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Institute of Economics
Scuola Superiore Sant'Anna

Piazza Martiri della Libertà, 33 - 56127 Pisa, Italy
ph. +39 050 88.33.43
institute.economics@sssup.it

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WORKING PAPER SERIES

Autonomy and control in mass remote working during the Covid-19 pandemic. Evidence from a cross-professional and cross-national analysis

Marta Fana ^a
Francesco Sabato Massimo ^b
Angelo Moro ^c

^a Joint Research Centre, Seville, Spain.

^b Science Po, Paris, France.

^c INRAE, Dijon, France, and ARTES 4.0 Macronodo Scuola Superiore Sant'Anna, Pisa, Italy.

2021/28

September 2021

ISSN(ONLINE) 2284-0400

Autonomy and control in mass remote working during the Covid-19 pandemic. Evidence from a cross-professional and cross-national analysis¹

Marta Fana
JRC – Seville²

Francesco Sabato Massimo
Sciences Po – Paris

Angelo Moro
INRAE – Dijon; ARTES 4.0 Macronodo Scuola Superiore Sant’Anna – Pisa³

Abstract

The global pandemic induced by the spread of the Covid-19 acted as an exogenous shock which forced organisations to adopt telework as a daily and common form of work along a relevant fraction of the occupational structure. Indeed, most of the growing contributions on telework focused on the estimation of employment which can work remotely, while less or any attention has been paid to the impact of the “new” work arrangement on the labour process. Our paper aims at filling this gap. Drawing from a real-time cross-professional, cross-organisational and cross-national qualitative survey, our research investigates two main and interrelated aspects. First, we show how organisations reacted to this shock in terms of autonomy and forms of control including standardisation and teamwork dimensions across different occupations and economic sectors. Second, we describe how and to which extent workers respond: adapting, resisting or appropriating the new organisation of work. More specifically, we study the effect on the above-mentioned dimensions across different occupations to highlight heterogeneity along the vertical division of labour.

JEL classification: L23, M54, O33, J81.

Keywords: Telework, Covid-19, Work organisation, Labour Process, Autonomy, Control.

¹ This paper is based on the results of a survey carried on behalf of and funded by the Joint Research Center- EC, Seville.

² Views and opinions expressed in this paper do not reflect in any occasion those of the European Commission and the Joint Research Center.

³ The author acknowledges the financial support by ARTES 4.0. Views and opinions expressed in this paper do not reflect in any occasion those of ARTES 4.0.

1. Introduction

The debate on telework dates back to the Seventies at the time of the first wave of ICT adoption within organisations, when new technological possibilities at a massive scale allowed for new forms of work and work arrangements. Since then, the interest on homeworking or other remote working arrangements has been analysed under different perspectives: the possibility to reduce pollution and commuting (Nilles, 1975), the reconfiguration of urban spaces and societal changes as family structures (Toffler, 1980). Using an evolutionary lens, ICT development and its adoption pushed the frontiers of homework practices beyond their earlier configurations, ranging nowadays from more traditional home-based work to “nomadistic work” (Messenger, 2019).

As for many other topics, the deterministic relationship between the diffusion of ICT, since the Third Industrial Revolution, has been widely rejected by the empirical evidence breaking technodreams of those envisioning a massive jump into telework. According to Sostero *et al.* (2020), in 2019 only 11% of European dependent employees were working from home at least some of the time, while those often working remotely do not exceed the 3.2% (at the EU-27 level) since 2008. However, looking at the technical feasibility of telework, new empirical evidence suggests that one employee out of three could perform his tasks outside the premises of the firm (Cetrulo *et al.*, 2020a; Sostero *et al.*, 2020). Bundling this evidence together, it emerges that before the pandemic a substantially higher share of European workers could in principle execute their work outside the firm’s premises compared to those who are actually allowed to do it. At the same time, the potential for telework does not embrace the majority of the workforce. The natural event of the global pandemic clarifies both issues.

As stressed by a large strand of literature, during the last decades the expansion of occupations characterised by material tasks related to the creation, transformation and dissemination of information rather than physical outputs enabled the technical feasibility of telework across a wide spectrum of occupations (see Illegems *et al.*, 2001; Taskim and Edwards, 2007; Bloom *et al.* 2015), although still not the majority in terms of employment. The outbreak of the Covid-19 global pandemic and the (forced) massive shift toward homeworking reinvigorates the production of new evidence on the potential distribution of this type of work arrangement from an occupational standpoint. Dingel and Neiman (2020) led this strand of studies developing the first indicator on teleworkability, from the pure technical point of view, for the US economy. Using O*NET data covering work content and ICT requirement and use, the authors find that 37% of occupations in the US are teleworkable, an estimate confirmed by Hensvik and Le Barbanchon (2020). Following this study, Cetrulo *et al.* (2020a) estimate a 30% of teleworkable occupations in Italy, while this share increases up to 56% for Germany (Alipour and Falck, 2020).

