upgrade in the means of remote working. Adoption of new software (i.e. Zoom and Microsoft Teams) has become widespread across firms and workers and this has brought an increased expertise, effectively an upskilling of work forces. These new skills, tools and practices contribute to ways of maintaining contact – and control – within firms, and of interaction with collaborating partners, suppliers and customers. On the other hand, national lockdowns have also brought about an enhancement of the motives. Firstly, among workers themselves who were newly forced into home working some – there is no reason to believe it will be all – have come to welcome the release from the grind and cost of daily commutes and the increased flexibility over their lives. This is in addition to recognizing collective positive

environmental consequences, such as reduced levels of traffic and associated emissions (Tollefson 2020). Secondly, many businesses appear to have concluded that working at home does not necessitate losing control of workers or a loss in productivity. Conversely, companies are likely to recognize significant cost-saving opportunities in reducing the need for expensive, central office accommodation. In some countries – notably Finland and Germany – these shifts have been reinforced by intentions to introduce legislation giving workers a right to undertake their work duties from home (Waterfield 2020). Taken together, this points to post-pandemic labour markets being characterized by a substantial up-scaling on levels of home working. In other words, while our data point to long-term trends in growing shares of Europeans working from home, the coronavirus experience is likely to act as a major catalyst in more widespread adoption.

Beyond measuring developments in the scale of home working, it is also possible to identify some significant variations with respect to which populations have more readily adopted home working. We first examine gender differences in home working (Figure 2). While in 2005 slightly more women than men worked at home across the EU15 and EU28, by 2015 a larger increase among men, relative to women, saw the percentage of men working from home overtaking that of women. This pattern however is strongly differentiated across Europe. It is western and northern Europe that show a clear shift towards homeworking becoming disproportionately male while, interestingly, the reverse gender dynamic appears to be dominant in southern Europe. Nonetheless, the increasingly more male-dominated nature of homeworking across western and northern Europe marks a change from both traditional twentieth century gender norms, where women stayed at home and men went to work outside the home, and later with the rise of two-income households, where increasingly both men and women worked outside the home. In many

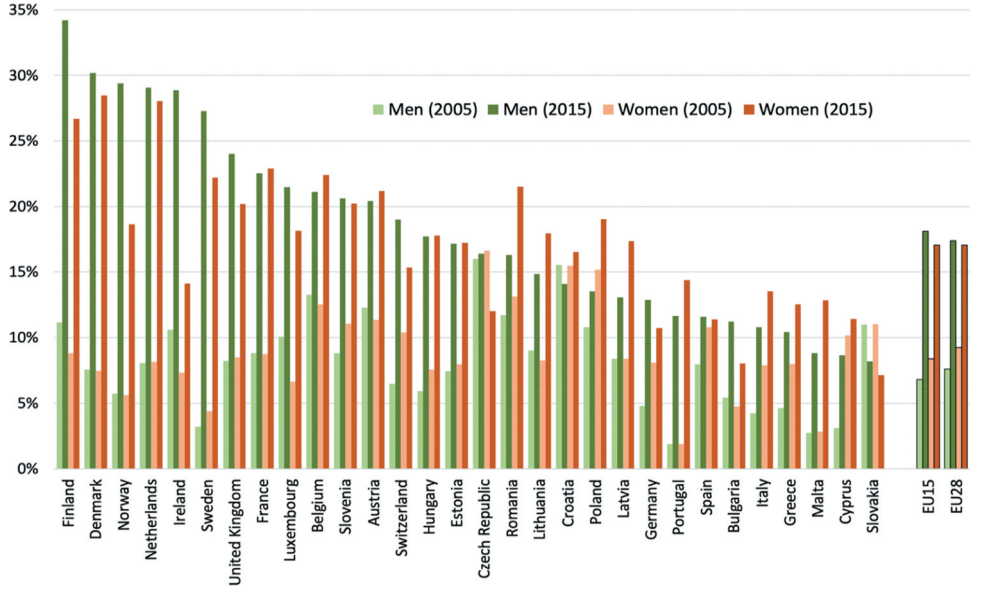

Figure 2. Workers usually working from home by gender. *Data source: European Working Conditions Survey (2005; 2015)*

countries, at least among those in employment, it is men who are now disproportionately more likely to work from home and women more likely to leave home for work.

