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Teleworking across Europe: changes and continuities after COVID-19 pandemic

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Executive Summary

COVID-19 pandemic has led to an increase in teleworking practices across Europe. Teleworking allows better work-family integration for workers, better labour market participation of workers, especially for women and workers with caring responsibilities, it increases workers' work-life balance satisfaction, and has the potential to reduce gender inequalities in the labour market and at home. However, it is not an arrangement that all workers have access to not only due to the structural limitations of the job, but also due to cultural barriers that exists which stigmatises workers' who work from home as being less productive and committed compared to those who come into the employers' premises. This report examines teleworking practices of European workers 'across 30 European countries using the European Working Conditions Telephone Survey of 2021. The following are the key results of the analysis.

- The strongest determinant of teleworking is the occupational levels/skill levels of workers. Highly educated workers, working in top occupational jobs – such as managers, professionals, associate professionals and technicians, and clerical support workers were by far more likely to telework compared to other workers. Prior to the pandemic, clerical support workers were not significantly more likely to telework compared to other workers, whilst this has changed over the course of the pandemic.
- Workers working in financial services, public administration, education, other services sectors were much more likely to be teleworking compared to workers working in other sectors. Health care sector workers have the least access to teleworking arrangements.
- Parental status did not make a difference in explaining who teleworks frequently.
- Workers in more precarious positions in the labour market measured both objectively (employment contract status) and subjectively (job insecurity) are less likely to be teleworking. This result indicates a potential issue with flexibility stigma and fear of career repercussions inhibiting take up of teleworking. This association is stronger for men.
- Women are more likely to telework compared to men even when other factors are controlled for, a change from pre-pandemic times, and this is relatively consistent across Europe.
- There are cross-national variation in the average levels of teleworking across Europe.
- Work culture followed by gender norms, and childcare coverage of preschool children were found to be the most significant factors explaining the variance of teleworking across Europe. In other words, countries where work is more central to people's lives, or are expected to be so, are those where teleworking is not as common. Whereas countries with egalitarian gender norms, and with generous work-family integration policies, teleworking is more common. This is likely to be linked to the fact that in these countries, employers are more likely to provide teleworking options as providing workers with better tools for work-life balance is a norm. In such contexts workers are more likely to take up the arrangements without the fear of repercussion on their careers.
- There is cross-national variance in the teleworking gaps between workers of different occupational levels. This was largely due to the fact that there was not much variance across countries in the occupations that generally fell under the 'hard to telework category', whereas, within the teleworkable occupations, there were large cross-national variances in the extent to which workers teleworked regularly. Similar variance was found when comparing the

teleworking practices of managers and professionals versus associate professionals and technicians, and clerical support workers.

The report puts forward the following policy recommendations based on the findings of this report.

- To support more workers' take up of teleworking practices, we need to change work cultures to make work-life balance and work-family integration more of a norm for all workers. Providing generous family-friendly policies at the national level can also help change the work cultural as well as gender norms.
- To remove stigmatised views against teleworkers, and to encourage all workers to take up teleworking without the fear of negative career outcomes, governments and companies should encourage more fathers and workers without caring responsibility to work flexibly, especially for care and work-family integration purposes.
- To do this, there should be a consideration on the revision of the European Directive on Work-life Balance, to strengthen the right to request flexible working arrangements for all workers, not only parents of young children and carers.
- We need to strengthen the anti-discrimination clause that protects workers taking up teleworking and other flexible working arrangements from any forms of discrimination and from experiencing negative career outcomes.
- There should also be campaigns and efforts to try to get more fathers and workers without children to take up and use flexible working arrangements.
- More efforts needs to be put in place to ensure that employers are aware of the productivity enhancing capacities of flexible working arrangements to understand that flexible working is not only a work-family integration tool, but a smart working tool that can help support productivity outcomes.

1. Introduction

The pandemic resulted in a seismic shift in the way we work and the way we think about work. One of the biggest changes we have seen in the labour market is the extent to which homeworking or teleworking – that is workers' ability to work outside of their main premises/office, and more specifically from home – has been normalised across the labour market. Prior to the pandemic, only about one out of eight workers across Europe worked from homeⁱ, mostly on an irregular basis (a few times a month or more) (Chung, 2024/forthcoming; Chung & Van der Lippe, 2020). However, during the peak of the first lockdown in the spring and summer of 2020, this number was closer to half of all workers working almost exclusively from home. In more recent years, as this report will show, approximately 1/3 of the population is teleworking to some degree, and those that telework do it on a much more regular basis (Eurofound, 2022b). Furthermore, the transposition deadline for the EU Work-life balance directiveⁱⁱ expired in August 2022, where governments were required to install the right to request flexible working for workers with children up to a specified age (generally up to the age of eight), and carers, in their labour laws. The Directive explicitly mentions teleworking as a way to not only meet European carers' and working parent's work-family integration demands, but also to enhance gender equality at home and in the labour market. What is more, there are increasing demands for flexible working, especially among women and younger generation of the workforce (Deloitte, 2021), and with it there have been digital technological advancements that allows more workers to be able to work from home (Eurofound, 2023). Taking these factors in combinations, it is likely that we will see a growing number of workers teleworking.

However, the question remains as to whether we have seen a rise in teleworking, and whether this has been seen across all workers, or whether the pandemic has further widened the gap between workers. Some evidence exists (Abendroth et al., 2022; Eurofound, 2022b), mostly with regards to gender and parental status variations, but more research is needed to explore teleworking practices of workers of different demographic and socio-economic backgrounds – such as gender, parental status, occupational/educational levels, etc. This analysis will allow us to examine the divergent patterns of working conditions in a digitalised labour market with potential outcomes on workers' well-being (Fan & Moen, 2023; Lu & Zhuang, 2023; Yang et al., 2023) another topic of this work package. What is more, by exploring who is teleworking and perhaps more importantly, who does not, will allow us to examine the potential cultural and other barriers workers face with regards to genuine access to teleworking.

This deliverable will first examine the definition of teleworking and the variation in the use of definitions. It will then examine the theories behind access to teleworking practices, along with some existing studies of teleworking in the literature. The third section will discuss the data used for this paper, European Working Conditions Survey of 2021. It will also explain the variables and methods used. The fourth section presents some descriptive findings of access to teleworking across Europe, along gender/parental status, and occupational levels. It will then move on to present a multivariate analysis of teleworking practices. The final section presents a discussion and conclusion.

2. Theories and definitions

2.1. Definitions of teleworking

Flexible working can entail alternative work options that allow work to be accomplished outside the traditional temporal and/or spatial boundaries of a standard workday (Allen et al., 2015). The European Commission defines flexible working arrangements as the possibility for workers to adjust their working patterns, including through the use of remote working arrangements, flexible working schedules, or reduced working hoursⁱⁱⁱ. Of these, this report focuses mostly on remote or tele-working arrangements, which has a range of different terminology that is used and discussed in the literature, including but not limited to telecommuting, remote work, telework, smart/agile work, telework and ICT-based mobile work (TICTM), and more recently, homeworking and hybrid working (Allen et al., 2015; Eurofound, 2022a, 2023).

One of the key differences in the terms is whether or not digital technology is being used for the work. For example, remote work can refer to any work carried out outside the employer's premises regardless of the technology used. On the other hand, teleworking or telecommuting can be defined as a work practice that involves members of an organization substituting a portion of their typical work hours (ranging from a few hours per week to nearly full-time) to work away from a central workplace—typically principally from home—using digital technology to interact with others as needed to conduct work tasks (Eurofound, 2022a). Similarly, in the EU Framework Agreement on Telework 2002, telework is defined as any form of organising and/or performing work using information technology, in the context of an employment contract/relationship, in which work, which could also be performed at the employer's premises, is carried out away from those premises on a regular basis. A more recent development especially after the COVID-19 pandemic is hybrid working, where a part of the worker's working hours is spent at home (2-3 days a week) and the rest in the office (2-3 days a week) (Eurofound, 2023). Prior to the pandemic, majority of teleworking was done more on an ad hoc rather than a regular basis (Chung, 2024/forthcoming; Chung & Van der Lippe, 2020), namely a couple of times a month for specific reasons like needing to wait for a delivery or a getting your plumbing repaired. However, post-pandemic, hybrid working has now been established as the norm for many workers across Europe (Eurofound, 2022b).

In this study, the primary data used for the analysis – The European Working Conditions Survey of 2021 – is provided by Eurofound, entailing that we rely on their definition of teleworking, namely, typical work hours being carried out outside of the employers' premises or central workplace using technology. Another aspect that is of important when exploring teleworking is the frequency in which it is carried out. There are differences in the outcomes of teleworking when comparing between frequent or all-remote teleworkers to those who only telework on occasion or not as frequently. This has been observed not only with regards to workers' working patterns and well-being (Chung & Van der Horst, 2020; Yang et al., 2023), and their ability to balance work and family life, but also with regards to the extent to which workers are stigmatised due to not being in the office (Kasperska et al., 2023; Wang & Chung, in review). Therefore, this report distinguishes between those who work from home fully (daily), partially (hybrid), or occasionally (less often).

2.2. Theories on access to teleworking

2.2.1. Structural factors

In addition to legal regulations and policies that support the provision of and access of teleworking arrangements, there are several theories that explain which companies are more likely to provide them, and which workers are able to access and use them (Chung, 2019a, 2020a; Wiß, 2017). There are structural factors that can prohibit or enable companies to provide teleworking arrangements, such as sector or size of the company. The type of work that is being done has always been noted as one of the biggest constraints to the introduction flexible working arrangements by managers (Wanrooy et al., 2013). There are jobs where it is harder to work remotely than in others due to, for example, production structure such as needing to use certain machinery to carry out the job that is only available within the workplace like machine operators, or needing to meet with clients face to face in retail jobs etc. Having said that, it is important to note that we are seeing digital technological shifts that allow more jobs to be carried out remotely, for example telemedicine or online retail. Public sector employers are considered to be better at providing flexible working arrangements not only because they are not as sensitive to business cycles (Evans, 2001) but also because they are seen as the forerunners with regards to the provision of family-friendly working environments, which includes teleworking arrangements (Chung, 2008). Due to the administrative costs that are involved in providing these arrangements, larger companies may find it easier to administer teleworking arrangements, and may have more resources to provide such arrangements. Having said that, small and medium sized companies may be able to provide more informal or ad hoc arrangements (Dex & Scheibl, 2001).

2.2.2. Agency factors

Agency factors pertain more to the willingness of managers and/or the push they get from workers to provide flexible working policies. Some argue that more women in the company would mean that there is a higher demand for, and thus higher prevalence of, flexible working arrangements including teleworking arrangements in the company (Goldin, 2014; Goodstein, 1994). However, empirically, at least in the case of flexible schedules or teleworking in Europe, this has proven not to be the case (Chung, 2019b; Magnusson, 2021). This may relate to the fact that women's jobs are generally of low-pay with worse working conditions compared to 'men's jobs' (Anker, 1997; Charles, 1992). It may also be because employers are more reluctant to trust women, especially mothers, to privilege work above care or housework (Budig & England, 2001; Williams et al., 2013) when teleworking. Managers and co-workers may believe that women may abuse their ability to telework to do less work (Munsch, 2016) and use that time and flexibility at work to meet family demands (Hilbrecht et al., 2008; Sullivan & Lewis, 2001). This explain why women may not have access to teleworking arrangements as much as men, and jobs where women are over-represented may be those where teleworking is not as prevalent.

Powerful unions may drive employers to provide teleworking arrangements as a part of their efforts to improve working conditions or allow workers better access to existing policies without fear of retribution (Chung & Seo, 2023; Jacobi, 2023; Wiß, 2017). However, this may depend on unions awareness of such policies and their willingness to put these issues in their agenda. Companies with supportive managers are also more likely to provide workers teleworking arrangements (Hammer et al., 2009; Kossek et al., 2014; Minnotte et al., 2010) and are places where workers

feel like they are more able to take up the arrangements (Cooper & Baird, 2015). Some studies argue that workers with female managers are more likely to access flexible working arrangements (Galinsky & Bond, 1998; Ingram & Simons, 1995), yet recent studies show this is not necessarily the case (Chung, 2019a, 2019b).

2.2.3. Employer's motivation for providing teleworking

Above and beyond the structural restrictions, employers' provision of flexible working arrangements can depend on the way employers see the purpose of introducing the arrangement to workers (see also, Swanberg et al., 2005; Lambert and Haley-Lock, 2004). Teleworking can be seen as policies that are used to enhance performance outcomes as a part of a high-performance work environment approach (Appelbaum et al., 2000; Wood & De Menezes, 2010). When employers are genuinely interested in purely addressing the work-family needs of workers^{iv}, those with the most family demands or most need of family-friendly arrangements are more likely to have access to and use flexible work arrangements (Chung, Seo, et al., 2020; Future Form, 2022; Golden, 2009). This would entail that those with caring responsibilities, namely, parents and especially mothers and other workers with caring responsibilities will be more likely to have access to teleworking arrangements. Given that those in lower-paid occupations/lower-education levels, are generally those who have fewer resources – such as financial resources – to meet their caring demands (e.g. sending children to nursery or having a nanny), it is be those in low-paid occupations/lower-education who will be most likely to have access to teleworking when family demands are the most important reason why employers provide teleworking access.

On the other hand, when employers' motivation for providing flexible working arrangements are driven by more by performance demands, we can expect it to be used more in knowledge intensive fields (Brescoll et al., 2013) and provided to workers in with higher occupational statuses/skills levels in expectation that it will enhance their productivity (Chung, 2019a). There is in fact a wealth of evidence showing that those with higher education and in higher occupational levels that are more likely to have access to/use flexible schedules and teleworking compared to those with lower education working in lower-paid jobs (e.g., Chung, 2019a; Chung & Van der Horst, 2018; Ortega, 2009; Präg & Mills, 2014; Wiß, 2017). Some scholars (e.g., Schieman, 2013) argue that arrangements that give workers more control over when and where they work, that is flexible schedules and teleworking, are only given to higher status workers, namely, those who are valued in the organization, high skilled, and in a better bargaining position. Chung (2018) examines flexible schedule access among workers in disadvantaged positions within the labour market. Results show that although fixed-term contract status does not influence one's access to FWAs, low skilled and those who perceive their jobs to be insecure were significantly less likely to have access to flexible working, having controlled for a number of other factors that explain access. Similar result could be expected for teleworking, given that it is also a type of arrangement that is given mostly to those with higher bargaining power and those who are not concerned about the security of their jobs.

