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TELEWORK BEFORE THE COVID-19 PANDEMIC: TRENDS AND DRIVERS OF DIFFERENCES ACROSS THE EU

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ABSTRACT/RÉSUMÉ

Telework before the COVID-19 pandemic: Trends and drivers of differences across the EU

This paper provides an overview of the trends and differences in the prevalence of telework across EU countries, sectors and occupations before the outbreak of the COVID-19 pandemic. Descriptive evidence shows that before the outbreak telework was more widespread in ICT- and knowledge-intensive sectors, and generally for high-skilled workers, although with big differences across EU countries. In fact, as shown in this paper, the prevalence of telework varied considerably across countries even within the same sector and occupational group. This suggests that, beyond differences in the industrial and occupational structure of employment, other factors, notably related to differences in organisation and management cultures, contribute to explaining the varying prevalence of telework in the EU. As a result of the outbreak-induced requirements to work from home, differences in telework uptake across countries, sectors and job profiles have likely narrowed in recent months. Yet, if past trends are a guide, the ability to further scale up telework in the future without hampering productivity may remain unevenly distributed in the EU.

JEL classification: J01; J20.

Keywords: Teleworking; remote work; work from home; COVID-19.

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Le télétravail avant la pandémie de COVID-19 : évolution et déterminants des différences observées dans l'UE

Ce document offre une vue d'ensemble de l'évolution de la prévalence du télétravail et des différences observées dans ce domaine entre pays, secteurs et professions dans l'Union européenne (UE) avant la pandémie de COVID-19. Des données descriptives montrent qu'avant la pandémie, le télétravail était plus répandu dans les secteurs à forte intensité de technologies de l'information et de la communication (TIC) et à forte intensité de savoir, et généralement parmi les travailleurs hautement qualifiés, quoique avec des différences marquées entre pays de l'UE. En fait, comme le montre ce document, la prévalence du télétravail variait considérablement selon les pays, y compris dans un même secteur ou une même catégorie professionnelle. Cela laisse à penser que, au-delà des différences de structure de l'emploi par secteur et par profession, d'autres facteurs, liés notamment à des différences de culture organisationnelle et managériale, contribuent à expliquer la variation de la prévalence du télétravail dans l'UE. Compte tenu de l'obligation de travailler à domicile imposée en raison de la pandémie, les différences de recours au télétravail entre pays, secteurs et professions se sont probablement réduites au cours des derniers mois. Néanmoins, à en juger par les tendances antérieures, la possibilité d'accroître encore la place du télétravail dans l'avenir sans entraver la productivité pourrait rester inégalement distribuée dans l'UE.

Classification JEL : J01 ; J20.

Mots clés : télétravail ; travail à distance ; travail à domicile ; COVID-19.

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Telework before the COVID-19 pandemic: Trends and drivers of differences across the EU

By Santo Milasi, Ignacio González-Vázquez, and Enrique Fernández-Macías[1]

1. Introduction

1. Since the outbreak of the Covid-19 pandemic working from home has become the norm for millions of workers in the EU and worldwide. A number of real-time surveys covering the incidence of working from home confirm the considerable increase in the adoption of this work arrangement in reaction to the COVID-19 public health measures (Sostero et al; 2020). In particular, survey evidence from Eurofound (2020) shows that close to 40% of those working in the EU in April 2020 began to telework fulltime as a result of the pandemic. This fraction is in line with estimates from a number of recent studies suggesting that at least one third of dependent employment in the EU is in occupations that could be entirely performed remotely (Sostero et al., 2020; Dingel and Neiman, 2020). Yet, before the outbreak just 15% of the employed in the EU had ever worked from home – a percentage which decreases to 11% among dependent employees. This means that the large majority of firms and workers who transitioned to remote work from March 2020 onwards were virtually new to this work arrangement.

2. For many organisations, the abrupt transition to telework meant they suddenly had to face a number of challenges to: i) Equip the workforce with the necessary software and digital devices to work remotely; ii) Ensure secure connections to the business network and access to business-critical applications; iii) Put in place teleworking guidelines; iv) Adjust management practices to adapt supervision and communication to remote working; and v) Adjust work processes and improve remote collaboration tools. Most organisations certainly found it difficult to readily meet these needs and keep their organization operating remotely in an efficient way. Yet, the extent of these difficulties likely differed across firms and EU countries, and partly depending on the level of previous experience with teleworking. For example, scaling up telework was arguably easier, faster, and less costly for companies in Northern European countries – where on average 30 per cent of workers had regularly or sometimes worked from home in

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2019 – than in most of the other EU countries, where less than 10% used to do so. Thanks to their previous experience with teleworking, these companies might have faced less technical and managerial challenges to securely support and connect a larger share of their workforce. Conversely, firms with little or no past experience with telework may have been less successful in dealing with the sudden shift to teleworking. This was more likely the case for SMEs which given their smaller size, typically have lower levels of digitalisation and greater difficulties in accessing technologies and adopting workplace innovations (OECD, 2020b).

3. Meanwhile, as the Covid-19 pandemic has suddenly thrust millions of people into telework, workers had to adapt to new digital and collaboration tools, and to new ways of communicating with co-workers, supervisors, and clients. They had to make this transition quickly, often without training, and in some cases, without having the adequate digital skills and a suitable working space at home. However, within this context, workers who had previous experience with working remotely likely proved more adaptable to the new work arrangements than new users of telework. For instance, as shown by a recent survey among Japanese workers, people who teleworked for the first time tended to have more discomfort with it, with the main reason for this being the difficulty in daily communication and the lack of adequate digital skills. These workers also felt less productive and satisfied than others who had previously worked remotely (Mori and Hayashi, 2020).