This increasing rate among men has further coincided with a move up the income and skill distributions. Between 2005 and 2015 working at home particularly increased among those in the top two income quintiles (Figure 3) and among workers in managerial and professional occupations (Figure 4). By 2015, whereas 1 in 6 of all workers usually worked at home, the rate was about 1 in 3 among those with high incomes and in managerial and professional occupations. While on the basis of EWCS data alone it is not possible to identify individual work circumstances, the growing prevalence of these groups is at least consistent with the opportunities provided by the technological developments outlined above. Furthermore, higher income groups are also more likely to have choices in their housing that may facilitate their ability to work from home.

3 The Challenge for Housing Research

The ongoing and substantial shift towards an increasing use of the home as workplace implies significant consequences for our current understanding of home and housing. The question arises as to whether existing theories remain adequate and a consideration of what new research questions are generated by an increasingly large-scale behavioural change. Here, we explore how the rise of the home as a workplace may challenge current theories in housing research. We illustrate this primarily through a consideration of our understanding of housing demand, looking at potential consequences for housing form, housing location and housing price dynamics. We subsequently present a broader

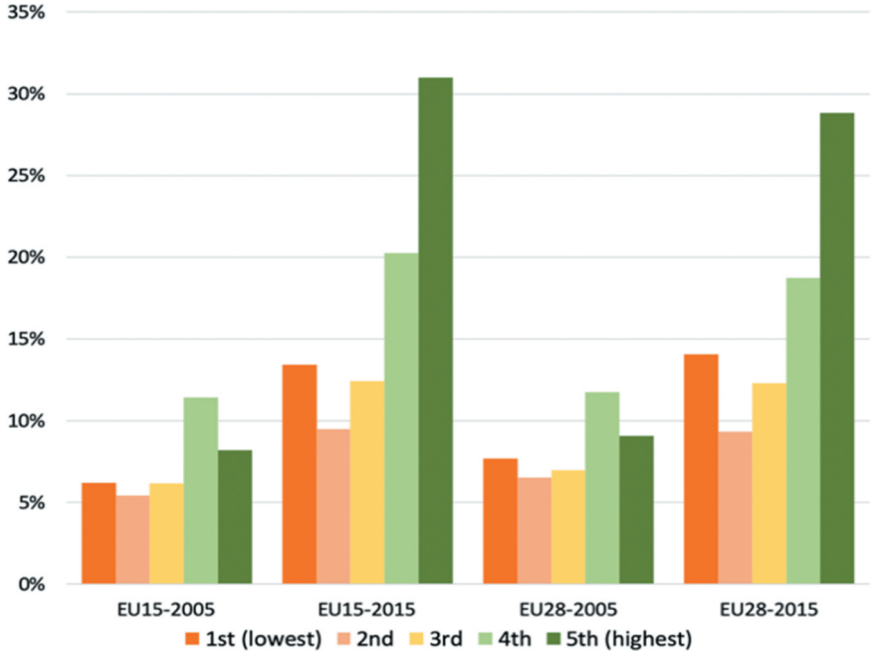

Figure 3. Workers usually working from home by income quintile. *Data source: European Working Conditions Survey (2005; 2015)*