2.3. National level factors explaining teleworking access and use

2.3.1. Family and social policy

One of the most interesting and well explored national context explaining the cross-national variance in the access to flexible working is the family policies of the country (Chung, 2019a, 2019b, 2020a; Lyness et al., 2012; Präg & Mills, 2014). There are two theoretical assumptions held in examining the relationship between national level policies and provision of flexible working arrangements, including teleworking, within a country. Firstly, based on the ‘crowding out’ theory (Etzioni, 1995), we can expect that generous national-level social policy programmes “‘crowd out’ informal caring relations and social networks, as well as familial, communal and occupational systems of self-help and reciprocity” (Van Oorschot & Arts, 2005: 6). If so, countries with generous family policies will not have a lot of teleworking available to its workers, as there are no additional need to address issues of work-life/family integration. The counter argument to this comes from the “crowding in” theory (e.g., Chung, 2019a, 2020a; Künemund & Rein, 1999; Van Oorschot & Arts, 2005), which argues that it is rather the countries with generous family policies that usually have companies that also provide more and better family-friendly policies at the company level – including the provision of teleworking arrangements. This mirrors the argument of institutional theorists, which argue that institutions, laws, and policies may put pressure on organizations to become similar to national institutions (DiMaggio & Powell, 1983). There are normative isomorphic pressure, i.e., national-level policies changing the norm and subsequent public demand for companies to be more family-friendly (den Dulk et al., 2013), mimetic pressure, i.e., where companies imitate or mimic the practices of other (successful) organizations (Been et al., 2017; Davis & Kalleberg, 2006), or coercive pressures where the government pushes companies to become more family-friendly through policies such as tax incentives and or legal or policy provisions. Based on this line of reasoning, we can expect teleworking to be more widespread in countries where there are generous family policies.

Previous studies provide evidence for both crowding in and crowding out. There is evidence that show in countries where there aren’t many statutory regulations on family policies, companies use flexible working arrangements as retention or other strategic policies (den Dulk, 2001, 2005; Ollier-Malaterre, 2009). Others argue that there are no clear relationship between statutory regulations and (extra) company provision (Kassinis & Stavrou, 2013; Präg & Mills, 2014), and only when there is a very large involvement from the state, a crowding out impact can be seen (Evans, 2002). However, increasingly there is more evidence to show that actually in countries with generous family policies at the national level are those where companies also tend to be more active in providing flexible working arrangements (e.g., Been et al., 2017; Chung, 2018, 2019a, 2020a, 2022; den Dulk et al., 2013; den Dulk et al., 2012; Lyness et al., 2012). More recently, Chung (2018, 2019a) argues that the type of policy in question matters, and we need to distinguish between national level work-reducing policies (leaves) against ‘work-facilitating’ policies (childcare) (Misra et al., 2011). Chung (2018, 2019a) shows that work-facilitating policies ‘crowd in’ workers’ access to flexible working arrangements (see also, Chung, 2009; den Dulk et al., 2013; Lyness et al., 2012), while work-reducing policies, ‘crowd in’ only to a certain degree and then ‘crowding out’, similar to what was found for women’s employment patterns (see, Misra et al., 2011).

2.3.2. National culture

Another important factor that explains workers' access to teleworking is the national gender and work culture. In cultures where work is or is expected to be central to one's life, companies may not feel a need to provide flexible working arrangements as workers are expected to prioritise work above all else (Anker, 1997; Williams, 1999), and there is no need for employers to try to facilitate workers' work-life balance through such policies. In such contexts, teleworking can still be used, but it is likely to be used (only) for performance enhancing goals. Work culture can also shape workers' genuine access to, or take up of teleworking practices. Studies have shown that ideal worker cultures – where work centrality and long-hours work is expected, and stigmatised views against flexible workers act as a hinderance towards workers taking up even existing policies (Chung & Seo, 2023; Lott & Abendroth, 2020; Williams et al., 2013). In fact, studies have shown that work centrality – namely the extent to which individuals put work as central to one's life - to be one of the most important factor explaining company's provision of flexible working arrangements (e.g., Chung, 2014; den Dulk et al., 2013). Similarly, gender norms around whose role it is to care and whose it is to carry out the breadwinning also influence teleworking prevalence (Chung, 2014, 2022; den Dulk et al., 2013; Kassinis & Stavrou, 2013). In countries where gender norms are positive towards women and especially mothers working, there may be more demand from workers towards employers to provide teleworking arrangements (Kassinis & Stavrou, 2013; Lyness & Judiesch, 2008). What is more, long-hours based ideal worker culture is inevitably linked to the (hegemonic) masculine work organisations (Acker, 1990; Berdahl et al., 2018) under the assumption that it is men (with supporting partners) that are able to work long hours, devote themselves to and only to work without any other responsibilities outside of work. Male workers are able to do so because someone else (a female partner or family member) is carrying out all of their reproductive work. This is why it is especially why men are likely to work long hours, and have stigmatised views of flexible working, and in male-dominated organisations/occupations that long-hours work devotions are expected, and stigmatised views against teleworking more prominent (Cech & Blair-Loy, 2014; Chung & Seo, 2023; Nikita et al., 2024; Williams et al., 2013). When both men and women are expected to be involved in childcare and housework, the need to balance work with responsibilities outside of work will be considered universal for all workers, a norm. In such cultures, we expect that teleworking arrangements are not only provided more widely but also taken up easier by workers.

2.3.3. Industrial relations

Studies have also shown that collective bargaining coverage rates and union density is positively correlated to the use/provision of flexible working arrangements (Berg et al., 2004; Chung, 2009, 2018; Lyness et al., 2012; Präg & Mills, 2014). According to the power resource theory, welfare states are shaped by the power that is mobilized by the wage earners, may it be through political parties or through interest organisations such as labour unions (Korpi, 1989). In addition to the direct impact trade unions may have on shaping national policies, when there are strong unions within the company and at the national level, this will lead to a "contagion from the Left," (Korpi, 1989:316) influencing the way employers provide flexible working policies. Strong unions also help shape national level policies and levelling-up of the general working conditions of workers, ensuring the better provision of family-friendly policies both at the national and company levels (Berg et al., 2004; Chung, 2018; Lyness et al., 2012). They can also provide protection against the stigma/discrimination workers may face when using teleworking and other flexible working

arrangements, encouraging the take-up of policies (Budd & Mumford, 2004; Seeleib-Kaiser & Fleckenstein, 2009).

2.3.4. Labour market conditions

Worker's bargaining power is also shaped by the economic and labour market condition of the country. When the economy is in a strain and there is greater supply of labour than demand, namely high unemployment, workers will have weaker negotiation power over employers (see also, Schor, 2008). Under such conditions, not only are employers less likely to provide family-friendly FWAs, stigmatised views against workers who use these arrangements are more common place (Chung & Seo, 2023). Under such conditions, workers may not be able to take up existing policies due to potential negative consequence that comes from flexible working (Chung, 2022; Williams et al., 2013). On the other hand, when demand for workers outstrips supply- namely, low unemployment rates, employers may use family-friendly flexible working arrangements as incentives to help recruit and retain workers (Batt & Valcour, 2003; den Dulk et al., 2013). This may allow more workers to take up teleworking without fear of repercussions.

3. Legislative and COVID-19 contexts of teleworking across Europe

To better understand teleworking access of European workers in 2021, this section examines some of the most recent legislative changes with regards to teleworking both at the EU level and some national levels as illustrative purposes. In addition, this section explores the COVID-19 pandemic as an important context that helped teleworking to become more wide spread across Europe.

3.1. EU level policies

There are a number of legislation at both EU and national levels that regulate flexible working arrangements (OECD, 2021). Directive (EU) 2019/1158 of the European Parliament and of the Council of 20 June 2019 on work-life balance for parents and carers^v gives all working parents of children up to at least 8 years of age and all carers a right to request flexible working arrangements. More specifically it states that *“they (workers with caring responsibilities) have the right to request flexible working arrangements for the purpose of adjusting their working patterns, including, where possible, through the use of remote working arrangements, flexible working schedules, or a reduction in working hours, for the purposes of providing care.”* It further states that those who have exercised the right should be protected against discrimination and dismissal.

In 2001, the European Council invited key social partners to negotiate agreements modernising the organisation of work, including flexible working arrangements, as a part of their flexicurity strategy. A result of this was a 2002 Framework Agreement on Teleworking which was an agreement with The European Trade Union Confederation (ETUC), the Union of Industrial and Employers' Confederations of Europe / the European Union of Crafts and Small and Medium-Sized Enterprises (UNICE/UEAPME), and the Centre of Enterprises with Public Participation (ECPE). The agreement aims at establishing a general framework at the European level concerning the employment conditions of teleworker. The framework includes the following items i) *voluntary nature of teleworking* – namely that employers cannot force workers to telework; ii) *employment conditions* - teleworkers benefit from the same rights as comparable workers at the employer's premises; iii) *data protection* - the employer is responsible for taking the appropriate measures to ensure the protection of data used and processed by the teleworker for professional purposes; iv) *equipment* - the employer is responsible for providing, installing, and maintaining the equipment necessary for regular telework unless the teleworker uses his/her own equipment; v) *health and safety* - the employer is responsible for the protection of the occupational health and safety of the teleworker and that workers can ask for the inspection by the employer or a employee representative; vi) *organisation of work* – that within the framework of applicable legislation, collective agreements, and company rules, the teleworker manages the organisation of his/her working time, and that the workload and performance standards of the teleworker are equivalent to those of comparable workers at the employer's premises; vii) *training of teleworkers* - teleworkers have the same access to training and career development as comparable workers at the employer's premises and are subject to the same appraisal policies as these are their workers ; viii) *the collective rights of teleworkers* - teleworkers have the same collective rights as workers at the employer's premises.

3.2. National level policies, some examples

It is not possible to summarise all national level policies that exist that regulate the right to (request) flexible working arrangements across European countries. There are summaries of this provided by the Eurofound on teleworking regulations at the national, sectoral and some examples of company level policies (Eurofound, 2022a), and by the OECD with regards to working time regulations (OECD, 2021). Workpackage 5 of the TransEuroWorks project will also provide a summary of the existing policies in the area in the near future. Here we summarise a few examples of such legislation across a few illustrative countries (see also, Chung, 2022).

3.2.1. UK

The British right to request flexible working was introduced in 2003 ‘under the banner of enhancing parenting choice’ (Lewis et al., 2008). This was a policy through which the then Labour majority government aimed to address women’s employment agenda without incurring significant costs for the government. This was especially true in the context of a lack of other means for parents to address work–life balance issues, for example, through well-paid leave and public childcare (Chung & Van der Horst, 2018). The scope of the law includes a range of arrangements including homeworking, flexitime, compressed hours, term-time only, part-time, and reduced hours. Initially, the right was only available for parents of children under the age of six and children with a disability up to the age of 18. In 2007, this was extended to carers of adults, and parents with children below the age of 17, and finally extended to cover all workers as of June 2014. The right initially was restricted to those who have been in continuous employment with their current employer for the past 26 weeks. However as of 2023 workers have the right to request flexible working from day 1 of their employment. However, employers can reject this request on various business grounds although they now must provide the reasoning behind this rejection. A recent survey of working mothers in the UK has shown that half of all mothers had their flexible working requests rejected or only partially accepted, 42% responded that they would not make a request for flexible working as it is likely to be turned down, and 86% of mothers have noted that they faced discrimination for having worked flexibly (TUC, 2021).

3.2.2. Netherlands

One of the reason behind why the Netherlands has a high level of part-time work is because of the Dutch Working Hours Adjustment Act (Wet Aanpassing Arbeidsduur) introduced in 2000 as a part of the Dutch Flexicurity social exchange (Wilthagen & Tros, 2004). The law allows workers employed in organisations of 10 or more employees to ask for the adjustment of their working hours – i.e., reduction to part-time, but also allowing for the increase of hours back to full-time. In 2016, this law was changed into the Flexible Working Law (Wet Flexibel Werken)^{vi} to extend the existing right for workers to request changes to their work schedules and working place. This law provides a stronger right to workers compared to the UK regulation because it requires employers to state the reason for rejecting the request, which needs to fall under the list of acceptable reason, which relate to serious consequences for the company. However, similar to the UK one request can be made in a year, and workers need to have been employed by the organisation for the previous 26 months before making a request.

3.2.3. Italy

Italy is a unique case in that it introduced flexible working for a specific segment of the labour force, namely the public administration sector workers. In addition, rather than using the term “flexible working”, they used the terms “agile work” and “smart working” to enable workers more control over their work schedules (start/ending times of work) and to work from home.

In 2015, the Italian government passed a law on the reorganisation of the public administrations, which includes measures to implement teleworking and new flexible working arrangements for the public administration sector to meet workers’ work-life balance demands. Smart working was included here as an objective to be achieved, measured in quantitative terms – more specifically it was noted that within three years at least 10% of employees of each administration must be able to make use of teleworking and smart working (ELENA, 2018). Furthermore, the directive of the General Secretary of 2017 noted that there will be a trial to strengthen work life balance measures and introduce organisational solutions. This was done to, at one hand, address work-life balance needs of workers, but on the other, with an aim to increase productivity and quality of public services.

More specifically, the Directive recommends a number of fundamental pillars for such experiments/implementation including; strengthening the work organisation according to result-oriented models; including how teleworking and agile work are going to be applied in the Performance Plan and in the Performance Measurement and Evaluation System; evaluating the innovative organisational ability of managers; enhancing the skills of individuals and groups; empowering workers and fostering relationships based on trust; guarantee and verify the fulfilment of the work performance (Viale, 2018). Again, one of the innovative aspects of this approach in Italy was that the introduction of flexible working was not solely focused on its ability to meet workers’ work life balance, but also very much embedded on the narrative of enhancing performance outcomes – in this case public services. Another innovative aspect of this policy reform was that the Italian government did not purely introduce the right to request flexible working as a standalone initiative. Instead, they promoted the idea of shifting the work organisation and performance plans/goals which included specific goals on empowering workers and enhancing trust between managers and workers. The approach also made sure that the goals are met through shifting the evaluation systems of managers and organisations. Such changes ensure that organisational contexts and cultures are shifted to ensure that flexible working policies result in positive outcomes for both workers and companies.

Some of the early trial results of the implementation of such reorganisations have shown that workers with the ability to work flexibly show improved levels of productivity, work-life balance satisfaction, and decreased levels in sickness and absences (ELENA, 2018). The 2017 decree also includes granting contribution relief to companies in the private sector that provide innovative work life balance measures in their collective bargaining agreements/company policies. However, it is unclear whether further developments will be made to provide legal right for smart working for the entire workforce.

3.2.4. Finland

One of the most recent and most radical additions to the policies on the right to flexible working comes from Finland. In March of 2019, Finland passed a new Working Hours Act which entered into force in January 2020 just before the COVID-19 pandemic hit. The new act aimed to update rules governing working hours to meet the changes in the economic structure and in the ways people work. Through this this piece of legislation also created stronger rights for workers to work flexibly^{vii}. The key innovation here was that the new law changed the concepts of ‘workplace’ and ‘working time’. ‘Workplace’ has now been changed into ‘working place’ which entails that work is no longer tied to activities taken place in a specific location, and can be done anywhere, which also changes working time to a more simplified definition of ‘time spent working’ again not tied down to the work done within the office. This effectively gave workers right to decide when and where they work, as long as the worker works the agreed (weekly) working hours. Another uniqueness of this law is that it specifically states that workers are able to freely decide when and where they work for *at least half* of their working time, with the employer deciding on the rest (up to 49%). The law also provides more flexibility in the calculations of hours – allowing for working hours to be banked/accumulated – up to 60 hours at the end of a four-month period, to be used as days off. Furthermore, additional overtime premiums or holiday pay can also be transferred into time off as well^{viii}. It has been noted that such legislation and rights are only possible due to the high levels of trust, high demands for better work-life balance found in Finland, as well as the relatively short average working hours and low tendency for long hours work in the country^{ix}.