4. Against this backdrop, this paper discusses pre-outbreak trends in the prevalence of telework across EU countries, sectors and occupations. The aim is to shed light on firms' and workers' readiness to transition to more widespread telework at the onset of the outbreak, and how this may influence the adoption of remote work arrangements looking forward. The paper also explores the role of a number of factors in driving differences in telework uptake across EU Member States. The aim is to better understand to what extent the varying pre-outbreak prevalence of telework across EU countries reflected country-level differences in structural factors (e.g. in the employment structure across sectors and occupations) or, rather, differences in "soft" factors (e.g. in organisational and management culture), which might have levelled since the onset of the outbreak. In what follows: Section 2 presents an overview of the prevalence of telework for the whole EU, across sectors and occupations; Section 3 examines where in the EU telework was more widespread and why; Section 4 concludes with some considerations on the diffusion of telework looking forward.

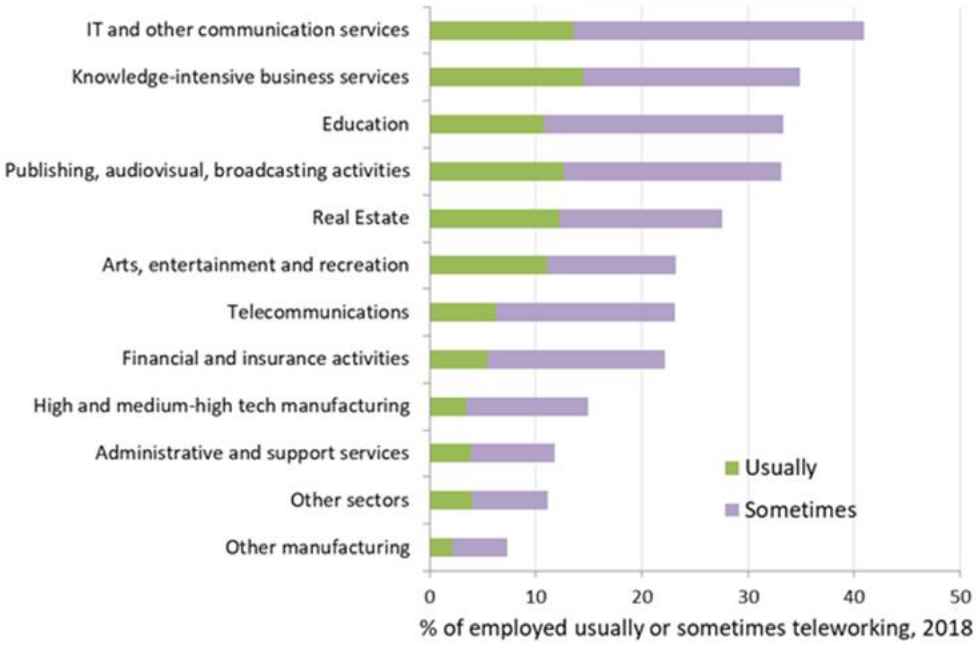
2. Which workers were already teleworking in the EU?

5. Telework in the EU increased slowly in the 10 years before the Covid-19 outbreak, although mostly as an occasional work pattern. In fact, as of 2019, only 5.4% of employed in the EU-27 usually worked from home – a share that remained rather constant since 2009. However, over the same period, the share of employed working at least sometimes from their homes increased from 5.2% in 2009 to 9% in 2019. Working from home was considerably more common among the self-employed than among dependent employees, although it increased in a similar way for both categories over the past decade. In 2109, almost 36% of the self-employed was sometimes or usually working from home in the EU-27, up from 30% in 2009. The prevalence of telework among dependent employees was just above 11% in 2019, up from 7.5% in 2009.

6. The prevalence of telework varied strongly across sectors. It was particularly high in knowledge- and ICT-intensive services. Indeed, as shown in Figure 1, more than 40% of workers in IT and other communication services were already working from home regularly or at least with some frequency in 2018 in the EU-27. The share of regular or frequent teleworkers was above 30% in a range of knowledge-intensive business services, as well as in education and publishing activities. It was also high – around 20% – in telecommunications, finance and insurance. Conversely, the share of teleworkers was rather low

in administrative and support services, as well as in the sectors that involve the physical manipulation of materials and/or objects, such as manufacturing.

Figure 1. Prevalence of telework by sector, EU-27



Note: The group "Knowledge-intensive business services" includes the following sectors: Legal and Accounting Activities - Activities of Head Offices; Management Consultancy Activities - Architectural and Engineering Activities; Technical Testing and Analysis - Scientific Research and Development - Advertising and Market Research - Other Professional, Scientific and Technical Activities. The group IC and other communication services include: Computer Programming, Consultancy and Related Activities - Information Service Activities.
Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat.

7. Until the outbreak of the pandemic, telework had mostly been at the advantage of high-skilled workers who do most of their work on computers, enjoy high degrees of autonomy, and are employed in knowledge-intensive activities. Within this group, the highest prevalence of telework was found among teachers (43%) – largely reflecting the occasional time spent at home preparing for face-to-face classes and coursework. ICT professionals, managers and professionals working in legal, business, administration, and science also showed similarly high rates of teleworking (see Figure 2).