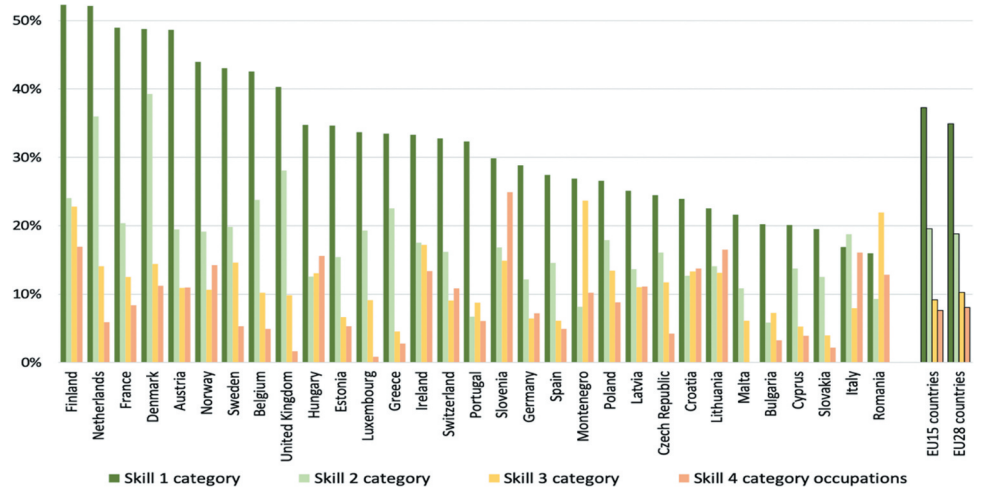

Figure 4. Workers usually working from home by ISCO occupation classes in 2015. *Data source: European Working Conditions Survey (2005; 2015)*. ISCO skill categories: 1 = Managers, Professionals | 2 = Technicians and associate professionals | 3 = Clerical support, Service and sales, Skilled agricultural, Forestry and fisheries, Craft and related trades, Plant and machine operators, and assembly | 4 = Elementary occupations.

theoretical exploration on the re-conceptualization of housing as a capital good and potential implications towards gender perspectives on divisions in domestic space and labour.

3.1 Demand and Housing Form

We begin by considering consequences on housing demand in terms of housing form. In making decisions about the form of buildings for factories, warehouses or offices, businesses necessarily consider matters such as size, configuration of space, and equipment appropriate to the planned output of goods and services. In order to function as a place for paid work, the necessities for the home worker are in principle much the same. This relates partly to the nature of the work, but also to such matters as the resources of the individual and the possibilities of the physical structure. Many white-collar workers attempt to replicate aspects of the sort of office with which they will be familiar (Tietze and Musson 2005). Sometimes this involves very little: a work station that could be no more than the kitchen table, somewhere to sit and operate a laptop, make phone calls and send emails. Wi-fi will generally be an essential prerequisite, but the physical form of Toffler's "electronic cottage" often differs very little from the "pre-electronic cottage" and it does not necessarily follow that the extension of housing to a place to work means its adaptation to a different physical form.

Pre-existing housing arrangements, however, will not necessarily be the most functional to the needs of the work activity, and can result in inappropriate spaces (Holliss 2015). In some cases, the work task ideally requires more extensive facilities that actually do change the physical form of the home, including designated office space or meeting facilities separate from living space. Where the work involves physical products that need

to be stored or assembled, then dedicated space would also be desirable, including potential extensions to the existing property or freestanding buildings in its curtilage.[2] Such considerations of housing form can go beyond the specific housing unit, with the immediate neighbourhood or complex influencing the ability to carry out home work. For example, controlled apartment complexes sometimes limit the ability to receive goods or clients at home, including through different governance rules in strata management (see Altmann 2014). In other words, home working needs influence the choice of and changes to housing form, but conversely, limitations of housing form can clearly constrain home working possibilities.

3.2 Demand and Housing Location

A second essential consideration is how the changing relationship between place of residence and place of work may alter locational demands of housing. As with decisions about housing form, the answer here depends on the nature of the work being pursued. For those running small businesses from their homes, the locational decision will be driven by the extent to which they need direct access to clients. Insofar as clients are clustered where populations cluster, many may locate in – or near – urban areas.

The more interesting situation arises with the growing numbers of remote workers whose jobs, before present technological capabilities, would have required working at the premises of their employers. Traditionally, the working week involved commuting from home to workplace, implying either that the initial search for a job was limited to within an acceptable commuting distance, or that a job led to a house search within reach (Anderstig and Mattson 1991; Wilhelmsson 2002). Home work can, however, sever the geographical link between house and workplace location, wherein commuting distance, time and cost no longer (fully) structure the decision about where to seek work or where to live.

The idea of the declining influence of location on labour markets is not new. Towards the end of the twentieth century, some of the predictions of technological change transforming our daily lives tended towards hyperbole. Claims gained traction that predicted the telecommunications revolution begetting the "death of distance" (Cairncross 1997) or relatedly the "death of the city" (see Hall 2003) envisioning a world where telecommuting allowed anyone to locate anywhere and make agglomerations in space themselves unnecessary (Harvey 1990). These more extreme visions, however, did not materialize in the decades since. In many ways, quite the opposite seemed to occur, with ongoing rapid urbanization and an increasingly interconnected global economy seeming to favour, at the macro-scale, a concentration of many economic activities in select major urban centres (Sassen 1991, 2018; United; Nations 2018).