3.3. COVID-19 and changes in teleworking access

3.3.1. COVID-19 across the world

The COVID-19 is a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) first identified in December 2019 in Wuhan, China. The World Health Organization declared the outbreak a Public Health Emergency of International Concern in January 2020 and a pandemic in March 2020. It has been considered one of the deadliest pandemics in history, with over 700 million cases confirmed and 7 million death attributed to the COVID-19 virus across the globe (based on <http://www.worldometers.info/coronavirus> date 10th January 2024). Having been identified as an airborne virus, many governments across the world enforced a lockdown to contain the virus, especially during the first wave of the virus in the Spring and Summer of 2020. Many went into a second lockdown during the winter of 2020/2021, and subsequent lockdowns in latter part of 2021, where many countries suffered the second, third and subsequent spikes in numbers due to new mutations^x. This continued before the vaccination roll out that started largely at the end of 2021. During lockdowns, many governments asked people to not leave their house unless for emergency reasons. This led to a sharp rise in teleworking during the pandemic (Buffer, 2020; Eurofound, 2020; ONS, 2020). It is impossible to go into greater detail about the government policies of several different countries, due to the limited space. However, for illustrative purposes I present some key contexts of the COVID-19 for the UK as an example to contextualise the pandemic and the spring/summer of 2021 which is when the data was collected.

The UK has had close to 25 million cases and more than 232 thousand deaths (data worldmeter.info, date 10th of January 2024), reaching one of the highest per capita cases and deaths amongst the larger industrialized countries especially early in the COVID-19 pandemic. The UK government announced its first full-scale lockdown measures as of 23rd of March 2020. Lockdown measures included asking all those who can work from home to work from home, and the public was instructed that they must stay at home except for essential travel for food and medical issues. All non-essential retail shops, and all leisure and hospitality sectors – such as pubs, restaurants, hotels, and gyms, were also shut during this period. These lockdown measures were eased slightly over the course of the summer but followed by some local lockdown measures in mid to late autumn of 2020. With the lockdown, the government announced full closures of schools and other childcare facilities as of the 20th of March 2020, except for childcare facilities for key workers such as those working in the health and social care sectors, retail and transport, and essential government workers. From the 1st of June 2020, schools were reopened but limited to three-year groups Reception, Year 1 and Year 6. Nurseries and other childcare facilities for preschool children were allowed to open from this time. Schools returned fully in September of 2020 (Hill, 2020). The UK had its 2nd national lockdown in November of 2020 although schools remained open during this period, and the third lockdown on the 5th of January 2021, where schools were also closed. On the 22nd of February 2021 Boris Johnson, the Prime Minister of the UK, announced his “one way road to freedom”, which included plans for children to be back in school from the 8th of March 2021, with small incremental changes relaxing social distancing rules until the 19th of July 2021 when all rules around distancing and other precautionary measures were removed (BBC, 2021). There was no nation-wide lockdown after the summer of 2021. We see similar patterns of lockdowns throughout Europe, although not all countries went through such a severe and lengthy lockdown process as the UK has seen.

3.3.2. Teleworking practices during COVID-19

There were a number of reasons why we expect a shift in teleworking practices not only during but also after the COVID-19 lockdown periods across Europe. There has been a shift in the perception of teleworking among managers and workers alike. One of the biggest barriers in the take up and access to teleworking practices prior to the pandemic were cultural beliefs around workers' capacity to be productive when teleworking (Chung, 2020b; Williams et al., 2013).

Surveys prior to the pandemic has shown that about 1/3rd of the workforce had believed that flexible working leads to more work for others, are viewed negatively by colleagues or managers, and results in negative career outcomes (Chung, 2020b, 2022; Chung & Seo, 2023). Due to this, employers either did not make such arrangements available for their workers, or workers felt that even when they were available at the company or national policy level, it was not possible to take them up as it resulted in negative career outcomes (Abendroth et al., 2022; Fernandez-Lozano et al., 2020; Munsch, 2016; Thébaud & Pedulla, 2022). This was especially true for fathers, as they are considered the breadwinners of the households (Kelland et al., 2022; Rudman & Mescher, 2013). During lockdown, employers had no other option but to let workers work from home or no work could be done at all. Given that teleworking was government enforced, and then subsequently driven by employer's need to continue business operations, perceptions around teleworking and working from home shifted. Managers have indicated more positive perceptions on

teleworking during the pandemic. Many empirical studies of managers and workers during the first two years of the pandemic, indicate an increase in productivity levels due to teleworking if not remaining constant, despite the crisis and disruptions experienced during this period (e.g., Awada et al., 2021; CIPD, 2021; CMI, 2020; Escudero & Kleinman, 2022; Etheridge et al., 2020; Farooq & Sultana, 2022; Forbes et al., 2020). This has also led to a change in the preference of workers wanting to work flexibly in the future (Buffer, 2021; Deloitte, 2021; ONS, 2021) with many workers stating that they will likely to be working most days at home, with reports of a large proportion of workers saying they are likely to look for a new job when they are asked to come back to the office (Clarence-Smith, 2021). Having said that, more recently, we have seen more and more employers asking workers to return-to-office citing issues around decline in productivity and lack of collaboration and innovation as their major concerns around teleworking (Sasso, 2023).

Many studies aim to explore how these shift in teleworking practices have led to not only the levels of teleworking across the populations, but also the inequality patterns across workers (e.g., Abendroth et al., 2022; Asfaw, 2022; Barrero et al., 2021; Bick et al., 2023; Bonacini et al., 2021; Braesemann et al., 2022; Hatayama et al., 2020; Hendry et al., 2023; Marzec et al., 2021; Mongey et al., 2021; Parker et al., 2020; Ray & Ong, 2020; Reeves & Rothwell, 2020; Saltiel, 2020). Many use data from the US, although some look at the phenomenon more globally. The consensus of these studies is that home and teleworking practices have increased. In addition, the most important factor explaining workers' use and access to teleworking or homeworking practices, prior to the pandemic, during the pandemic, and even 'post lockdown', is occupational levels and/or education levels of workers. Those with a higher education in higher-skilled/paid occupational levels are generally more able to work from home. Having said that, there are some shifts that occurred in that many of the occupations where teleworking was scarcely used prior to the pandemic, such as clerical administrative support occupations, have seen a great shift in teleworking practices during the lockdown periods and many workers in these occupations still have relatively high access to teleworking practices 'post-pandemic' (Chung, 2022; ONS, 2020).

This can explain the other big change we have seen, which is that there are more women teleworking compared to men during and 'post pandemic', whereas prior to the pandemic it was men who were better able to do so in many cases (e.g., Abendroth et al., 2022; Barrero et al., 2021; Bonacini et al., 2021; Parker et al., 2020; Saltiel, 2020). In other words, prior to the pandemic managers were hesitant in allowing women to work from home due to suspicion around their willingness or ability to focus on work when working from home (Chung & Van der Lippe, 2020; Williams et al., 2013)– due to competing devotions towards housework and childcare (Blair-Loy, 2009), despite the fact that many of 'women's work' were able to be carried out at home. The pandemic has shifted this drastically so to allow more women teleworking. What is more, women, and especially mothers, have stronger demands for teleworking (Chung & Van der Lippe, 2020; Singley & Hynes, 2005) as, despite some changes, they are considered to be responsible for childcare and housework (Knight & Brinton, 2017) and still carry out the bulk of the care and other domestic work (Chung, Birkett, et al., 2020; Walthery & Chung, 2021; Wishart et al., 2019). This may have especially been true during the pandemic periods where children were out of formal childcare systems. This resulted in more women teleworking compared to men. Again, men may have been afraid of the potential flexibility stigma they may face when working from home, especially as male breadwinners the negative career outcomes may feel more consequential especially during the pandemic where there were high levels of economic uncertainties (Chung, 2022; Rudman & Mescher, 2013). This gendered pattern of teleworking can exacerbate the

stigmatized view on homeworkers. When teleworking is largely seen as a woman's and especially a mother's arrangement, it is more likely to be associated with negative bias against homeworkers' commitment to work and productivity – regardless of the workers' gender and parental status (Chung, 2020b, 2024/forthcoming; Correll et al., 2007; Wang & Chung, in review).

This study will not only explore the variation in teleworking practices across genders, but also it explores how parental status can intersect with regards to teleworking practices. I also explore how these patterns may vary across countries, due to their gender norms and family-friendly workplace practices and culture. The paper also explores the variation across educational and occupational lines with regards to teleworking practices.

4. Data and Methods

4.1. Data

The data used for this report is the European Working Conditions Telephone Survey (EWCTS) of 2021. This is a part of the European Working Conditions Survey carried out by Eurofound every five years to capture working conditions, job quality, and the quality of working lives of workers across Europe (Eurofound, 2021). The survey covers 36 European countries, which includes all 27 EU member states, and six candidate and potential countries, such as Albania, Kosovo etc., and three other affiliated countries such as Norway, Switzerland, and the United Kingdom. The target population was all individuals aged 16 and over, whose usual place of residence was in the territory of the country and who did at least one hour of work for pay, profit or family gain – for money or other payment in kind in the last week. Random probability sampling using telephones was used to generate nationally representative samples of each country. The total sample of the survey is 71,758, with a minimum of 1000 cases per country, with the exception of Albania with 988, and larger samples for larger countries such as Germany (4,131), France (3,213), Italy (3,131), Poland (2,900), and a disproportionately large sample for Belgium (4,233). Mobile phones were used to gather data as it provided higher coverage of the population, with the exception of Sweden where both mobiles and landlines were used. Given the sampling strategy, the non-response rate of the survey is very high at an average of 95%. The data is weighted to ensure that it is representative of the country's demographic as well as across a number of other factors^{xi}. Note that majority of the data was collected between spring and summer of 2021, when most countries did not experience major lockdowns, although some restrictions may have still been in place.

We are interested in exploring which workers are given the opportunity to telework – thus focus on those who are employed by an employer, excluding self-employed workers (13% of the sample). The sample size is further reduced as we only focus on the 27 EU member states alongside Norway, Switzerland, and United Kingdom– excluding the candidate countries, for comparability of data. Further excluding cases where any one of the independent variables were missing resulted in a total of 48,521 cases across the 30 countries. Further cases are excluded when certain national context variables are included in the model due to data limitations.

4.2. Variables

4.2.1. Dependent variable

To measure the extent to which teleworking is carried out by European workers, and the discrepancy between groups of workers, we use the variable derived by Eurofound (2022a). This teleworking variable combine a number of different factors. This includes the question asking workers the location of their workplace, where workers must respond that they work from home at least 'rarely', 'sometimes', 'often' or 'always'. The worker needs to respond that they use ICT at their work either 'often' or 'always', and finally their jobs need to be 'teleworkable' based on the definition used by Sostero et al. (2020), where "the material possibility of providing labour input remotely into a given economic process" (Eurofound, 2022a: 16), focusing on the technical

feasibility of providing the task remotely (from home). This largely entail jobs that deal with information-processing tasks, but also some social-interaction tasks. Based on this, we have four distinct categories of teleworkers. Full-time teleworkers are those who work from home always, Partial teleworkers are considered hybrid workers who often work from home, and finally Occasional teleworkers sometimes or rarely work from home, all of whom use ICT at work and are in an occupation that is teleworkable, and finally workers who do not telework, including those who cannot telework due to the nature of their jobs. Later on in the main analysis, we only focus on full-time and partial teleworkers – considered as frequent teleworkers, excluding the occasional teleworker.

4.2.2. Independent variable: individual and company level

The goal of this paper is to examine how different individual and company level characteristics shape teleworking use/access. Therefore, in this report, I include gender (male vs female), age (continuous variable), parental status (whether they have a preschool child <5, and a school aged child 5-11, and child aged 12-15 – with a reference group of having a child 16 or older or no children). The model also includes the workers' work character such as education level (lower-secondary and below, upper secondary (reference category), tertiary or above), their actual hours worked including overtime hours (continuous variable capped at 60), their occupational level (ISCO 1 digit categories as dummy variables), whether the worker has an open-ended (permanent) contract, and whether the worker feels that their job is insecure (agree to the statement that they may lose their job in the next 6 months). There are other company-level variables included such as company size (into categories of less than 10, 10-49, 50-249, 250 or more (reference group)), sector (NACE 1 digit categorised into 10 sector categories, whether it is a public sector company), and the gender composition of the workplace (mostly men, mostly women, and equally represented (reference group)).

Note that there were some other variables of interest, such as disability (or long-term illness), workers' informal care responsibility (caring for relatives or other ill or disabled family members), household income, having a female boss, manager support, supervisory role, employee representative, etc. in the data set. However, many of these variables resulted in too many missing cases which meant that we would lose a lot of cases in our data. Therefore, despite being included in the larger data set, and being of theoretical interest, we have excluded them for our analysis to ensure that we do not run into potential non-response bias in our analysis.

4.2.3. Independent variable: country level

To indicate work centric culture, I use the proportion of workers working very long (49 or over) hours which can indicate the extent to which long-hours work is expected in the country (Schor, 2008). This is from Eurostat and is for the year 2021. Following other scholars (e.g., den Dulk et al., 2013), I also include work-centrality, namely the national average factor score based on five variables measuring how central work is to individuals' lives using questions such as "Work should always come first, even if it means less spare time". Gender norm is the national average of factor scores consisting of four items measuring gender role attitudes of individuals, using questions such as "When a mother works for pay, the children suffer". Both norm variables are from the European Value Survey 2017 and are limited to only 23 countries (38,508 cases) out of 30, excluding Belgium, Cyprus, Greece, Ireland, Luxembourg, Latvia, and Malta.

Family policies are multi-dimensional with very different labour market outcomes especially for women (Budig et al., 2012; Korpi et al., 2013; Misra et al., 2011). Thus, this paper focuses on four distinct types of family policies. First, general generosity of family policies is measured through public expenditure on family policies as a % of GDP. Second, 'work-facilitating' measure is the proportion of children using formal childcare for age group 0-3 years which was found to be key in explaining access to (family-friendly) flexible working arrangements (see also, Chung, 2019a; den Dulk et al., 2013; Lyness et al., 2012). Both variables are for 2021 or closest year available, and from EUROSTAT. I also include 'work-reducing' policies namely the total length of leaves attributed to mothers in weeks (including 'gender neutral' leaves which are generally used by mothers) (Korpi et al., 2013; Mandel & Semyonov, 2006), and ear-marked paid paternity leave (including any ear-marked parental leaves specifically for fathers). The two leave length variables are derived from the OECD family policies data base and are for 2021 or the most recent data available, and only include OECD countries limited our sample to 25 countries (42,462 cases) – excluding Bulgaria, Croatia, Cyprus, Malta, and Romania.

To measure worker's bargaining power, union density and collective bargaining coverage rate are used, both represented as a percentage of wage earners. These variables indicate bargaining power especially done at a collective manner and are from the OECD for 2019 or closest year available due to lack of data from more recent years. These variables also only are for the 25 OECD countries excluding five southern/Eastern European countries. The unemployment rate of 2021 is also included, derived from EUROSTAT. All context variables have been centred and standardized in the model, allowing us to compare the coefficient sizes.