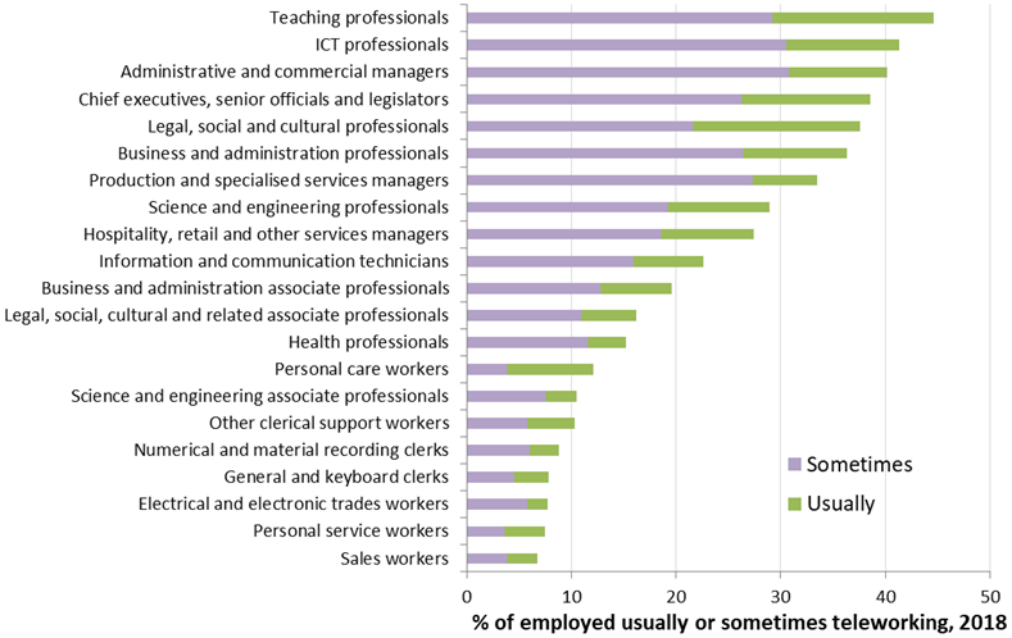
8. Beyond the nature of their work, high rates of teleworking before the pandemic among some professionals may also reflect the extent to which they performed informal overtime work at home, as well as the fact that some of them are more likely to work as self-employed. This is particularly the case for professionals (e.g. lawyers) who can more easily determine their own work schedules and pace of work. More generally, differences in rates of telework across professions reflect the fact, that depending on the work content, some tasks can be performed easily from home (e.g. write a prescription), while others not or with more difficulty (e.g. visit a patient).

9. For many other people teleworking was an almost new experience. The confinement has likely induced a spread of telework among workers who, despite working intensively with ICT, so far had only limited experience with this form of work organisation. For instance, in 2018, less than 20% of ICT technicians and 10% of general keyboard clerks and other clerical support workers had experienced some

form of telework. Meanwhile, junior professionals show much lower frequencies of telework than their senior counterparts, even within the same activity (see Figure 2).

10. The very nature of some occupations makes it difficult or impossible to perform them away from the standard worksite. This is generally the case of activities that involve a high level of face-to-face interaction with the public, for example sales workers, servers, or personal service workers such as hair stylists, who showed before the pandemic the lowest shares of telework among major occupational groups. Consistent with the higher prevalence of telework among managers and professionals, it is not surprising that access to telework was greater among the higher-qualified and well-paid employees (Sostero et al; 2020).

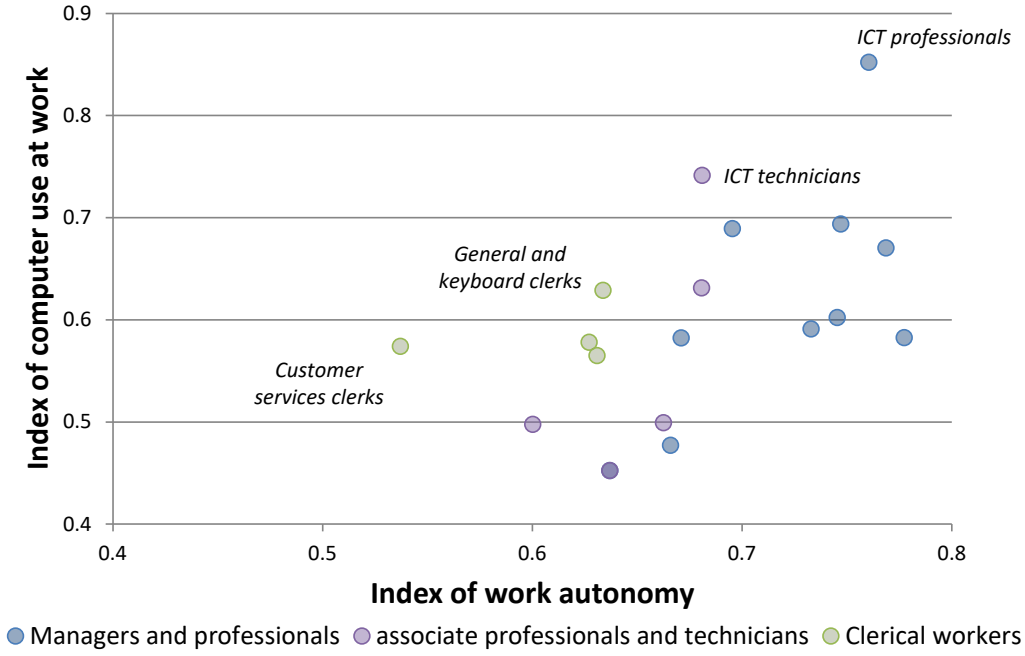
Figure 2. Prevalence of telework by occupation, EU-27



Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat.

11. Beyond the technical feasibility, differences in access to telework across occupations also reflected varying degrees of workers' autonomy, which in turn depend on employers' trust. Customer services clerks, keyboard clerks, and junior professionals had much lower access to telework than most managers and senior professionals, despite often showing similarly intensive use of computers at work. This can be partly explained by the fact that these workers are more often subject to close monitoring and supervision of their performance, and therefore have less autonomy over their working time and place (Figure 3). The work autonomy of these occupations, and hence their access to telework, depends on employers' and managers' trust and willingness to delegate power – which can vary not only across organisations, but also countries.