While people continued to cluster in urban areas, more people working (if only partly) at home has, however, impacted traditional commuting patterns. Over the period that saw working at home increasing, there is evidence from some countries of an associated fall in commuting journeys. In England, for example, while the number of employees grew by about 18% between 1995/7 and 2013/4, the total number of annual commuting journeys fell from 8.5 to 7.9 billion (Le Vine, Polak, and Humphrey 2017), partly attributable to fewer workers with fixed usual workplaces and more working at least part-time

from home.[3] In the Netherlands, remote working has arguably facilitated more polycentric city structures (Priemus 2004).

In considering the nexus between home working and home location choices, it is possible to identify three general household strategies: stay-putters, lifestyle migrants, and nomads. The first group, "stay-putters," represents those households that choose to remain in the same dwelling even as they transition from working outside the home to (increasingly) from home. There are many reasons for staying put: social and kinship ties, the lifestyle associated with the existing location, access to existing networks of customers, or only one of several workers in the household is location-independent. Many who use the home as a workplace therefore do not move, staying-put while perhaps undertaking (minor) adaptations to the physical form of the dwelling towards meeting new home working necessities.

The second group, "lifestyle migrants," reflects those who, free from commuting restrictions, choose to relocate for lifestyle aspirations. The behaviour of retired people, who, by definition, no longer need to consider work location is enlightening. In some western countries, as far back as the nineteenth century, retired people, generally the better-off, moved out of industrial cities to seek new lives by the sea (Karn 1977). From the end of the twentieth century onwards, the scale of movement has increased markedly and often across international boundaries, with for example large numbers of retirees from northern Europe re-locating to the Mediterranean countries (King, Warnes, and Williams 1998). No longer restricted to the vicinity of their workplace (commonly in cities), many have taken the opportunity to boost their consumption aspirations to search for a better lifestyle, the achievement of "the good life" (Repetti, Phillipson, and Calasanti 2018). In line with this, the rise of remote working allows increasing numbers of pre-retired people, to behave more like retired people in their locational choices. On a smaller scale, transport modelling studies have proposed that the more frequently households work from home the greater the likelihood of moving from cities to suburban and rural locations (Moeckel 2017). This is supported by anecdotal evidence from some countries indicating moves away from cities to smaller towns and villages or even more remotely in search of either lifestyle or financial benefits:

> "Motivated by the prospect of a better work-life balance, easy access to the great outdoors and cheaper living costs, more people are taking advantage of the flexible work practices afforded by technology and moving out of urban centres … Swapping city living for a rural idyll was once associated with the golden age of retirement" (BUPA Global 2019).

Finally, there has been growing attention to a third group even more disconnected from residential location. There is empirical evidence that a significant group of workers are taking locational freedom and lifestyle prioritization to the point of having no permanent home at all, representing so-called "digital nomads" who embrace a location-independent, technology-enabled lifestyle that allows them to travel and work remotely (Kannisto 2017). In practice, digital nomads have pursued a range of options including living in motor homes (i.e. "van lifers") to globetrotting, spending a few months in one city before moving to another, all the while undertaking remote work. There are growing industries built around supporting them.[4] One estimate is that among US citizens alone, "nomad" workers number 4.8 million (MBO 2018).