4.3. Method

To examine variation in the patterns of teleworking across the population, I explore a series of bi-variate analysis of patterns of teleworking across gender/parental status, and occupational levels. Next, I run a series of multi-level logistic regression models, as our dependent variable – teleworking is a binary variable (daily, partially teleworking=1). Multilevel modelling methods understands that individuals (level1) are embedded in the larger groupings/contexts (level 2) or countries as in the case of this report (Hox, 2002). First, the model includes all individual level variables noted above to see how they are associated with teleworking practices. Then we explore how parental status has different association depending on the gender of the worker, and model men and women separately to see whether we see gendered variations in the association with some of the key factors explaining teleworking use. The report also uses multilevel random slopes modelling technique to see how the gender, parental status, educational status and occupational levels' association with teleworking varies across different countries. National level context variables are included one at a time to examine how teleworking practices relate to national policy, institutional, and cultural contexts, by including country context variables into the model. Finally, country context interacted with individual level factors are also included to see how teleworking gaps across working populations can be explained by these context variables. STATA 15.1 meqrlogit function (multilevel logistic regression model) is used for the analyses.

5. Analysis Results

5.1. Descriptive statistics

Figure 1 shows the level of teleworking in 2021 compared to the proportion of workers homeworking in 2015. In 2015, on average across the 30 European countries we are examining, about 13% of workers work from home at least several times a month or more often. More specifically, 3% of men and 4% of women worked from home daily, another 4% of both men and women several times a week, and 5% of men and 4% of women worked from home several times a month. Another 9% of men and 8% of women say they worked from home less often than that. The COVID-19 pandemic has shifted the way people work, as by 2021, we can see that 34% of men and 43% of women teleworked at least occasionally. More specifically 9% of men and 11% of women teleworked daily, 12% of men and 17% of women partially teleworked – namely hybrid working, and finally another 12% of men and 15% of women teleworked occasionally. When we consider those who teleworked frequently (daily or partially teleworking), this number is 19% and 25% respectively. Thus, there is a significant increase in the number of workers who are teleworking in 2021 compared to 2015. Actually there has been a slight decline in these numbers in more recent years compared to the peak of the pandemic, when close to half of workers across Europe were working from home – most almost exclusively (Eurofound, 2020).

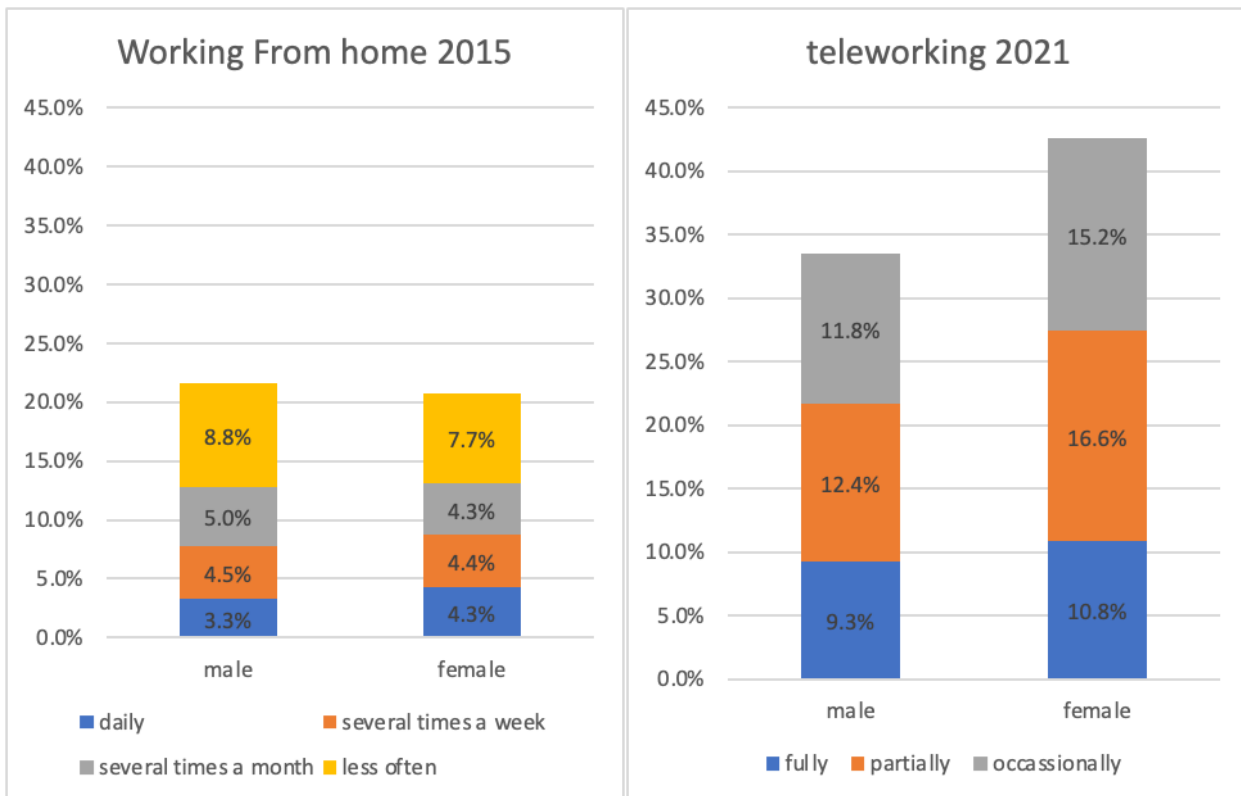


Figure 1. Working from home and teleworking across 30 European countries in 2015 and 2021, by gender (source: EWCS 2015 and EWCTS 2021) -weighted data

As we can see in Figure 2, there are significant cross-national differences in the extent to which workers telework. In Southern and South-eastern European countries, teleworking is not as common. Teleworking is much more common in Northern European countries, other than Denmark. However, the highest levels of teleworking are found in the UK, Belgium, and Luxembourg. For Belgium this is only for women, as men’s teleworking levels are only around the European average. There are several reasons why these countries have the highest levels of teleworking for both men and women. It may be linked to fact that the types of jobs done in the countries are more susceptible for teleworking (in the case for Luxembourg, and along with the fact that many people live and work in geographically distant locations), or potentially these countries have a higher demand for teleworking due to high commuting costs and/or childcare costs (for example the UK) (Forum, 2017). Some of these countries were the ones where lockdown measures were more stringent/long-lasting (e.g. UK and Belgium¹), which may also have paved the way for more home and hybrid working in these countries (Chung et al., 2021). Although most of the countries were not in strict lockdown measures during the period of data collection, some restrictions may have still existed which may have also impacted the levels of teleworking patterns of the country.

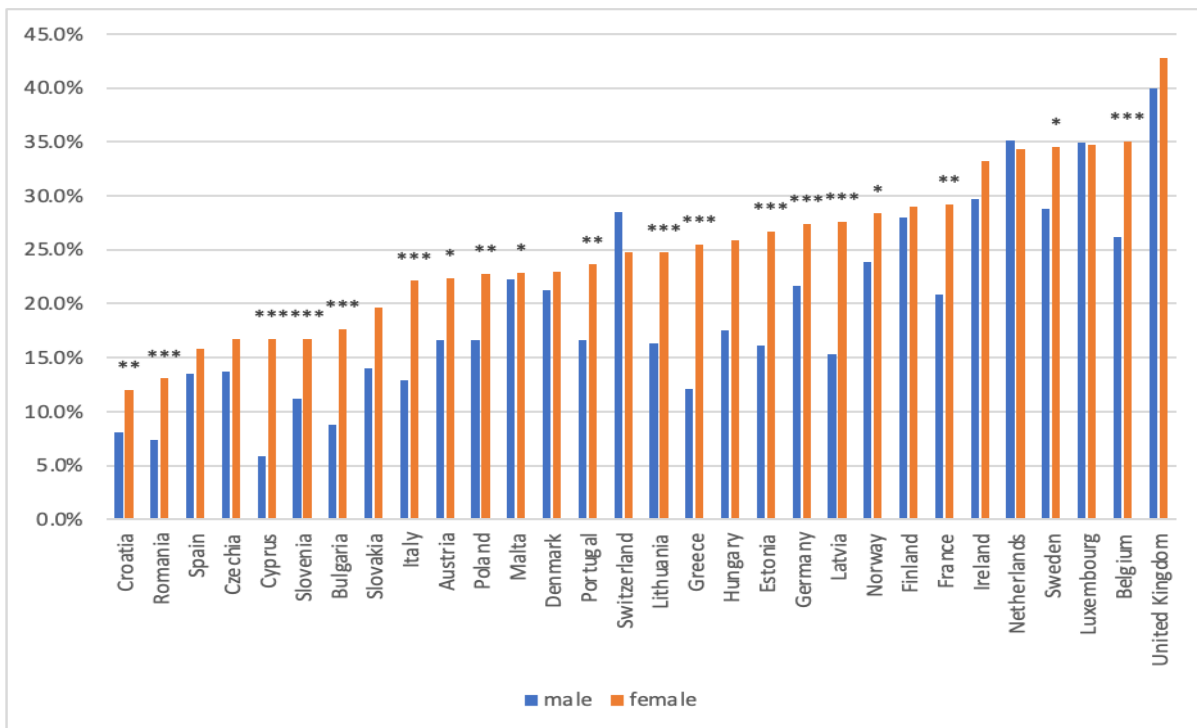


Figure 2. Proportion of employees teleworking fully or partially (hybrid) across 30 European countries in 2021, by gender (source EWCTS 2021) -weighted data

Note: asterisk denote the t-test significance/statistical significance in the gender difference in all cases where women have significantly higher likelihood of teleworking. ***=p<0.001, **=p<0.010, *=p<0.050; data sorted by the proportion of women’s teleworking

¹ See this for more detail: <https://www.bsg.ox.ac.uk/research/covid-19-government-response-tracker>

One important finding is the gender differences in the levels of teleworking and the change in this gap post pandemic compared to pre-pandemic times (see also, Abendroth et al., 2022; Barrero et al., 2021). Prior to the pandemic, the gender differences in the levels of teleworking patterns were not as large, and in many countries like Norway, Ireland, Germany, and Czech Republic (figures available upon request), men were significantly more likely to be working from home regularly compared to women. However, the pandemic has shifted women's working patterns significantly more than that of men. By 2021, as we can see in Figure 2, in most countries, women were significantly more likely to be teleworking. In countries like Greece, Cyprus, Italy, and somewhat Latvia, women are (almost) twice as more likely to be teleworking compared to men. To better understand the gender patterns of flexible working access/use we need to control for several different factors that can explain such access/use.

Figure 3 examines teleworking patterns across workers of different occupational levels, and across gender lines. In the literature, both pre-pandemic and during the pandemic, occupational levels are seen as one of the strongest predictors of who has access to teleworking practices. The results from the EWCTS 2021 data confirms this. We can see that it is especially managers, professionals, associate professionals and technicians, and clerical support workers who are most likely to telework regularly – with at least 1/3 of workers in these occupations teleworking daily or partially. Service sales, crafts and trade, plant and machine operators, elementary occupations, and armed forces and agriculture workers, on the other hand, do not telework as often. This is largely due to the types of jobs they carry out that are considered non-teleworkable (Sostero et al., 2020). It is actually interesting to see that despite this, there are some workers who are teleworking frequently in these occupations despite their jobs being seen as structurally unable to be done outside of the employer's premises. This is especially true for women in craft and trades occupations where up to 8% of workers telework regularly. When we consider those who telework occasionally, we see that there are more workers in these latter occupations who do telework, but again the discrepancies across occupations remain.

Within occupational groups, we also see gender differences. In most cases, it is women who are more likely to telework, as we have seen in the overall average for the 30 European countries. 52% of female managers telework, whereas this is only 41% for male managers. Similarly, 39% of female clerical support workers telework frequently, whereas this is only 33% of male clerical support workers, and 33% of female associate professionals telework compared to 29% of male associate professionals. However, among the professionals, it is men (54%) who are more likely to be teleworking compared to women (46%). This may be because many of the jobs that are categorized as professionals for women are in sectors/jobs that are less likely to be teleworkable – such as primary or secondary school teachers and nurses. On the other hand, within the professional occupations, men are more likely to hold jobs that are more easily teleworkable – e.g. science engineering professionals (Eurostat, 2018; ILOStat, 2020).

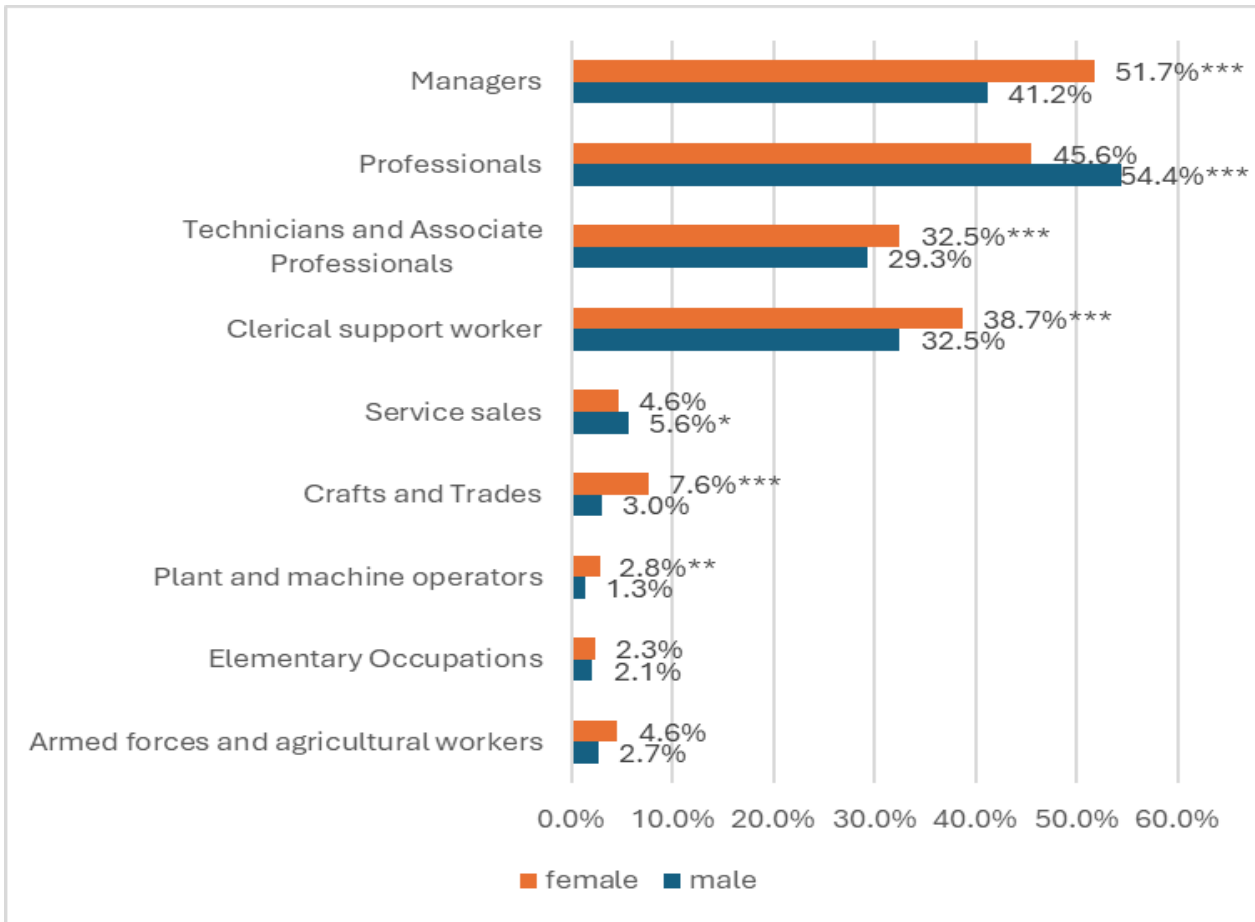


Figure 3. Proportion of employees teleworking frequently (full or partial) across 30 European countries in 2021, by gender and occupational status (source: EWCTS 2021) – weighted average

Note: asterisk denote the t-test significance/statistical significance in the gender difference in the likelihood of teleworking. ***=p<0.001, **=p<0.010, *=p<0.050; here teleworking includes those who telework fully or partially.