Figure 3. Computer use and work autonomy by occupation

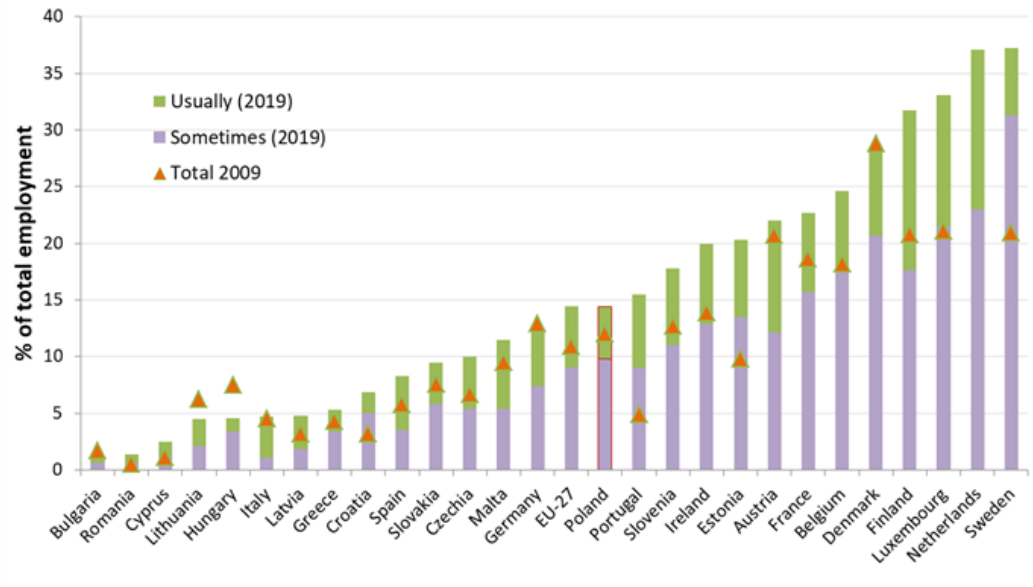


Note: The indexes are constructed in a way that 0 represents the lowest possible level of work autonomy (computer use), and 1 the highest. These indexes at the occupational level are obtained by averaging occupation-spcific scores across sectros and 12 EU countries with available data. The index of work autonomy captures the extent of self-direction and latitude given to workers in performing their tasks. See Eurofound (2016) for further details.

3. Where was telework more widespread before the pandemic, and why?

12. There were large differences in the prevalence of telework across EU Member States before the pandemic. As of 2019, the share of employed working from home regularly or at least sometimes was above 30% in a handful of countries, including Sweden, Finland, and the Netherlands, whereas it was below 10% in half of EU Member States (Figure 4). Unfortunately some of the countries most affected by the pandemic, such as Italy and Spain, had a very low prevalence of telework before the crisis. Between these two extremes, there were countries such as Belgium, France and Portugal where the share of telework ranged from 15 to 24%. Countries in Northern Europe showed the largest growth in the prevalence of telework over the past decade, albeit sizable increases also took place in other Member States, notably in Portugal, Estonia, and Slovenia.

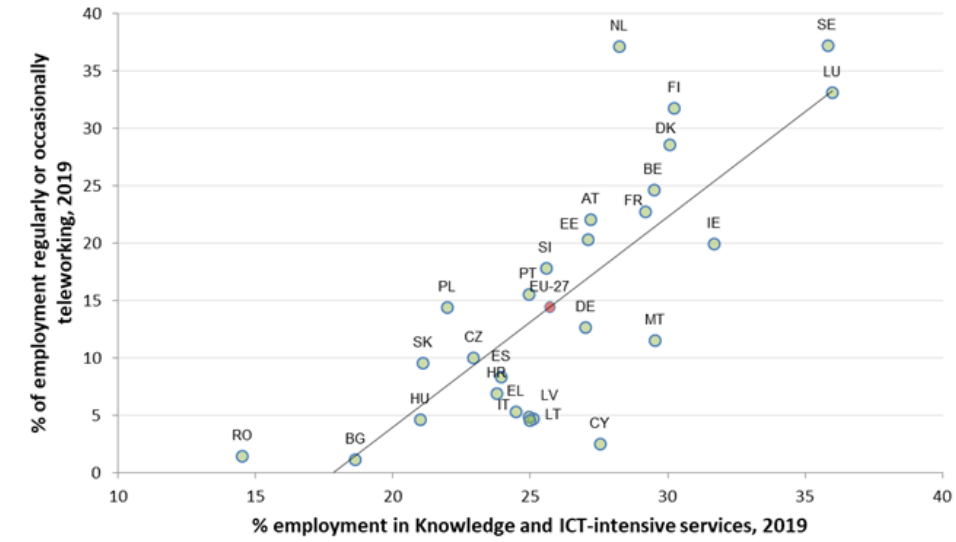
Figure 4. Prevalence of telework across EU Member States



Source : Eurostat, LFS. Variable code: lfsa_ehomp.

13. The varying prevalence of telework across Member States is partly explained by differences in the industrial structure of employment**.** As shown in Figure 5, telework tends to be structurally more widespread in countries - such as Sweden, Finland, and Denmark - with larger shares of employment in knowledge- and ICT-intensive services, which are notably more amenable to remote work.

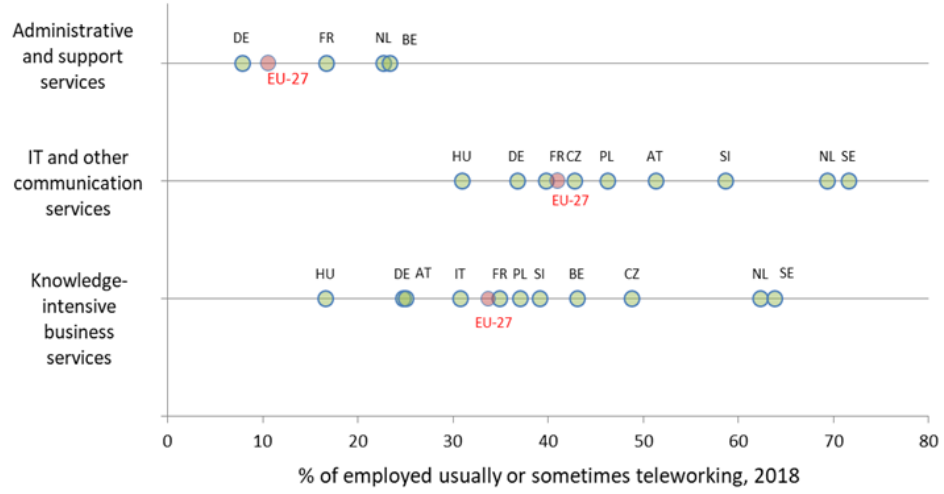
Figure 5. Industrial structure of employment and telework, EU-27



Note: see note to Figure 1 for a detailed definition of the sectoral groups.
Source: JRC calculations from Eurostat, LFS. Variables codes: lfsa_ehomp (y-axis); lfsa_egan22d (x-axis).