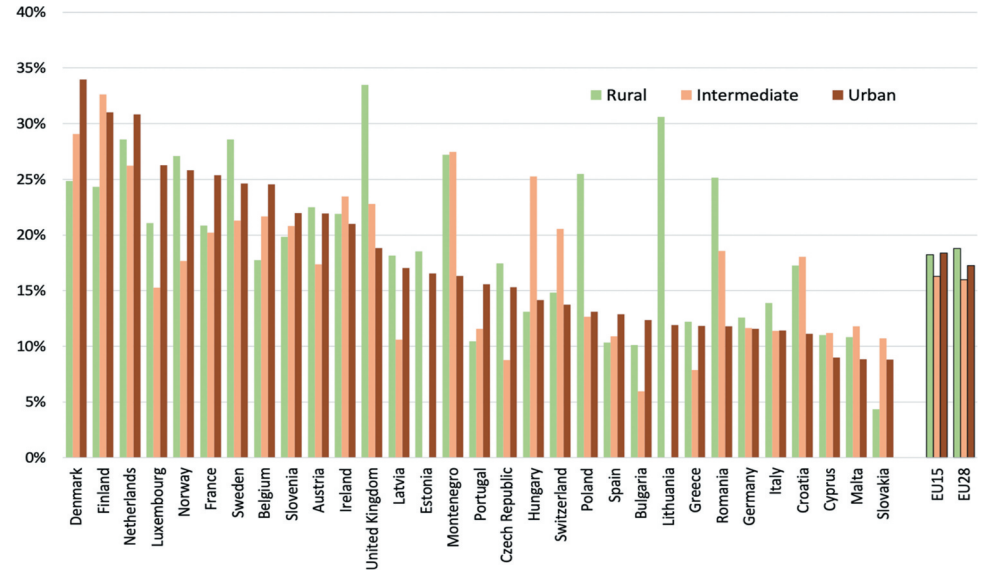

Figure 5. Per cent of workers usually working from home by degree of urbanization in 2015. Degree of Urbanization based on Eurostat's harmonized DEGURBA classification. *Data source: European Working Conditions Survey (2005; 2015)*

The ECWS provides some insight – albeit limited – into the relation between home working and residential location (Figure 5). The data allow differentiation of home working prevalence across EU countries based on the degree of urbanization of their residential location, classed into rural, intermediate or urban based on Eurostat's DEGURBA definition (Eurostat 2020). Looking at averages across the EU15 or EU28, we see higher rates of home working in both rural and urban locales with lower rates at intermediate urbanization levels. This seems to support the idea of varying motivations that may drive the desire of home workers to locate (or stay-put) in either more urban or more rural areas. Unfortunately, it is impossible to separate out specific motivations with the data. Urban areas could be associated with either better access to potential clients, economic agglomeration advantages, or the (work) needs of additional household members. On the other hand, both rural and urban locations may be associated with different types of lifestyle benefits. Finally, rural (and to a lesser extent intermediate) locations provide benefits for cheaper housing costs, as long as other technological/ICT needs can be met.

Looking at differences across countries, the data further reveal strong variation in the prevalence of home working by degree of urbanization. While less clear than for overall home working rates, broadly-speaking, western and northern European countries tend to display a dominance of urban-based home working, while many eastern European contexts tend to reveal a higher propensity among intermediate or rural areas. Finally, southern European countries appear more varied or with less pronounced differences between the urbanization levels. While beyond the focus of this article, this merits further research particularly in revealing how such dynamics may be related to key differences across housing and labour market systems (see Lennartz, Arundel, and Ronald 2016; Arundel and Ronald 2016).

3.3 Demand and House Prices

Changing housing form and locational demand drive necessary considerations on how this may fundamentally affect house price developments. Beyond investment decisions made by individual households, such developments imply aggregate impacts on house prices. One possible macro-level effect could be an upward pressure on prices, arising because some of the money that would have been incurred in commuting is diverted into an increase in the ability and willingness to pay for housing. Consistent with this, houses with office accommodation commonly attract higher prices than equivalent houses without (McGhie 2014). Beyond housing, office real estate may conversely see declines in value given a potential oversupply where companies choose to shift some of their operations to home working (WSP Global 2020). More difficult to predict is whether potential conversions of office space to housing may help locally dampen housing prices through increased supply.

Beyond a necessity to consider aggregate house price effects, there is potential for significant spatial impacts in housing prices. In that employer location, often concentrated in central urban areas, ceases to act as a constraint on residential location decisions, the gradient of land (and house) prices with distance from CBD may become less pronounced. In other words, house price formation may be relatively less influenced by external employment location but more by lifestyle consumption considerations. Such dynamics have significant implications towards the flows of people and capital, primarily enacted through the housing market. Changing demand in housing form and location could imply a reversal of a decades-long dominant trend in the concentration of population and housing market capital in urban centres (see Arundel and Hochstenbach 2019; Hochstenbach and Arundel 2020). However, lifestyle considerations are not uniform. For some this may still be urban locations offering a wide array of consumption possibilities. This reinforces the idea of an ongoing shift in cities becoming less nodes of production and more centres of consumption opportunities (see Jayne 2005). Given the complex nature of housing systems and variegated demand and supply dynamics, a challenge for housing researchers is in empirically understanding effects from home working on aggregate and spatial house price developments.