Next Figure 4 examines the variation across countries with regards to teleworking of managers and clerical support workers. These two occupations were chosen for comparison across countries, as they are two occupations which has many teleworkers, both highly teleworkable, yet with different positions within in the labour market with regards to status and pay. What we can see is that as found in Figure 2, there are cross-national differences in the extent to which managers telework – ranging from only 21-22% of managers teleworking fully or partially in countries such as Cyprus, Romania, Slovenia, and Slovakia, whereas managers in Finland, Sweden, and the UK 60% or more telework frequently. The cross-national variance becomes even more evident when we examine the proportion of clerical support workers who telework frequently. This ranges from less than 10% in Romania and Croatia, only 12% in Slovenia, to 63% in the UK, 47% in the Netherlands, 45% and 44% in Belgium and Ireland respectively. We see that in several countries, clerical workers are more likely to be teleworking frequently than managers – this includes UK, Hungary, Italy, and Slovakia. What this indicates is that although occupational variations do exist, and are one of the most important factors explaining teleworking access/use, there are some variations across countries in the extent to which this is the case as occupational hierarchies are not as important in certain contexts.

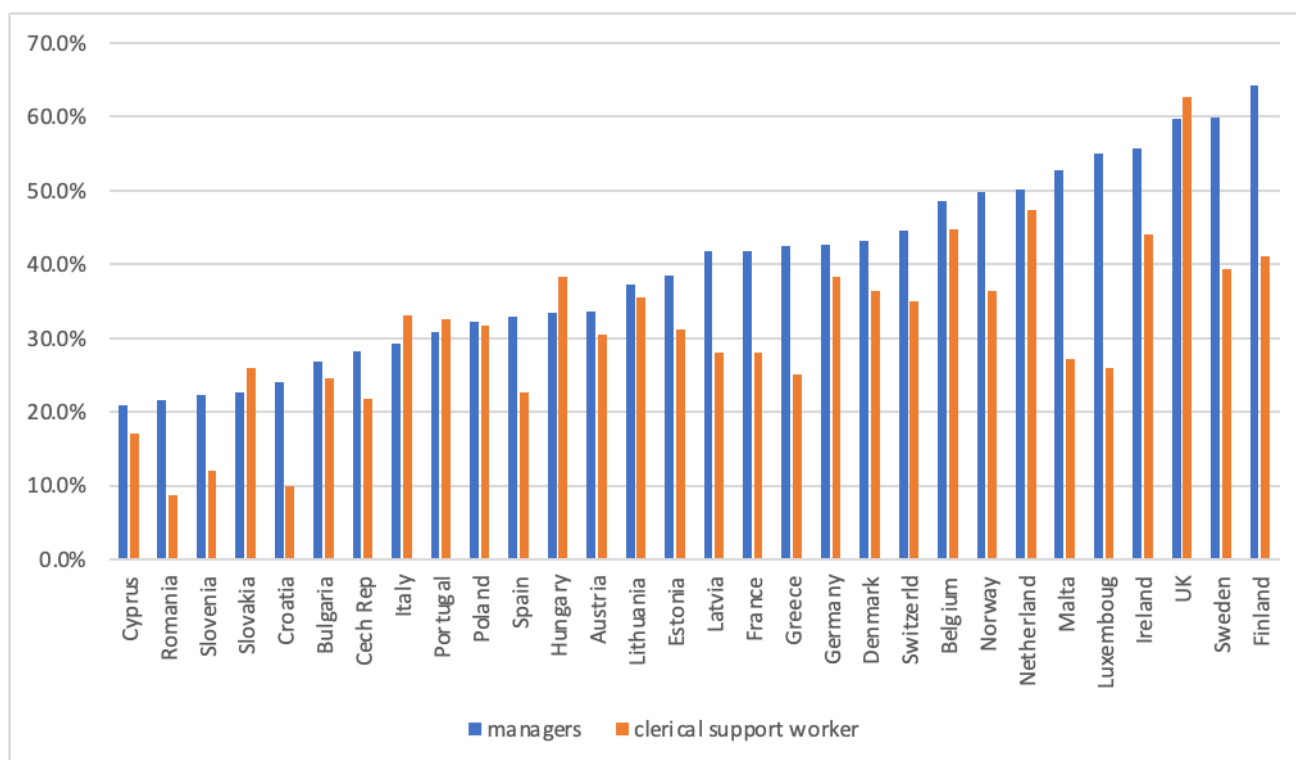


Figure 4. Proportion of managers and clerical support workers teleworking frequently (full or partial) across 30 European countries in 2021 (source: EWCTS 2021) – weighted average

5.2. Multivariate analysis: individual and company level factors

I examine the determinants of European workers’ teleworking practices in Figure 5. As we can see even when other factors such as sector, occupational level, and parental status etc. are controlled for, women (coeff=0.268, $p<0.001$) are significantly more likely to be teleworking frequently (fully or partially) compared to men. Age, at least when considered as a linear continuous variable, although positive (coeff=0.002, $p=0.079$) does not make a significant difference with regards to workers’ teleworking practices. However, this may be because the association is not a linear relationship but rather U shape. With regards to children, surprisingly, when we examine the average association across genders, there are no significant differences between workers without younger children versus those without children or children 16 and over.

As expected those with higher education (e.g., tertiary education coeff= 0.753, $p<0.001$, lower secondary coeff= -0.670, $p<0.001$), and those working in jobs of higher occupational levels (e.g., managers coeff=1.891, $p<0.001$; professionals coeff=2.058, $p<0.001$, associate professionals coeff=1.500, $p<0.001$, and clerical support workers coeff=1.619, $p<0.001$) are significantly more likely to be teleworking compared to other workers. Occupational levels and education variables are some of the most significant factors explaining teleworking behaviours of individuals. In addition, workers with indefinite contracts (coeff=0.130, $p<0.001$) are more likely to be teleworking, whereas those who feel job insecurity are less likely (coeff= -0.097, $p<0.001$) – confirming that

labour market positions are important in explaining teleworking access (see also, Chung, 2018). With regards to company level characteristics, those working in workplaces where both genders are equally represented are those where teleworking is most prevalent (mostly men in workplace coeff= -0.249, $p<0.001$, mostly women in workplace coeff= -0.298, $p<0.001$) (see also, Chung, 2019b; Magnusson, 2021), and workers working in larger companies are more likely to telework and smaller companies least likely (establishment size less than 10 coeff= -1.148, $p<0.001$). Company size is also a major factor in who teleworks. Interestingly those in public companies are less likely to telework (coeff= -0.329, $p<0.001$), when other occupational and sectoral characteristics are controlled for. Another huge variation can be found across sectors – with financial services (coeff=1.082, $p<0.001$), 'other' services (coeff=1.050, $p<0.001$), public administration (0.548, $p<0.001$) and interestingly Education (coeff=0.595, $p<0.001$) sectors being the ones where workers are most likely to telework, whereas health sectors (coeff=-1.175, $p<0.001$) are the ones where we see the least likelihood of teleworking. Agriculture and Fishing, Industry, Construction, Commerce and hospitality, and somewhat transport sectors are those where workers are not very likely to telework – most likely due to the nature of the jobs. It is interesting to see how Education is a sector which is likely to see teleworking – but this could be largely driven by tertiary education sector where teleworking frequency is likely to be very high, whereas it is much less likely to be the case in primary or secondary education sectors.

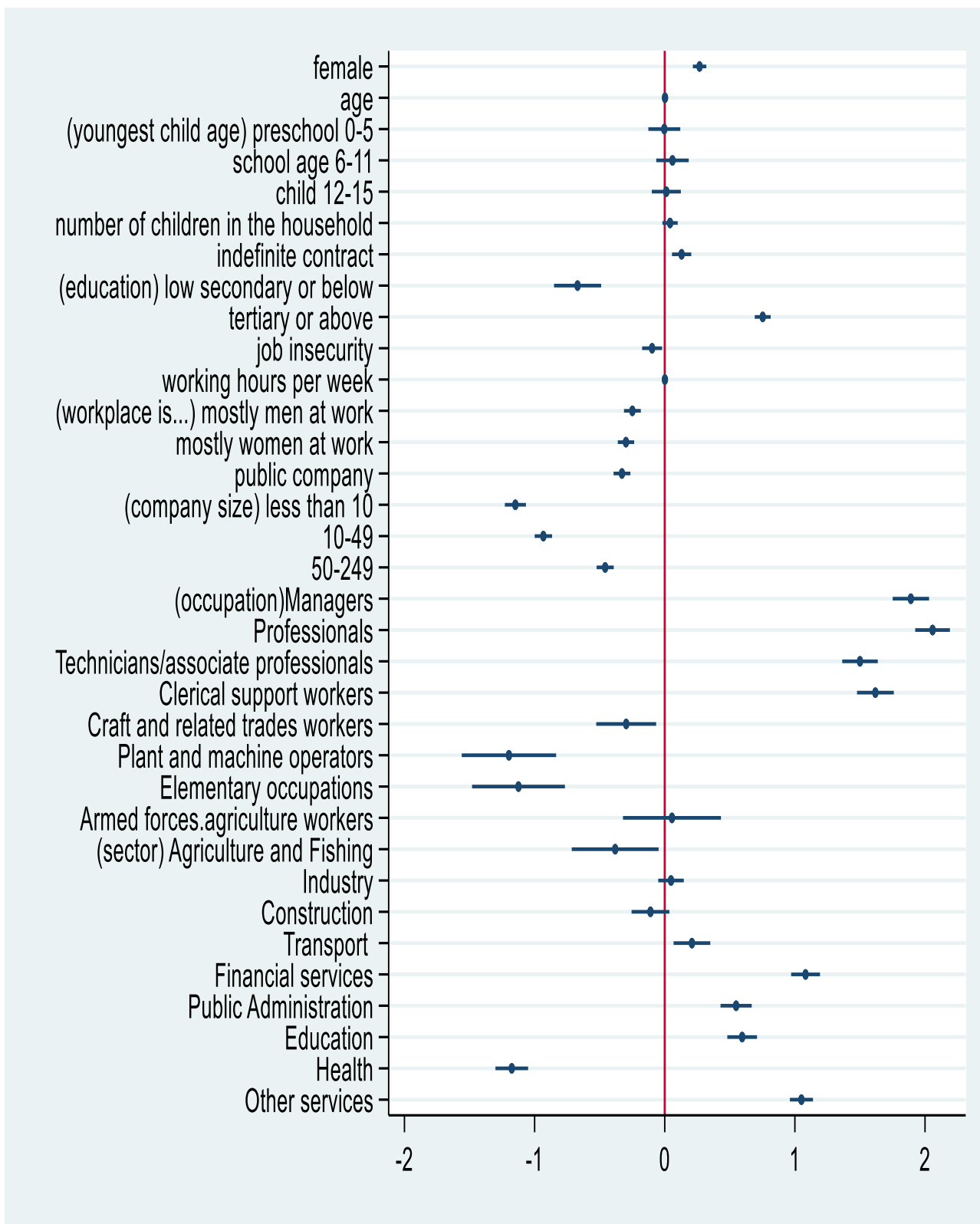


Figure 5. Multivariate analysis of frequent teleworking (full or partial) across 30 European countries in 2021 (source: EWCTS 2021) – authors’ calculations

Parental status reference group is no children under 16/or no children; Education reference group is upper secondary; workforce composition reference group men and women equally represented; size of company reference group 250 or more; occupation reference group is service and sales workers; sector reference group commerce and hospitality. See appendix table 1 for detailed results.

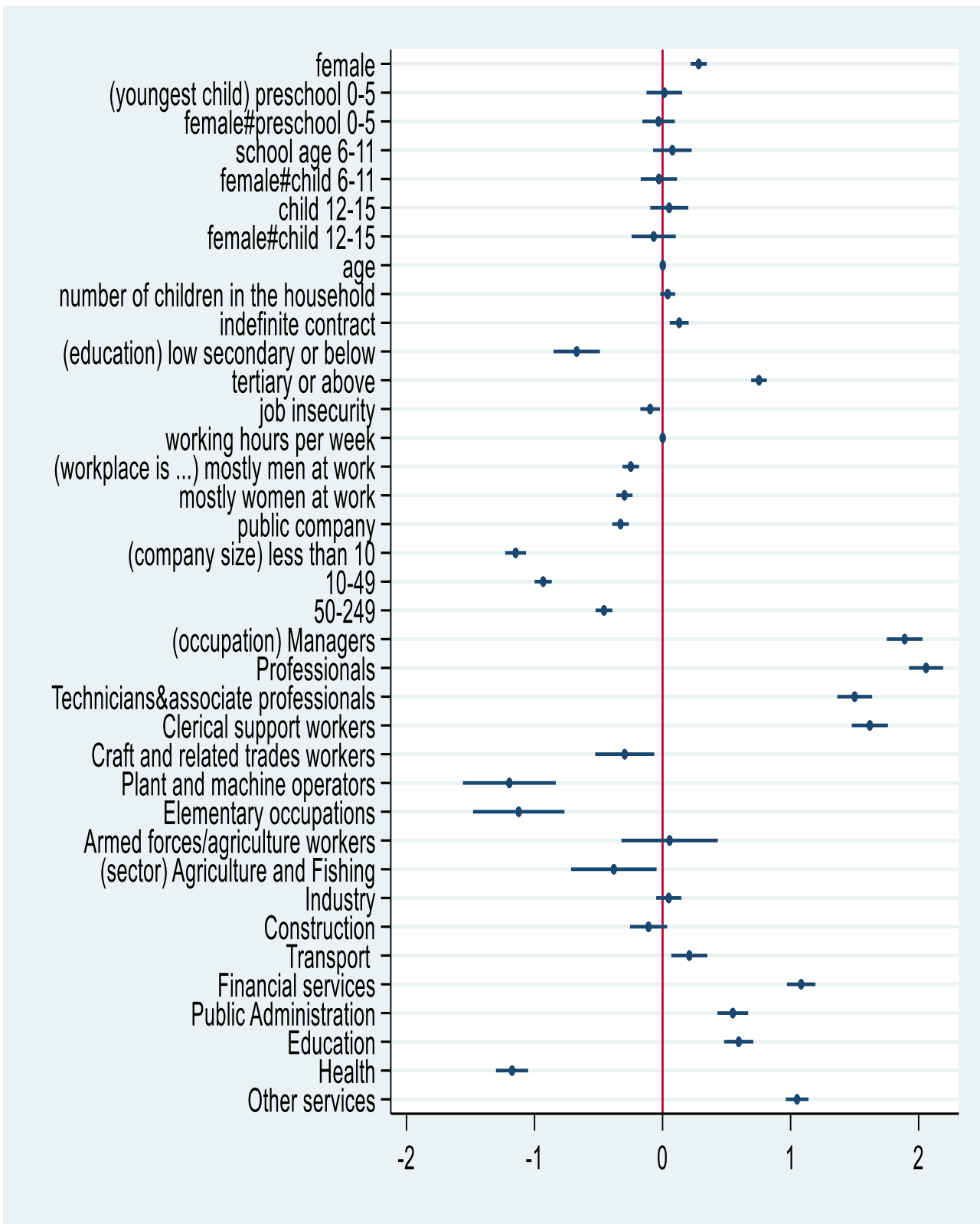


Figure 6. Multivariate analysis of frequent teleworking (full or partial) (including gender*parental interaction) across 30 European countries in 2021 (source: EWCTS 2021) – authors’ calculations

Parental status reference group is no children under 16/or no children; Education reference group is upper secondary; workforce composition reference group men and women equally represented; size of company reference group 250 or more; occupation reference group is service and sales workers; sector reference group commerce and hospitality. See appendix table 2 for details.