14. Beyond differences in the industrial structure, a combination of other interrelated factors contribute to explaining the varying telework adoption across EU countries. This argument is supported by the fact that differences in the share of teleworkers across EU countries were sizable even within the same sector. For instance, while in Sweden and the Netherlands more than 60% of workers in knowledge-intensive business services were teleworking, this fraction was below 30% in Italy, and even lower in Austria and Germany (Figure 6). Similar differences in the sectoral prevalence of telework across countries can be observed in education, IT and communication, and to a lesser extent in administrative and support services. On average, it appears that pre-outbreak differences in the uptake of telework across EU countries primarily depend on different rates of telework in the same sector, and only secondarily on the different shares of employment in telework-compatible sectors (see Box 1).

Figure 6. Prevalence of telework by EU country in selected sectors



Note: See note to figure 1 for a detailed definition of the sectoral groups. The graph shows countries with available data on the frequency of working from home for the considered sectors.
Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat.

Box 1. Differences across countries in the prevalence of telework: Decomposing between and within variation of industries.

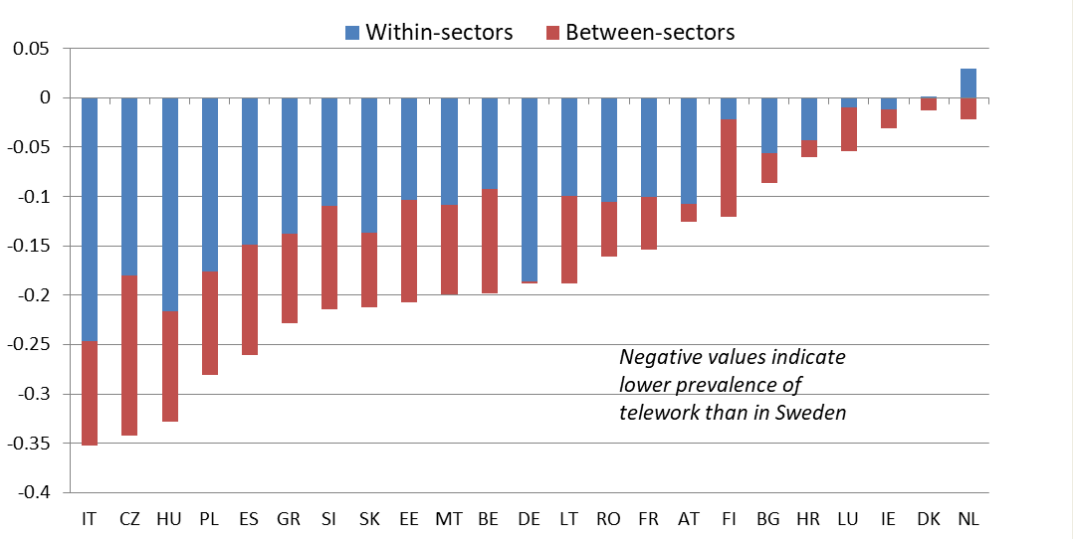
Following a decomposition approach similar to the one in Nedelkoska and Quintini (2018) it is possible to provide a first assessment of which factors contribute the most in explaining the varying prevalence of telework across EU countries. In order to do so, we compare the share of telework of each EU countries to that of Sweden, the reference country. The resulting differences are decomposed into differences due to the industrial structure of employment (between component) and differences within industries (within component). Country-level differences in the prevalence of telework are decomposed according to the following formula:

$$\Delta Tc = \sum i(\Delta Empli, c \neq SE \ * \ Ti, SE) + \sum i(Empli, SE \ * \Delta Ti, c \neq SE) \quad (1)$$

The total difference in the prevalence of telework (ΔTc) between any country (c) different from Sweden ($c \neq$ SE) and Sweden can be decomposed into a between sector component (i.e. ∑i(ΔEmpli,c≠SE * Ti,SE)) and a within-sector component (i.e. (∑i (Empli,SE *ΔTi,c≠SE)). Empli is the industry-specific employment share and Ti is the industry-specific prevalence of telework; i indicates the sector.

Figure 7 shows that the differences in the industrial structure of employment (the between-sectors component) do matter in explaining the overall differences in the spread of telework across EU countries. However, in the majority of the EU countries, within-sectors differences explain most of the deviation in telework rates from Sweden. For instance, the within-sectors variance accounts for 60% of more of the total difference in countries such as Greece, Poland, Hungary and Italy, explaining even larger fraction in Germany (or Austria). This means that the difference in the uptake of telework between these countries and Sweden primarily depends on different rates of telework in the same sector. This largely reflects the fact that, within each sector, countries employ different occupational mixes and organise the work content very differently. Conversely, the opposite is observed when Sweden is compared to other Northern European countries, such as Finland and Denmark, when the contribution of within-sectors factors remains rather modest, with the between-sectors variance gaining relevance in comparative terms. That likely reflects the fact that Northern European countries tend to have quite similar occupational structures within any given sector and to adopt similar forms of work organization; therefore, differences in rates of telework among them are largely driven by differences in the sectoral structure of employment.

Figure 7. Decomposition of the differences across countries in the prevalence of telework along the sectoral dimension