3.4 Re-conceptualizing Housing as a Capital Good

Beyond the necessity of understanding changing outcomes in demand dynamics, there are important broader theoretical implications of an increasing blurring of the boundaries between place of residence and place of work. When analysing housing markets, there is a general acknowledgement by neo-classical economists that the task is different than with most other markets, because of the peculiar nature of housing as a commodity (Fallis 1985). Houses have been considered as both a consumption good – the daily use of the services such as its space, facilities, location, embedded in the house – and an investment good – the potential for an increase in market value (Yates 2012). Consequently, housing market analysis is more complex than when for other types of goods (Ioannides and Rosenthal 1994).

The home as a workplace, however, introduces a further level of complexity and requires an extension of the framework to a third leg, housing as a *capital good*, meaning

that housing may have a value, in addition to the consumption of a flow of services and its investment potential, by virtue of its use as an input to production with the home contributing to the ability of the household to obtain an income from work. In that the physical structure of the house provides not only somewhere to live but also somewhere to work, it has the characteristics of "capital goods" such as offices, factories, and machines that contribute to producing goods and services. The extension to a capital good can also be seen as creating a sort of virtuous circle: the home being an input of the work process, through which income is generated, which in turn supports the ability of the household to pay for the home in which the household lives, whether through purchase or rent. The home is thus literally somewhere to live and somewhere that contributes to its acquisition.

From this, our understanding of housing systems needs to move beyond analyses of how actors make decisions based purely on its consumption and investment characteristics, to embrace a further dimension as a capital good. In traditional characterizations of housing choice throughout the twentieth century, household decisions were seen as stemming from their consumption and investment aspirations and constraints. As noted above, the "capital good" dimension impacts on decisions of what to live in, affected by the work requirements, and where to live, no longer necessarily constrained by the employer's workplace.

The twin concepts of consumption and investment goods that have been fundamental to an understanding of housing demand, have also informed a number of debates and theories. They have contributed, for example, to our understanding of why housing proved to be the "wobbly pillar of the welfare state" (Torgersen 1987), or why social housing has declined and home ownership grown to the majority tenure in almost all advanced economies (Arundel and Doling 2017; Kurz and Blossfeld 2004; Forrest and Hirayama 2009). They underlie the political economy thesis of "privatised Keynesiansim" (Crouch 2009) and contributions to welfare state analysis in the form of equity-based welfare (Doling and Ronald 2010). For all, the addition of a third dimension as a capital good presents an important call to consider how this demands a re-conceptualizing of the role of housing.

There are also housing debates and perspectives that have made no direct use of the twin concepts, but many of these will also be challenged by the large-scale use of the home as a workplace. The literature on the meaning of the home illustrates this point. Here, some writers have theorized that a distinguishing feature of the home in modern economies is as private space – acting as a safe haven or refuge that offers freedom, control, and relaxation (Giddens 1991). In such conceptualizations, the home has been strongly differentiated from public space, which is open to scrutiny and surveillance, and is associated with the space of paid employment (Darke 1994; Saunders and Williams 1998). With home working implying an increasing claim on domestic space for activities associated with the public realm, this invites a crucial re-examination of long-held understandings of the meaning – and uniqueness – of the home.

3.5 Reconsidering Housing and Gender

In understanding shifts in practices of working at home it is essential to recognize that the home has always been a site of *un*paid domestic labour, often neglected and primarily