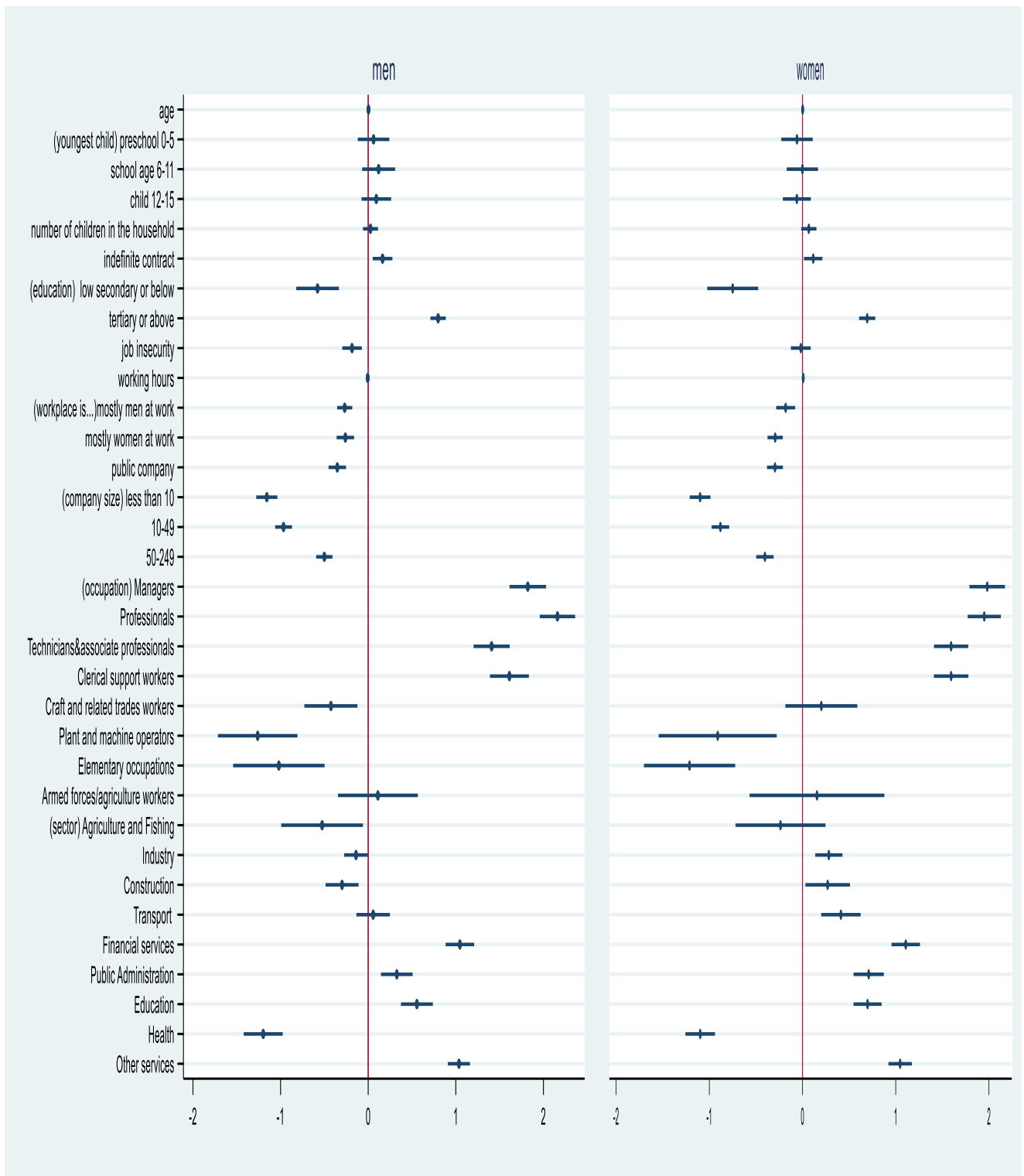


Figure 7. Multivariate analysis of frequent teleworking (full or partial) for male and female samples separately across 30 European countries in 2021 (source: EWCTS 2021) – authors’ calculations

Age, and working hours have been standardized. All other variables are dichotomous variables. Parental status reference group is no children; Education reference group is upper secondary; workforce composition reference group men and women equally represented; size of company reference group 250 or more; occupation reference group is service and sales workers; sector reference group commerce and hospitality. See appendix table 3 and 4 for details.

Examining previous literature (e.g., Singley & Hynes, 2005), it was assumed that it may be especially mothers, and mothers with young children, who may want to work from home compared to other workers given the demands they have for care of children, especially in contexts where good quality cheap easily accessible childcare is not available. Therefore, I also ran a model the interaction term between parental status and gender in Figure 6. Regardless, parental status does not seem to make any difference in workers' access to/use of teleworking practices, at least at the European average even when we try to separate out the association between fathers and mothers. If anything, it looks more like there is a positive association between having younger children and father's access/use of teleworking, although not statistically significant. This is confirmed in Figure 7, where the positive association between having younger children and teleworking is more evident in the male sample. Examining other gender variations in the antecedents of teleworking in Figure 7 where the model examines male and female samples separately, the results show that surprisingly, the patterns are relatively consistent. There are some differences, such as for women, teleworking is least available in workplaces where women are the majority, whereas for men both male and female dominated workplaces are equally bad with regards to teleworking access/use. In addition, although job insecurity is negatively associated with teleworking patterns for men, for women there are no significant difference between those who feel vs do not feel like they are likely to lose their job in the near future in their teleworking patterns. This may be because for women, despite fearing potential stigma of teleworking, the benefits of teleworking is felt to be greater so that women will telework regardless of the potential career outcome (Chung, 2020b). On the other hand, men may be less likely to telework especially when they are already fearing potential negative career outcome such as job loss as they worry that managers' potential bias against teleworkers will exacerbate the problem (see also, Kelland et al., 2022; Rudman & Mescher, 2013).

The biggest difference we see across genders is the association between occupations and sectors and teleworking. With regards to occupations, the key differences lie in the fact that crafts workers are less likely to telework compared to sales workers among men, however, this is not the case for women. There are some other minor differences such as for men, professionals are slightly more likely to telework compared to managers, whereas this is not the case for women. There are also differences across genders in the way sectors relate to teleworking. Women working in industry, construction and transport sectors are significantly more likely than women working in commerce and hospitality to telework, however, for men they are less likely to telework working in these sector – or just as likely (for transport). This is likely due to the different types of jobs men and women carry out within these sectors (Chung, 2024/forthcoming).

5.3. Multivariate analysis: country level analysis

Next, we examine how national country contexts explain the cross-national variance in teleworking practices across Europe in Table 1. Prior to that, we first explored the amount of variance at the country level compared to the individual level (3.29) through examining the empty model. When no individual level variables are included in the model, 5.0% of the variance of teleworking was at the national level (0.164, $p < 0.001$). When individual level variables were included, the variance at the country level increases slightly to 5.3% of the total variance (0.174, $p < 0.001$). Although this is not a lot of variance left at the national level, this is quite common in cases where the dependent variable is dichotomous (Bryan & Jenkins, 2016). When we examine the country context variables one at a

time, we can see that cultural contexts were the most important factor in explaining the cross-national variance in workers’ teleworking practices in 2021. Work centrality (Model 1-1, coeff= -0.209, p=0.002, explained variance at level 2=30.3%), and gender norms (Model 1-2, coeff=0.173, p=0.025, explained variance at level 2=18.3%) were some of the most influential factors explaining cross national variance in teleworking practices across Europe. As expected, countries with a more work centric view had fewer workers teleworking frequently (daily or partially), and countries with a more egalitarian gender norms were those where workers were more likely to telework. When both variables are included in the model together (result available upon request), gender norm becomes insignificant, entailing that rather than gender norms, it is likely that work culture may be more important. It could also be that work norms are rather a mediator of the association between gender norms and teleworking practices, as mentioned in the theoretical section.

Table 1. Multivariate multilevel analysis with country contexts explaining the cross-national variance in teleworking practices across European countries

Variable	Model 1-1	Model 1-2	Model 1-3	Model 2-1	Model 2-2
Work centrality	-0.209**			-0.272***	
Gender norm		0.173*			
Childcare cov			0.139*		0.162**
Maternity leave				0.145*	0.106+
Constant	-2.503***	-2.497***	-2.680***	-2.586***	-2.645***
Var. level2	0.111	0.130	0.154	0.074	0.086
Explained variance level 2	30.3%	18.3%	11.7%	40.7%	24.0%
Log likelihood	-17294.671*	-17296.436	-21828.537	-15856.979+	-19499.179
N level 2	38508	38508	48321	34561	42462
N level 1	23	23	30	20	25

*** = p < 0.001, ** = p < 0.01, * = p < 0.05, + = p < 0.10 Each column represents the result from one multi-level model. Each model controls for a range of factors, including gender, age, parental status, education, occupation, sector, company size etc. Detailed results are available upon request. The coefficients are standardized, meaning the strength of each context variable can be comparable across each group/each dependent variable. Explained variance is calculated from the model where the individual level variables were included (Figure 5 in the main text). Data: European Working Conditions Telephone Survey, EUROSTAT, European Value Study, OECD, authors’ calculations.

Another significant variable was childcare coverage of young children (Model 1-3). The proportion of children 0-3 in formal childcare was positively associated with the number of workers teleworking in a country (Model 1-3, coeff= 0.139, p=0.050, explained variance at level 2=11.7%). This confirms the crowding in thesis, or the institutional theory, which argues that company level

practices, such as teleworking, follows national level policies with regards to providing family-friendly policies. This confirms many other studies carried out prior to the pandemic (e.g., Chung, 2019a; den Dulk et al., 2013). In other words, in countries where there are more generous policies to support work-family integration of parents are those where companies are more likely to provide teleworking options to their workers, even having controlled for a number of factors that may constrain its use. It may also be because in countries where there are generous family policies, workers feel more able to take up existing policies of teleworking as such work-life balance or family-friendly benefits are seen more of a right than a gift, less likely to result in negative career outcomes (Been et al., 2017; Chung & Seo, 2023). When the model includes childcare coverage, we can see that maternity/parental leave duration is also positively associated with teleworking practices (Model 2-2, coeff=0.106, p=0.085) although only at a p<0.100 level. Maternity/parental leave variable also becomes significant (Model 2-1, coeff=0.145, p=0.017) when work centrality (coeff=-0.272, p<0.001) is included in the model, although in this model only 20 countries are included making it difficult to compare with other models. Here, it seems that in countries where there are longer leaves for mothers, more workers are teleworking. When childcare coverage is included in the model alongside work centrality, childcare coverage becomes insignificant (results available upon request). This again may mean that work culture is more important than national family policy contexts, or that such policy contexts may be fully mediated by work cultures, which may have a more direct impact on teleworking practices of workers and companies.

5.4. Cross-national variation in the gaps across workers: random slopes models

Finally, I examined whether there are variations across countries with regards to the extent to which gender, parental status, and education levels shape workers' likelihood of teleworking across countries. The random slopes analysis results show that the teleworking likelihood across gender, parental status (lives with a preschool child), education (tertiary education), do not vary countries. Namely, the variation we find in the average model is relatively stable across all countries under investigation.

On the other hand, there are significant cross-national variation in how workers in different occupations telework. To simplify the model, I've created a variable which distinguishes between the top four occupational groups (that is Managers, Professionals, Associate Professionals and Technicians, and Clerical support workers) against the bottom five groups. I have chose to group these four groups, as we can see in Figure 5, they are similar in the extent to which workers in these occupations telework as well as their teleworkability scores (Sostero et al., 2020). The random slopes model shows that there is in fact a cross-national variance in the extent to which the gap between the two groups exists (occupational variance at the national level/level 2=0.117, p<0.01).

Figure 8 and Figure 9 provides a graphical representation of this cross-national variance. Firstly, we can see that the teleworking gap between the top four occupational groups and the bottom five groups exists across all countries – even in the country with the smaller gap, the gap is over 20% (Cyprus 21%). However, we can also see that there is large cross-national variance in the extent to which these gaps exist. In countries like UK, Norway, Finland the gap is close to 50%. In other words, although there is variation in the extent to which the bottom five occupational groups

telework across countries, the variation is relatively small ranging from 2% in Slovenia, to 5.6% in the UK. On the other hand, the variation of teleworking of workers in the top occupations – namely the ‘teleworkable occupations’, is much larger – ranging from less than quarter of workers in Croatia and Cyprus, to more than half of workers in countries such as Ireland, Netherlands, Norway, Finland and over 60% in the UK. Note that these are predicted values having controlled for a number of other factors in the model. In other words, the pandemic has given rise to teleworking largely for the top four occupational groups, yet the extent to which this has happened varies significantly across Europe. Having examined whether our country context variables can potentially explain for this variance, I find that none of the variables results in significant outcomes (results available upon request).