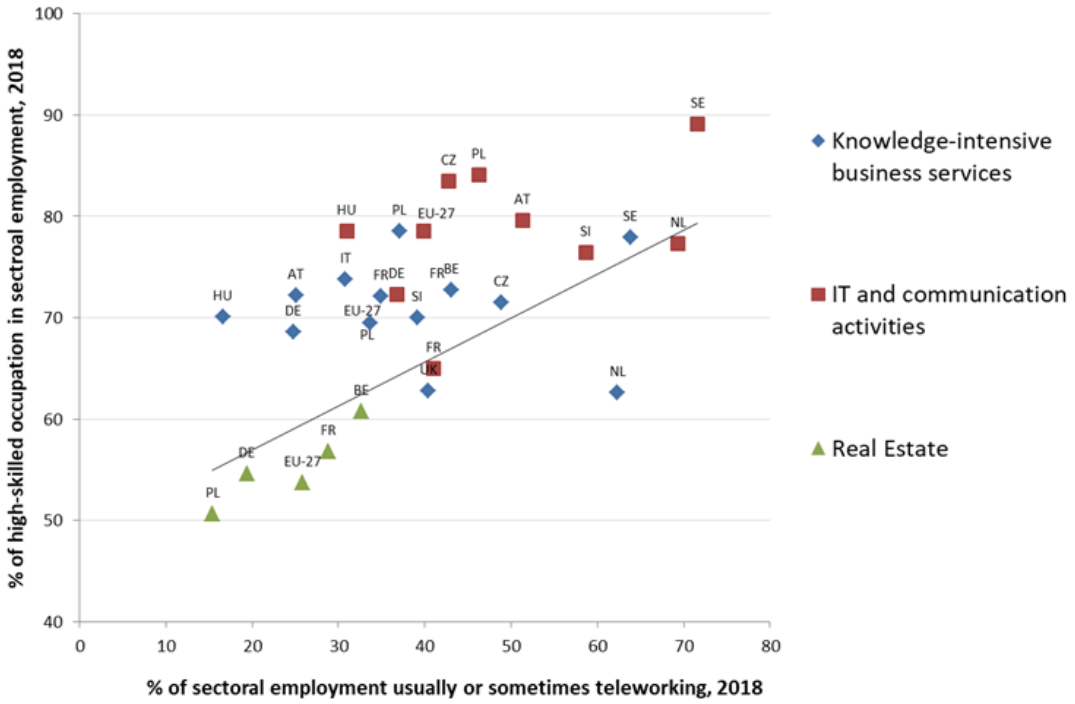


Source: authors' calculations from ad-hoc extractions of EU-LFS data provided by Eurostat.

15. A number of interrelated factors contribute to explaining why telework was more widespread in some EU countries than in others even within the same sector. First, this can be due to the fact that, in any given sector, some countries have larger proportions of high-skilled occupations who typically do most of their work on computers, enjoy high degrees of autonomy, and are therefore more likely to telework. In fact, the occupational composition can be very different across EU Member States. For example, the shares of high-skilled occupations in ICT and communication services was close to 90% in Sweden, whereas this fraction was around 65% in France. This percentage seems to be associated with the portion

of workers who, in the same sector, occasionally or regularly teleworked in 2018, which was as high as 70% in Sweden and only around 40% in France (Figure 8). A positive, albeit weak, association between the fraction of high-skilled occupations and the prevalence of telework can be detected within other sectors, such as real estate and knowledge-intensive services.

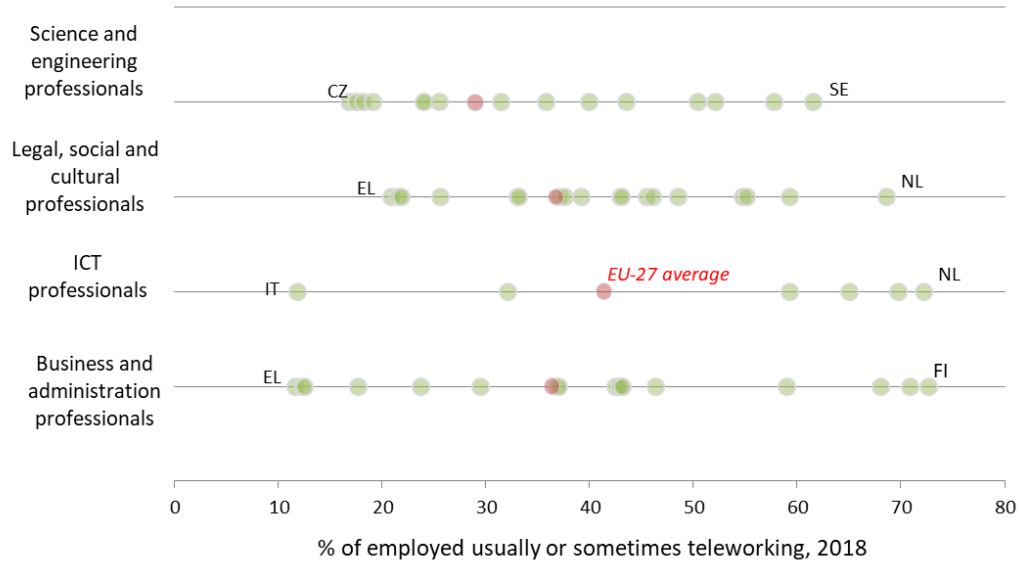
Figure 8. Occupational mix and telework in key sectors



Note: High-skilled occupations refer to ISCO-08 categories 1-3, and includes managers, professionals, technicians and associate professionals. The graph shows countries with available data on the frequency of working from home for the considered sectors.
Source: JRC calculations from Eurostat, and ad-hoc extractions of EU-LFS data.Mechanisms.

16. Differences in organizational and management practices are likely to have played a crucial role in determining the uptake of telework before the outbreak. This argument is supported by the fact that the prevalence of telework varied considerably across countries even for the same occupation. For instance, the share of regular or occasional teleworkers among ICT professionals in 2018 was above 70% in the Netherlands, whereas it was 32 and 11% in Germany and Italy respectively (Figure 9). This suggests that workers in a given occupation can have more access to telework in some countries than in others, largely depending on management and supervisory styles, the organisation of work, the technologies available, and country-specific policies regarding aspects such as work flexibility.