undertaken by women. While our own focus is limited to shifts in the practice and space of paid employment, this nonetheless raises important considerations for the broader division of work within households that necessitate further attention in housing studies. Primarily, the blurring of private and public space entails essential considerations on how these may impact persisting gender divisions in space and labour. Until the growth in industrialized economies of dual-income households, women typically inhabited the private space of the home responsible for the majority of unpaid household work related to domestic activities of cleaning and care, while men were overrepresented in the public sphere and in paid-employment (Crompton 2006; Mallett 2004). The move to a norm of dual-income households did little to change this in what Hochschild (1989) referred to as a "stalled revolution." Indeed, three decades on and even where couples have similar levels of education and following some narrowing of wage levels, there remains a clear continuation in the gendered distribution of unpaid domestic versus paid employment, reflected in the private versus public spaces these inhabit (McMumm, Bird, and Webb 2020). What then of the impact on these established relationships of the large-scale trend of using the home as a workplace? This is particularly salient given an apparent reversal in northern and western European countries of traditional gender norms surrounding spaces of work, where we see a disproportionate rise among men in the adoption of home working. This necessitates further research into the gendered implications of a growing shift towards domestic space being a locale of paid-employment. Such developments raise key questions on the extent to which this may also imply a shift in gendered divisions of labour, or, as Osnowitz (2005) concluded in an earlier US study, male hegemony is sustained at home with gendered labour divisions persisting even as divides between private and public realms increasingly overlap. Changing practices of (paid) work in the home may also impact on gendered meanings of home, including changing relationships between notions of masculinity and domestic space (Gorman-Murray 2008). Rising home working, particularly in contexts where this trend appears to be clearly differentiated across men and women, implies a reconsideration of understandings of housing and gender as a valuable avenue for further research.

4 Concluding Comments

The available empirical evidence indicates that using the home as a workplace has become a substantial feature of labour markets in many western economies and that this has increased significantly in recent years. By 2015, around 1 in 6 workers in the European Union worked from home for at least some of their working days. As our analysis of ECWS data has shown, home working appears disproportionately common among those in professional and managerial occupations and those with higher incomes. This bias is at least consistent with the role of technological developments in enabling the loosening of the division between home and workplace in certain employment sectors, better access to enabling technology among higher income groups, as well as the potential availability of housing forms that best facilitate work activities. Other trends, point to an increasing share of men, in northern and western Europe, participating in working from home, as well as an over-representation in both more urban and more rural contexts. While displaying substantial variation across country contexts, broadly-speaking, the combination of scale, trends and apparent drivers points to a likely continued increase in home working as a significant feature of European labour markets. The

recent coronavirus mitigation policies – under the "Great Lockdown" – which resulted in a major and widespread uptake in working from home across the globe are likely to be a significant catalyst in accelerating the ongoing trends we have identified.

Whatever the eventual scale of home working in a post-coronavirus world, from a housing studies perspective, a clear consequence of labour market trajectories appears to be a future for many in which places of residence combine conventional housing functions – as somewhere to live and an investment vehicle – with workplace functions as a site for paid employment. The notion that housing may also act as a capital good in the form of a site of production and income-generation implies that households face a more complex trade-off in their housing decisions. At the present time, our detailed knowledge of how individuals respond is limited, and the recognition of such limitations is key to initiating a new agenda for housing studies.

The changing boundaries between home and workplace necessitate a significant reconceptualization of housing as well as understanding the myriad impacts of these changes across different scales. A world in which increasing numbers of people work at home may not only affect housing form and household housing choices, but implies a potential transformation of the physical structure of cities, the distribution of property values and the broader labour and housing markets themselves. Understanding these developments necessitates a re-evaluation in housing studies of the nature of housing that recognizes an emerging three-fold conceptualization as consumption, investment and capital good. This further includes consideration on how this may alter the meaning of home, our recognition of the boundaries between the public and private realm, and implications towards persistent gender norms in the division of domestic work and space. The potential catalysing effect of the coronavirus crisis only intensifies the relevance of understanding trends in home working and their multitudinous impacts on conceptualizations of the home.

Notes

1. It was possible to create a variable capturing whether a respondent's job involved working "usually" at home, based on several relevant variables from ECWS. In 2005, this includes responding either "All of the time," "Almost all of the time," "Around 3/4 of the time," or "Around half of the time" to working at home. In 2015, this was based on answering either "Several times a week" or "Daily" on having worked at home.
2. Supporting such needs, for example, are companies offering pre-fabricated buildings to be situated in the gardens of existing dwellings and used as a workshop or for office work, meetings and consultations.
3. In the UK there has been the adoption of the acronym "TWATS" to describe those who work at the office only on Tuesdays, Wednesdays and Thursdays.
4. For example, nomadlist.com and digitalnomadsnation.org whose websites rank locations and provide guidance about opportunities for co-living and co-working spaces.

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