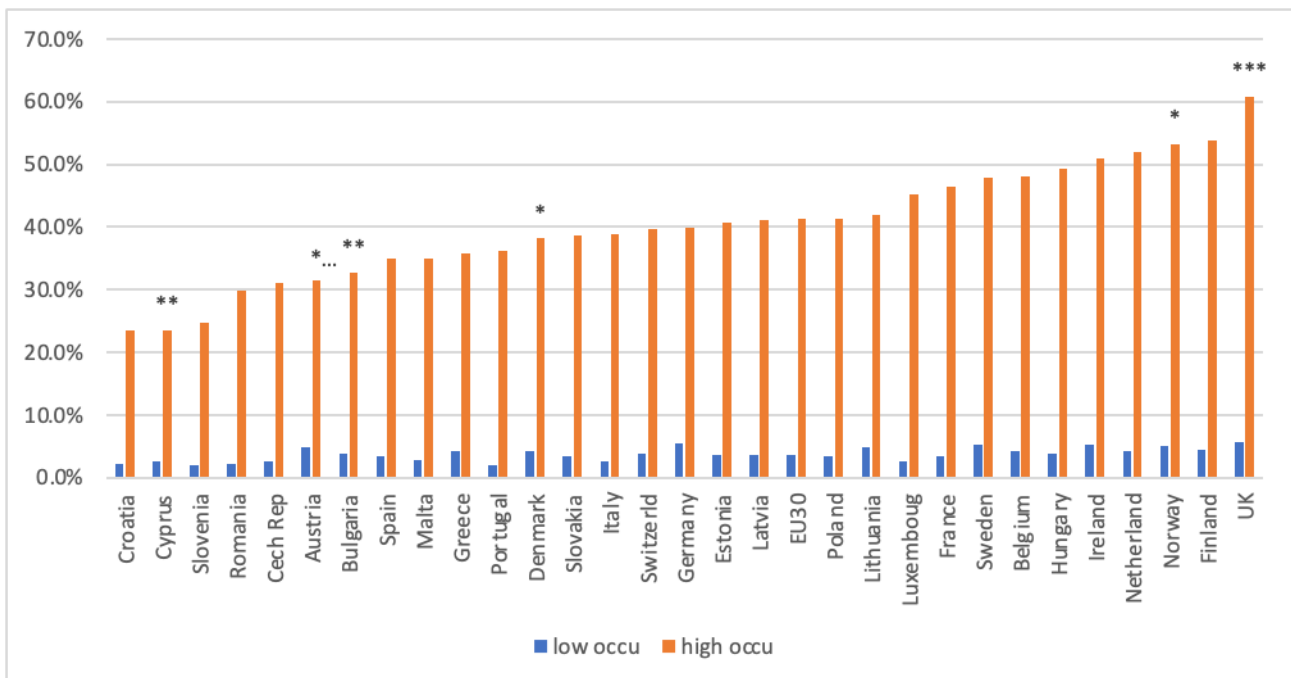


Figure 8 Predicted scores of frequent teleworking of high vs low occupational groups across 30 European countries in 2021. (source: EWCTS, authors’ calculations)

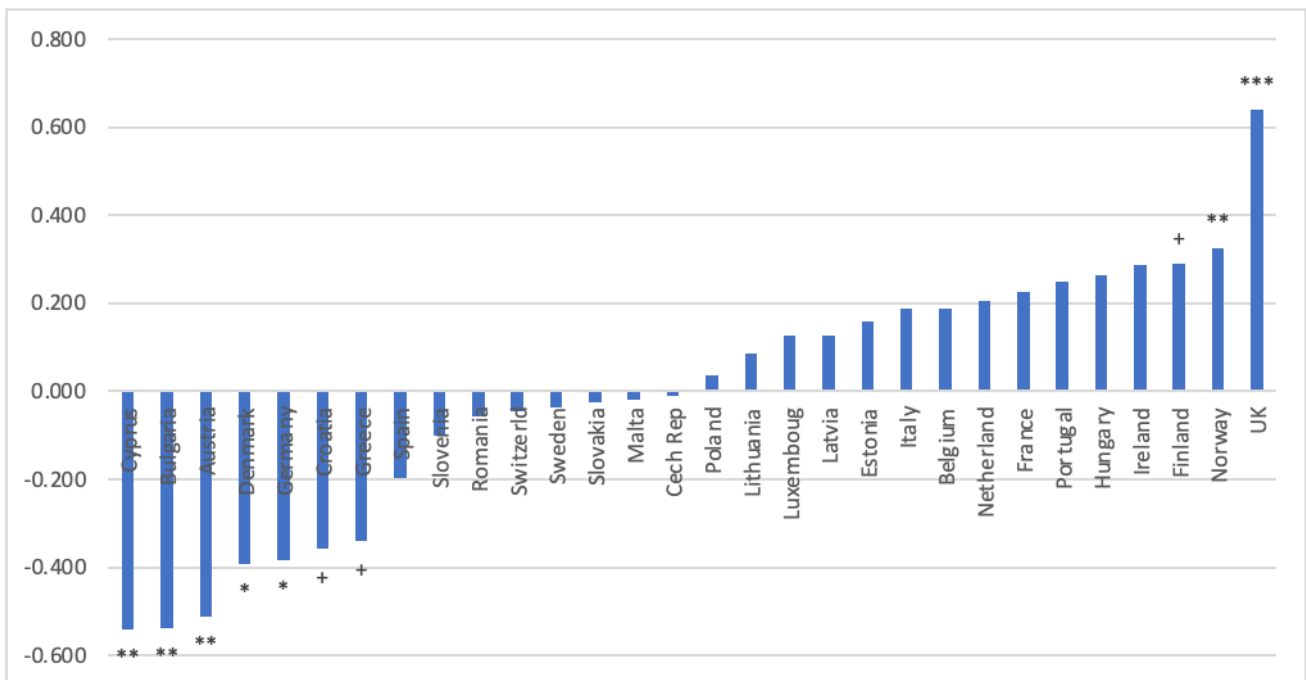


Figure 9. Cross-national variation in the association of being in the top four occupations (manager, professional, associate professional/technicians, clerical worker) compared to the lower five occupations in workers' likelihood of teleworking.

Note: this is the random component of the coefficient, entailing that to get the coefficient for the country, the main effect of top occupation (2.083) needs to be added to the scores above (e.g. for the UK the coefficient of top occupation is 2.083+0.639=2.722, whereas for Cyprus it is 2.083-0.540=1.543). The asterisk denotes the random slope of the country being statistical significantly different from the EU30 average. ***=p<0.001, **=p<0.010, *=p<0.050, +=p<0.100 ; here teleworking includes those who telework fully or partially.

5.5. Robustness check: Only exploring teleworkable occupations

Given that majority of the jobs in occupational levels sales, crafts workers, machine operators, elementary occupations, and army and agricultural workers are categorised as non-teleworkable, it may be a better option to see the gaps across teleworkable occupations to see how there are variations across not only occupational groups but also gender and parental status. To do this, I only include workers in the teleworkable occupations – that is Managers, Professionals, Associate Professionals and technicians, and clerical support workers to see whether we find a cross-national variance in across different groups of workers. Even when we only examine the teleworkable occupations, we do not find that gender and parental status (here, having a preschool child) has a cross-national variance in its association with teleworking. In other words, the gender gap and parental status in teleworking remains pretty stable across all 30 countries under investigation. However, again we do find a cross-national variation in the occupational gap in teleworking practices.

Figure 10 shows the cross-national variation in the gap in teleworking between manager and professionals(man/prof) compared to associate professionals and technicians/clerical support

workers. From the figure we can see that there are countries where the two groups are similar in their teleworking practices – namely, Sweden, Netherlands, and the UK where the gap between the top two and the next two occupations is not very large. In these countries, the gap between the two groups of workers is significantly smaller than the European average (coeff=0.471, p<0.001). Note that these countries are also those where teleworking is generally more prevalent as we can see in Figure 3. On the other hand, the gaps between the occupations are much larger in countries such as France, Greece, Finland, Malta, and Norway where the gap between the two top occupations vs the next two occupation is significantly larger than the gap found for the European average.

Using a cross-level interaction term (country context*man/prof), I examined whether the country contexts included in this report can explain why certain countries have a larger gap across occupations while others do not. The result again shows that none of the context variables examined in this report significantly explains the cross-national variation in the association. The only exception is maternity leave, where it was found that in countries where maternity leave (and leaves mothers can take up, such as ‘gender neutral’ parental leaves) are longer, the gap between managers/professionals and associate professionals and technicians/clerical workers are larger (maternity leave*man/prof coeff= 0.072, p=0.090) but this is only significant at the p<0.100 level.

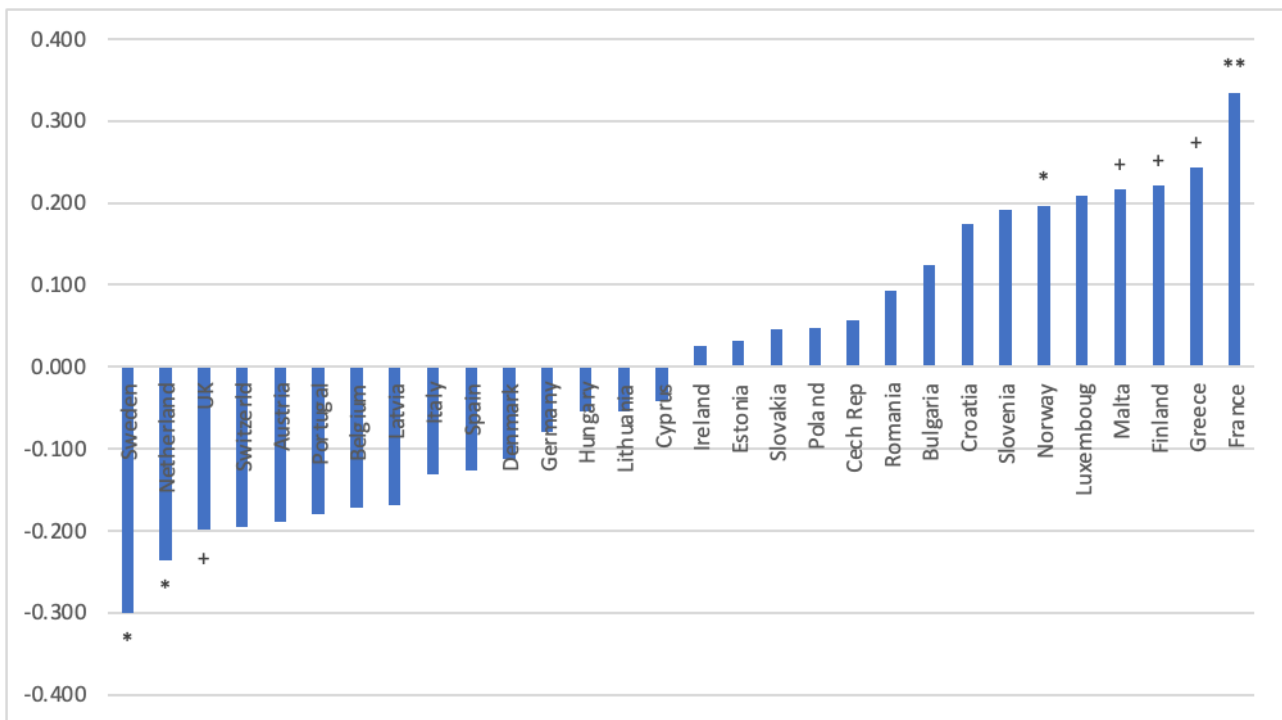


Figure 10. Cross-national variation in the association of being a manager/professional compared to associate professional or technician/clerical support worker and the likelihood of teleworking.

Note: this is the random component of the coefficient, entailing that to get the coefficient for the country, the main effect of man/prof (0.471) needs to be added to the scores above (e.g. for France the coefficient of man/prof is 0.471+0.334=0.805., whereas for Sweden it is 0.471-0.300=0.171) The asterisk denote the random slope of the country being statistical significantly different from the EU30 average. ***=p<0.001, **=p<0.010, *=p<0.050, +=p<0.100 ; here teleworking includes those who telework fully or partially.

6. Conclusion and Discussion

One of the silver linings of the COVID-19 pandemic is the increase in flexible working, especially teleworking among the workforce, although it remains to be seen whether teleworking patterns will remain into the future. Teleworking is a very popular arrangements among workers (Deloitte, 2021; ONS, 2021), that allow workers better work-family integration (Kelly et al., 2014), enhancing labour market participation especially among those with care and other responsibilities (Chung, 2024/forthcoming; Chung & Van der Horst, 2018), increasing workers' work-life balance satisfaction (Chung, 2022). However, it is not an arrangement that all workers have access to not only due to the structural limitations of the job, but also due to cultural barriers that exists which stigmatises workers' who work from home as being less productive, motivated and committed to the job compared to those who come into the office (Chung, 2020b; Williams et al., 2013). This report, using the European Working Conditions Telephone Survey of 2021 - a data set gathered just after the major lockdowns in Europe in the summer and autumn of 2021, I examine workers' patterns of teleworking across Europe.

The analysis of the data shows that persistently the strongest determinant of teleworking is the sector and occupational levels/skill levels of workers. Highly educated workers, working in top occupational jobs – such as managers, professionals, associate professionals and technicians, and clerical support workers, were by far more likely to telework compared to other workers. Clerical support workers were not a group that regularly teleworked prior to the pandemic, but this has changed significantly by 2021 where they were as likely to telework compared to associate professionals and other higher-ranked occupational groups. There were sectoral variances where workers working in financial services, public administration, education, other services sectors were much more likely to be teleworking compared to other workers.

We also found that on average, it was women who were more likely to be teleworking in 2021 compared to men, and this was true pretty much for most of the European countries under investigation. This gender gap was one of the key differences found in the 2021 data compared to pre-pandemic data sets, when women were less likely or just as likely as men to telework. Interestingly, parental status did not make a difference in explaining who teleworks frequently and who does not, especially when we control for a number of different factors in the model. Examining the cross-national variance in this association, it remained relatively stable across all 30 countries. In other words, rather than teleworking being provided based on work-family integration demands or needs of workers, it is highly likely that it is largely driven by structural factors and/or manager's perception of potential productivity gains from teleworking (Chung, 2022; Ortega, 2009).

The results of the report also show that workers in more precarious positions in the labour market – may it be due to their objective (employment contract status) or subjective feelings (job insecurity) of insecurity – are less likely to be teleworking. This, along with the fact that most workers want to telework (Deloitte, 2021), shows us that there may be still barriers amongst workers with regards to taking up teleworking practices even when it is available at the policy level (Chung, 2022; TUC, 2021; Williams et al., 2013). In other words, workers may feel that teleworking may result in negative views of their work productivity and commitment from managers and co-workers, which can result in negative career outcomes. Therefore, they may hesitate in taking up teleworking practices even if policies exist at the company or national level (Munsch, 2016; Nikita et al., 2024;

Thébaud & Pedulla, 2022). The fact that these factors are stronger for men indicate that such bias and stigma may be stronger for men, as they are expected to be the breadwinners of the household in most European societies (Chung, 2020b).

There was cross-national variation in the average across Europe. Of the different country contexts explored in this report, work culture was found to be most significant. In other words, countries where work is more central to people's lives, or are expected to be so, are those where teleworking is not as common. This may be because teleworking is still considered a work-family integration tool, therefore, unlikely to be provided by employers in countries where work is expected to be prioritised above all else. This may be also because stigmatised views against the teleworkers' productivity, commitment and motivation for work is stronger in work centric societies. In such contexts, even when teleworking is provided as a policy, workers may be more hesitant to take it up due to fear of negative career outcomes.