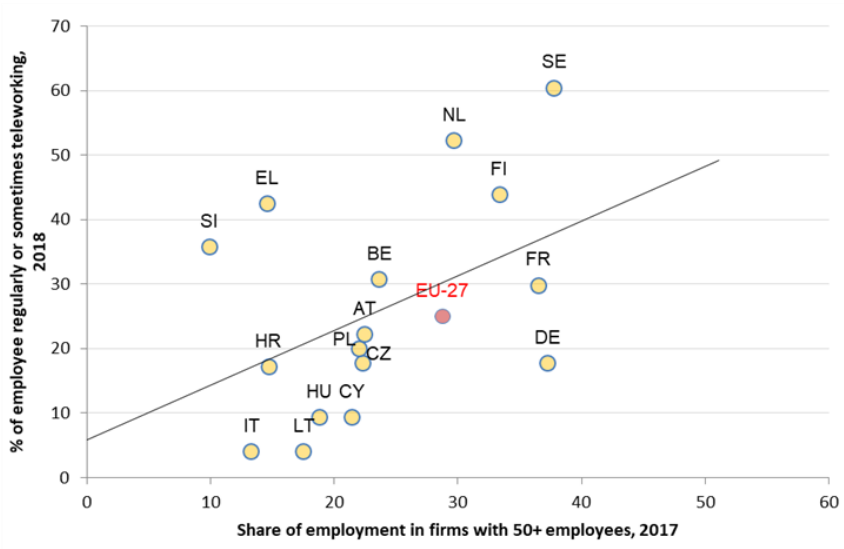
Figure 9. Prevalence of telework by EU country in selected occupations



Note: The graph shows countries with available data on the frequency of working from home for the considered occupations.
Source: JRC calculations from ad-hoc extractions of EU-LFS data.

17. Differences in the distribution of employment by firm size is another important factor shaping the uptake of telework across countries and sectors, as larger companies are typically more likely to adopt telework than smaller ones. For instance, countries such as the Netherlands, Sweden, and Finland, where firms with 50+ employees accounted for a larger share of total employment in knowledge-intensive business services, showed before the pandemic a larger share of teleworkers in that sector than countries like Italy and Croatia, where medium-large firms employed less than 15 per cent of workers in that sector (Figure 10).

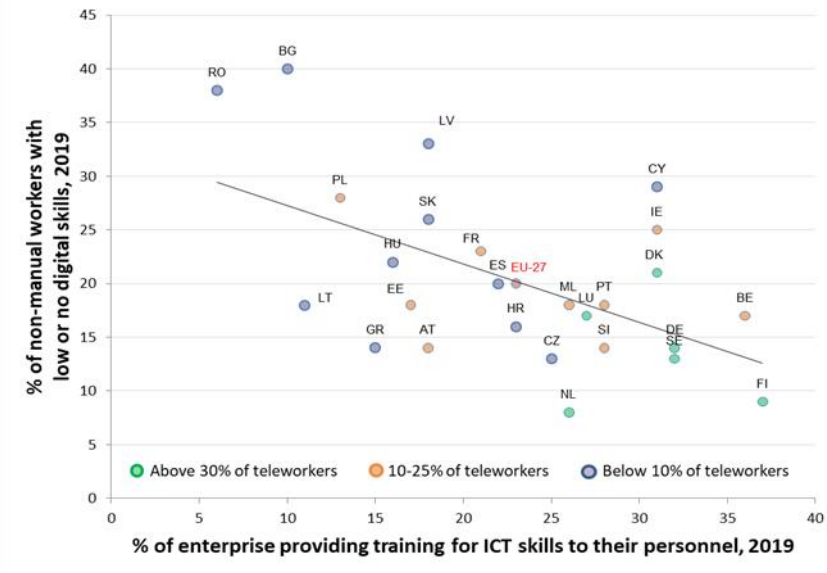
Figure 10. Telework and employment by firm size, knowledge-intensive business services



Note: see note to figure 1 for the definition of knowledge-intensive business services. The graph shows countries with available data on the frequency of working from home in the selected sector.
Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat.; and Eurostat.

18. Workers' level of digital skills and the range of training opportunities they are provided to upgrade these skills are two additional key factors shaping the uptake of telework, both before and after the outbreak. In fact, workers' level of digital skills vary considerably across EU Member States, tending to be lower in countries that had limited prevalence of telework before the pandemic struck. For example, in 2019, the share of workers in non-manual occupations with low or no digital skills ranged from 10% in the Netherlands to 40% in Bulgaria – against an average of 20% in the EU-27 as a whole (Figure 11). EU countries with larger fractions of non-manual workers with low or no digital skills are also those where firms are less likely to provide their employees with ICT-related training. This suggests that the degree of digital readiness and skills were arguably important factors to respond to the demands of remote working at the onset of the outbreak.

Figure 11. Digital skills, ICT training and telework



Source: JRC based on Eurostat. Variable codes: isoc_ske_ittn2 (x-axis); isoc_sk_dskl_i (y-axis).

19. In addition to the factors described above, other country-level factors, such as regulatory frameworks (e.g. legislation, level of collective agreements) and the degree of maturity of ICT infrastructures at the national level can also support or hinder adoption of telework (Vargas Llave and Weber, 2020). In particular, access to reliable and fast internet connections remains crucial for enabling efficient teleworking. In fact, the quality of the broadband and wireless network in workers' homes vary considerably across EU Member States, and its regions, tending to be higher in Central and Northern European countries where telework was relatively more widespread already before the outbreak.

4. Discussion and conclusions

20. Evidence from this paper suggests that the large pre-outbreak differences in the prevalence of telework across EU Member States can only partly be explained by structural factors, such as differences in the industrial structure of employment, the occupational composition within sector, and the distribution of employment by firm size. Other "soft" factors, notably related to differences in organisation and management cultures and country-specific policies regarding working conditions, also appear to have played a crucial role.

21. The outbreak-induced necessity to work from home has removed, at least temporarily, some of the "soft" barriers that have contributed to limiting the adoption of telework over the past decade – e.g. employers' and managers' reluctance to extend unsupervised autonomy. In fact, before the outbreak teleworking was mostly reserved to experienced employees in high-skilled occupations, often employed in knowledge-based services. In stark contrast, a much larger pool of employees, mostly in clerical and administrative jobs, have only started teleworking as a result of the pandemic (Sostero et al., 2020). As a result, the wide differences in the prevalence of telework observed before the outbreak have temporarily narrowed not only across EU countries, but also across sectors and occupational groups.