On the other hand, countries where gender norms are egalitarian, and where national level policies supporting work-family integration is more generous, more workers telework, again even when we take into account workers' occupation, sector and other structural factors that may prohibit teleworking. In other words, there is some evidence to show that countries where a better family-friendly benefits are provided, work-life balance policies are considered necessary and a right for all workers, employers may be more willing to provide teleworking policies for their workers, and/or workers may be more willing to take up teleworking. One of the interesting findings of this report is that many of the country context variables that have been shown to be useful in explaining cross-national variation in flexible working practices prior to the pandemic (Chung, 2020a, 2022) have shown to be insignificant in explaining the variance of teleworking in 2021. This includes labour market conditions, industrial relations variables, as well as other family-policy variables. This leads us to believe that the cross-national variation in teleworking practices may be driven by factors not observed in this paper. This can include lockdown policies and/or structure of the economy (e.g. service sector driven economy), and others.

I also found cross-national variance in the teleworking gaps between worker groups. For example, the teleworking gap between the top four occupations (Managers, Professionals, Associate Professionals and Technicians, and Clerical support workers), namely the more teleworkable occupations, compared to the rest of the workforce also varied significantly across countries. This was largely due to the fact that there was not much variance across countries in the occupations that generally fell under the 'hard to telework category' (Sostero et al., 2020). On the other hand, within the teleworkable occupations, there were large cross-national variances in the extent to which workers teleworked regularly. What is more, I also found a cross-national variation in the teleworking gap between the top two occupations (managers and professionals) versus the associate professionals/clerical workers. The gap between these two groups were larger in some countries such as France, Greece and Finland, this was much smaller in other countries such as Sweden, Netherlands and the UK, where teleworking was generally more common.

There are several limitations to this study. Firstly, the data gathered was in 2021 where teleworking was still somewhat enforced by employers in many countries. In other words, it would be useful to explore teleworking practices of workers in more recent years, as more and more employers have asked workers to return to office, citing productivity and collaboration needs (Sasso, 2023). Secondly, given the cross-sectional nature of the data used, it is hard to know the causal

mechanisms in place. Thirdly, the study has found some cross-national variations not only in the average levels of teleworking across countries, but also in the gaps between different groups of workers. However, the context variables included in this report has not fully explained why these variances exist, especially for the latter variations. Therefore, future studies should explore other additional country contexts that might help us understand why these variations occur.

Several policy recommendations can be made based on the findings of this report. The results show that there are still gaps across workers, as well as countries, with regards to teleworking practices, and that more could be done to encourage teleworking. This is especially so in situations where work could be done remotely but either employers do not allow teleworking due to potential bias against the productivity outcomes of teleworking, or where even when policies are available workers are unable to take it up due to fear of potential negative career outcomes. As this paper has shown, changing work cultures to encourage a more work-life balance work culture, where use of family-friendly arrangements are considered a right would help to remove such cultural barriers and stigma (see also, Chung & Seo, 2023). Providing generous family-friendly policies that support work-family integration can also help to support teleworking take up of workers. The study also shows that there are now more women teleworking compared to men, even when we control for occupations and sectors. What is more, it is especially men in precarious positions that are unable to take up teleworking practices, again likely linked to potential negative career outcomes. Women gaining access to teleworking is a great, as previous studies have shown that this may allow women, especially mothers or those with caring responsibilities, to better engage in the labour market (Chung & Van der Horst, 2018) with a potential for reducing the gender pay gap or the motherhood penalty (Chung, 2024/forthcoming; Fuller & Hirsh, 2018; Van der Lippe et al., 2019). However, if teleworking becomes a 'mothers' or 'women's arrangement', teleworking is more likely to be linked to stigmatised ideas around workers' productivity, commitment and motivation for work (Kasperska et al., 2023; Wang & Chung, in review). This is likely to result in negative career outcomes for teleworkers (Leslie et al., 2012), or a scenario where teleworking could potentially be used to legitimise the gender bias employer's have against women's work capacity or discrimination against women (Chung, 2020b, 2024/forthcoming; Chung et al., 2021). Therefore, it is important for European governments and companies to encourage more fathers and workers without caring responsibility to work flexibly, especially to meet care and work-family integration demands. When teleworking and other flexible working arrangements are considered as an arrangement for, and used by all workers, stigmatised views against teleworkers will likely be reduced (Chung, 2024/forthcoming). To enable this, there should be a consideration on the revision of the European Directive on Work-life balance, to strengthen the right to request flexible working arrangements for all workers, not only parents of young children and carers. In addition, strengthening the anti-discrimination clause protecting workers from any negative career outcomes due to flexible working can help reduce the demand and practice gap in teleworking. There should also be campaigns and efforts to try to get more fathers and workers without children to take up and use flexible working arrangements without the fear of negative repercussions on their careers. To do this, more efforts needs to be put in place to ensure that employers are aware of the productivity enhancing capacities of flexible working arrangements (Beauregard & Henry, 2009; Bloom et al., 2015; Kelliher & de Menezes, 2019; Nikita et al., 2024) to understand that flexible working is not only a work-family integration tool, but a smart working tool that can help support productivity outcomes (Chung, 2022, 2024/forthcoming).

The pandemic has helped many workers gain access to once coveted teleworking practices across Europe. However, to ensure that all workers can genuinely gain access to teleworking, without fear of repercussions on their career, and without flexible working entrenching or exacerbating existing inequalities in the labour market (Chung, 2024/forthcoming; Chung et al., 2021), we need to make necessary adjustments in future European labour markets.

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Annex

Annex table 1: Multivariate analysis of frequent teleworking (full or partial) across 30 European countries in 2021 (source: EWCTS 2021)

	coefficient	standard error	p
female	0.268	0.026	0.000
age	0.002	0.001	0.080
parental status (ref: youngest child 16+ or no child)			
preschool child 0-5	-0.003	0.062	0.957
school age 6-11	0.059	0.064	0.350
child 12-15	0.012	0.057	0.831
number of children in the household	0.041	0.030	0.174
indefinite contract	0.130	0.038	0.001
Education (ref: upper secondary)			
lower secondary or below	-0.670	0.092	0.000
tertiary	0.753	0.031	0.000
Job insecurity	-0.097	0.039	0.013
Working hours capped at 60	0.001	0.001	0.320
Workplace composition (ref: equally present)			
mostly men	-0.249	0.033	0.000
mostly women	-0.298	0.032	0.000
Public company	-0.329	0.033	0.000
Company size (ref: 250+)			
less than 10	-1.148	0.041	0.000
10 to 49	-0.932	0.034	0.000
50 to 249	-0.458	0.033	0.000
Occupational level (ref: sales workers)			
Managers	1.891	0.071	0.000
Professionals	2.058	0.068	0.000
Technicians and Associate Professionals	1.500	0.070	0.000
Clerical support workers	1.619	0.072	0.000
Crafts and related trades workers	-0.296	0.118	0.012
Plant and machine operators	-1.197	0.185	0.000
Elementary occupations	-1.124	0.182	0.000
Armed forces and agricultural workers	0.055	0.192	0.773
Sector (ref: Retail)			
Agriculture and Fishing	-0.381	0.170	0.025
Industry	0.048	0.050	0.338
Construction	-0.110	0.074	0.139
Transport	0.209	0.072	0.004
Financial Services	1.082	0.057	0.000
Public Administration	0.548	0.061	0.000
Education	0.595	0.058	0.000
Health care	-1.175	0.064	0.000

Other services	1.050	0.045	0.000
Constant	-2.685	0.130	0.000
Variance level 2	0.175	0.047	

N level2=30 N level1=48521

Appendix table 2. Multivariate analysis of frequent teleworking (full or partial) (including gender*parental interaction) across 30 European countries in 2021 (source: EWCTS 2021)

	coeff	Std Error	p
female	0.282	0.032	0.000
parental status (ref: youngest child 16+ or no child)			
preschool child 0-5	0.013	0.071	0.850
school age 6-11	0.077	0.077	0.318
child 12-15	0.052	0.076	0.493
female*parental status			
female*0-5	1.000	-0.031	-0.480
female*6-11	1.000	-0.029	-0.400
female*12-15	1.000	-0.069	-0.780
age	0.002	0.001	0.091
number of children in the household	0.040	0.030	0.182
indefinite contract	0.130	0.038	0.001
Education (ref: upper secondary)			
lower secondary of below	-0.670	0.092	0.000
tertiary	0.753	0.031	0.000
Job insecurity	-0.097	0.039	0.013
Working hours capped at 60	0.001	0.001	0.334
Workplace composition (ref: equally present)			
mostly men	-0.249	0.033	0.000
mostly women	-0.298	0.032	0.000
Public company	-0.329	0.033	0.000
Company size (ref: 250+)			
less than 10	-1.148	0.041	0.000
10 to 49	-0.933	0.034	0.000
50 to 249	-0.458	0.033	0.000
Occupational level (ref: sales workers)			
Managers	1.891	0.071	0.000
Professionals	2.058	0.068	0.000
Technicians and Associate Professionals	1.501	0.070	0.000
Clerical support workers	1.619	0.072	0.000
Crafts and related trades workers	-0.296	0.118	0.012
Plant and machine operators	-1.197	0.185	0.000
Elementary occupations	-1.123	0.182	0.000
Armed forces and agricultural workers	0.055	0.192	0.774
Sector (ref: Retail)			
Agriculture and Fishing	-0.381	0.170	0.025
Industry	0.048	0.050	0.336
Construction	-0.110	0.074	0.139
Transport	0.209	0.072	0.004
Financial Services	1.082	0.057	0.000
Public Administration	0.549	0.061	0.000
Education	0.595	0.058	0.000

Health care	-1.175	0.064	0.000
Other services	1.051	0.045	0.000
Constant	-2.689	0.130	0.000
variance level 2	0.175	0.047	

N level2=30 N level1=48521

Appendix table 3. Multivariate analysis of frequent teleworking (full or partial) across 30 European countries in 2021 for men (source: EWCTS 2021)

	coefficient	standard error	p
age	0.003	0.002	0.045
parental status (ref: youngest child 16+ or no child)			
preschool child 0-5	0.061	0.092	0.506
school age 6-11	0.119	0.096	0.216
child 12-15	0.093	0.086	0.283
number of children in the household	0.026	0.044	0.545
indefinite contract	0.164	0.057	0.004
Education (ref: upper secondary			
lower secondary or below	-0.578	0.124	0.000
tertiary	0.798	0.045	0.000
Job insecurity	-0.185	0.057	0.001
Working hours capped at 60	-0.006	0.002	0.011
Workplace composition (ref: equally present)			
mostly men	-0.268	0.044	0.000
mostly women	-0.261	0.051	0.000
Public company	-0.353	0.051	0.000
Company size (ref: 250+)			
less than 10	-1.157	0.062	0.000
10 to 49	-0.966	0.049	0.000
50 to 249	-0.501	0.048	0.000
Occupational level (ref: sales workers)			
Managers	1.822	0.106	0.000
Professionals	2.160	0.103	0.000
Technicians and Associate Professionals	1.408	0.105	0.000
Clerical support workers	1.611	0.113	0.000
Crafts and related trades workers	-0.426	0.155	0.006
Plant and machine operators	-1.262	0.232	0.000
Elementary occupations	-1.020	0.266	0.000
Armed forces and agricultural workers	0.111	0.232	0.633
Sector (ref: Retail)			
Agriculture and Fishing	-0.526	0.238	0.027
Industry	-0.139	0.069	0.044
Construction	-0.298	0.096	0.002
Transport	0.057	0.098	0.562
Financial Services	1.047	0.083	0.000
Public Administration	0.327	0.092	0.000
Education	0.556	0.093	0.000
Health care	-1.198	0.114	0.000
Other services	1.035	0.064	0.000
Constant	-2.408	0.176	0.000
Variance level 2	0.182	0.051	

N level 2=30, N level 1=24405

Appendix table 4. Multivariate analysis of frequent teleworking (full or partial) across 30 European countries in 2021 for women (source: EWCTS 2021)

	coefficient	standard error	p
age	0.002	0.002	0.319
parental status (ref: youngest child 16+ or no child)			
preschool child 0-5	-0.060	0.086	0.489
school age 6-11	-0.002	0.086	0.985
child 12-15	-0.061	0.077	0.426
number of children in the household	0.067	0.042	0.106
indefinite contract	0.115	0.051	0.024
Education (ref: upper secondary			
lower secondary or below	-0.749	0.140	0.000
tertiary	0.694	0.044	0.000
Job insecurity	-0.019	0.054	0.731
Working hours capped at 60	0.007	0.002	0.000
Workplace composition (ref: equally present)			
mostly men	-0.181	0.052	0.000
mostly women	-0.294	0.042	0.000
Public company	-0.296	0.044	0.000
Company size (ref: 250+)			
less than 10	-1.099	0.057	0.000
10 to 49	-0.881	0.048	0.000
50 to 249	-0.404	0.048	0.000
Occupational level (ref: sales workers)			
Managers	1.982	0.097	0.000
Professionals	1.950	0.091	0.000
Technicians and Associate Professionals	1.594	0.094	0.000
Clerical support workers	1.595	0.094	0.000
Crafts and related trades workers	0.202	0.197	0.306
Plant and machine operators	-0.910	0.323	0.005
Elementary occupations	-1.213	0.250	0.000
Armed forces and agricultural workers	0.155	0.369	0.674
Sector (ref: Retail)			
Agriculture and Fishing	-0.236	0.246	0.337
Industry	0.283	0.074	0.000
Construction	0.270	0.122	0.027
Transport	0.412	0.108	0.000
Financial Services	1.108	0.078	0.000
Public Administration	0.710	0.083	0.000
Education	0.698	0.077	0.000
Health care	-1.098	0.081	0.000
Other services	1.047	0.064	0.000
Constant	-2.699	0.160	0.000
Variance level 2	0.173	0.047	

N level 2=30, N level1=24116

ⁱ This report generally talks about teleworking, however, it uses working from home and teleworking interchangeably.

ⁱⁱ Directive (EU) 2019/1158 of the European Parliament and of the Council of 20 June 2019 on work-life balance for parents and carers and repealing Council Directive 2010/18/EU, OJ L 188, 12.7.2019, p. 79–93

ⁱⁱⁱ Directive 2019/1158 on Work Life Balance https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.188.01.0079.01.ENG

^{iv} It is important to note that addressing work-family integration demands of workers also results in positive performance and productivity outcomes Kelliher, C., & de Menezes, L. M. (2019). *Flexible Working in Organisations: A Research Overview*. Routledge. , Weeden, K. A. (2005). Is there a flexiglass ceiling? Flexible work arrangements and wages in the United States. *Social Science Research*, 34(2), 454-482.

^v https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.188.01.0079.01.ENG

^{vi} For more information: <https://wetten.overheid.nl/BWBR0011173/2016-01-01>

^{vii} See, <https://nordiclaw.fi/new-working-hours-act-of-finland-enters-into-force-1-january-2020/>

^{viii} For more, <https://www.borenius.com/2019/04/02/new-working-hours-act-approved-by-the-parliament/>

^{ix} <https://www.bbc.com/worklife/article/20190807-why-finland-leads-the-world-in-flexible-work>

^x For details on this see COVID-19 Government Response Tracker based at the University of Oxford: <https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker>

^{xi} More on the EWCTS can be found here <https://www.eurofound.europa.eu/en/european-working-conditions-telephone-survey-2021>.