22. Will this temporary expansion of telework persist over the longer term, even after the pandemic passes? Although initial evidence from surveys points to a growing acceptance of teleworking, both across organisations (Ozimek, 2020; Survey of Business Uncertainty, 2020) and workers (Eurofound, 2020), the extent to which telework could actually become permanently more widespread remains largely uncertain. Anecdotal evidence from recent months suggests that where social distancing rules and lockdown restrictions have been reduced or lifted in summer-autumn 2020, workers were in some instances asked to return to the office, so long as it was safe (Financial Times, 2020). This indicates that certain organisations may continue to prioritise physical presence in the office whenever possible. In this respect, the same barriers that have prevented the diffusion of telework before the outbreak – e.g. fears of losing managerial control and difficulties in monitoring productivity – may continue playing an important role in explaining companies' resistance to scale-up telework also in the post-outbreak.

23. The potential to scale-up telework in the future also depends on how much firms have invested in fostering the transition to remote work in the aftermath of the pandemic. Many firms, seeing the forced work-from-home situation as a temporary phenomenon, may not have invested in technological and logistical capacities, eventually requiring their employees to resume presence in the office whenever possible. Moreover, the ongoing reduction in business activity and the heightened economic uncertainty following the outbreak may be leading firms to contain business expenditures on intangible forms of capital, such as workplace innovation, training and general management improvements, potentially deterring the chances of implementing telework at a large scale in the future. This can be especially the case for small- and medium-sized firms, which are more likely to lack the knowledge and financial resources to support greater investments in technologies and workplace innovation (OECD, 2020b).

24. Ultimately, organisations' decision to scale-up telework in the longer-term will crucially depend on the effect that working from home had on workers' productivity since the outbreak – which is still largely unknown. Evidence suggests that in normal times working from home can sustain, or even enhance, worker's perceived productivity by increasing their job satisfaction, autonomy, and motivation (Charalampous et al., 2019).

25. However, what we know about the impact of telework on productivity from pre-outbreak evidence may not apply to the post-outbreak exceptional teleworking conditions. Evidence from pre-outbreak studies mostly concerns individuals who had self-selected into remote work, had access to a dedicated home office, proper digital devices and internet connection, and, in most of the cases, they did not have to take care of their children during office hours. Instead, most people who started teleworking in March-April 2020 faced very different conditions from the ones just described. The closure of schools and the transition to "distance learning" for students has forced most working parents to support their children during office hours. Many workers lacked a private room specifically designed for work, did not have adequate digital devices, and/or were not familiar with remote collaboration tools.

26. Under these challenging circumstances, it is likely that certain workers struggled to perform at the same level as they did before. This could have been especially the case for new users of telework, who being not used to work remotely and less familiar with digital tools may have witnessed decreasing levels of productivity. This, in turn, could create a negative spiral in which manager, observing decreasing levels of

productivity, increase levels of close monitoring and control on workers, which could then lead to drops in employee motivation, so further impairing productivity and the chances of a more widespread diffusion of telework in the future.

27. Assuming that telework will continue to be recommended (if not required) by governments for some time, policies that help firms and workers in facing the transition to remote work can be particularly important to sustain productivity and business continuity in the short- to medium-term. Governments at all levels are launching a mixed set of policies to improve teleworking capacity of firms and workers. Policy actions range from introducing brand new or adapting pre-existing regulations to issuing guidelines on telework. In addition, several national governments have set up online platforms to make digital services offered by large IT providers accessible to all, and are providing financial assistance for the purchase of ICT equipment and telework facilities to support firms, especially smaller ones, in developing teleworking capacities (OECD, 2020a).

28. Looking forward, after the pandemic, policies supporting a more widespread use of remote work will need to carefully consider the potential benefits and costs of telework for productivity, working conditions, and workers' work-life balance and health. Reinforcing workers' rights, regulating home-working, and facilitating dialogues between employers' and employees' representatives are central in these respects.

References

Charalampous, M.; Grant, C. A., Tramontano, C., & Michailidis, E. (2019), "Systematically reviewing remote e-workers' well-being at work: a multidimensional approach", *European Journal of Work and Organizational Psychology*, 28(1), 51-73.

Eurofound (2016), "What do Europeans do at work? A task-based analysis", *European Jobs Monitor 2016*, Publications Office of the European Union, Luxembourg. https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1617en.pdf

Eurofound (2020), Living, working and COVID-19: First findings – April 2020, Dublin.

https://www.eurofound.europa.eu/publications/report/2020/living-working-and-covid-19-firstfindings-april-2020.

Financial Times (2020), "Why workers in some countries are more comfortable about returning to the office", 24, August, 2020. https://www.ft.com/content/84463da4-4aa6-433b-8490-f79ed86eedef

Dingel,J.; and Neiman, B. (2020), "How Many Jobs Can be Done at Home?", *NBER Working Paper*, No.26948.

Mori, T., and Hayashi, H. (2020), "Difficulties in introducing telework for Japanese companies as seen from business culture", *Nomura Research Institute (NRI) Group Urgent Proposals Regarding Measures for Covid -1* No.31.

Nedelkoska, L., and Quintini, G. (2018), "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris. http://dx.doi.org/10.1787/2e2f4eea-en.

OECD (2020a),"Productivity gains from teleworking in the post COVID-19 era : How can public policies make it happen?", *OECD Policy Responses to Coronavirus (COVID-19),* Updated: 7, September 2020.

OECD (2020b), "Coronavirus (COVID-19): SME policy responses", *OECD Policy Responses to Coronavirus (COVID-19),* Updated: 15 July.

Ozimek, A. (2020), "The Future of Remote Work", *Upwork*, https://www.upwork.com/press/economics/the-future-of-remote-work/

Sostero M, S Milasi, J Hurley, E Fernandez-Macias and M Bisello (2020), "Teleworkability and the COVID-19 crisis: a new digital divide?", *JRC Working Papers Series on Labour, Education and Technology* 2020/05, JRC121193, European Commission.

Survey of Business Uncertainty (2020), Federal Reserve Bank of Atlanta. 28, May, 2020. https://www.frbatlanta.org/blogs/macroblog/2020/05/28/firms-expect-working-from-home-to-triple

Vargas Llave, O. and Weber, T. (2020), "Regulations to address work–life balance in digital flexible working arrangements", *New forms of employment series*, Publications Office of the European Union, Luxembourg.

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