All these studies point to the necessity to look at the occupational structure to understand the potential for remote working. However, the potential for telework hides other divides. Using data from two waves of a real time survey launched at the end of March and in mid-April 2020, Galasso

and Foucalut (2020) show that teleworkers are often better paid and enjoy less precarious contractual arrangements compared to those who cannot telework. Similar divides have been stressed by Cetrulo et al. (2020b), claiming also for a strong gender difference.

Whether mass and non-occasional telework, induced by the Covid-19, is here to stay is still an open question grounded on both old questions and new realities. Recent data from Eurostat (2021) show that the share of workers who usually worked remotely during 2020 was substantially lower than the potential: 10.8% at the EU27 level. The distance between France and Italy is closer than the previous year, 14.3% and 11.1% in 2020 compared to around 5% and 2% in 2019, respectively.

Old and new evidence seem to confirm that the diffusion of remote working does not only depend on its technological feasibility. A broader set of explanations is necessary, so to capture at the same time technical, institutional, and social factors as well as workers' and organisations' preferences.

At the macro level, differences across countries on the technical feasibility of telework rest upon differences in both employment structures, country sectoral specialisation and actual ICT infrastructural endowment (Messenger, 2019). Nevertheless, the distance between theoretical and actual operationalisation (both between and within countries) of this form of work is hard to be explained by the heterogeneity in the adoption of enabling technologies and the formal vertical division of labour. Put simply, working outside the premises of the firms is one way in which new forms of work may occur, involving all dimensions of the labour process: *what, when, where* and *how* production takes place. More precisely, telework on its own does not concern just the place of work (Messenger, 2019), but it has significant implications for work organisation and power relations at the workplace. Considerations already embodied in the European Framework Agreement on Telework (2002), defining telework as “a form of organising and/or performing work, using information technology”.

According to this perspective, we can think of three main topics, all related to work organisation, delaying or hardening the adoption of telework: managerial control and workers' autonomy, the degree of routine of the labour process and, third, teamwork, as a form of horizontal cooperation within the organisation. In this paper, we try to investigate these interrelated aspects, drawing from a cross-professional qualitative survey conducted in France and Italy during the first lockdown imposed at the national level between March and May 2020.

The rest of the paper is structured as follows. Section 2 summarises the relevant literature on telework and work organisation. Section 3 presents the methodology adopted for the semi-structured interviews, the sampling strategy and the guidelines used for interviewing respondents. Section 4 presents the conceptual framework that informs the analysis of fieldwork material and discusses results on the impact of the transition to mass telework in relation to the process of adaptation and redefinition of tasks' content and to changes in work organisation, according to the three dimensions identified above. Finally, Section 5 concludes.

2. Literature review and motivation

During the last decades, within the economic and sociological literature emerged two main views on the effects of telework on work organisation and social relations in production, in particular control and authority mechanisms. As argued by Dimitrova (2003), these compelling arguments can be summarized in the Post and Neo-Fordism standpoints. Although the semantic of these names well reflects the debate around the new frontier of social relations at the beginning of the XXI century, they could nowadays be refined in terms of Post and Neo Taylorism. For instance, these names mainly focus on the extent to which new forms of work organisation led to more workers' autonomy and participation or instead they result in a qualitative shift of the existing forms of managerial control (Lomba, 2005). Regardless of the naming, according to the former argument, by breaking the primary source of managerial control - the physical boundaries of the workplace - telework brings more democratic control procedures, mostly based on reciprocal trust and self-control (Vallas, 1999; Zuboff, 1988). Conversely and more in line with the neo-Fordist argument, the transition to telework went hand in hand with the increase of digital mediated forms of managerial control, like phone calls, virtual meetings and frequent activity reports (Olson, 1988). Few decades later, further advancements in digital-enabled mechanisms of control appear to be able to expand the frontier possibilities of systematic and bureaucratic control of remote working, as well as office work, (Edwards, 1982).

Direct control and supervision have been identified as major concerns delaying the spread of telework according to the several studies (Dimitrova, 2003; Felstead *et al.*, 2003; Olson, 1988): «Bosses' need to boss» as Cal Newport called it in the *New Yorker*. As long as work is carried out outside the firm's premises (Eurofound and the International Labour Office, 2017), the traditional office-based mechanisms to monitor working time and quality of work may not be available unless new forms of control are implemented, especially for those jobs where output quality and quantity is intrinsically more difficult to measure. This may explain why occupations similar in terms of telework technical feasibility are characterized by substantial differences in its actual use. According to this view, Felstead *et al.* (2003) show that there exists consensus among managers that physical proximity acts as a form of self-discipline for workers and surveillance by others (not necessarily the hierarchy). The necessity of reorganisation and more precisely of more autonomy granted to employees has been found as a major cause preventing the diffusion of telework in France, according to the work of Aguilera *et al.* (2016) based on different surveys and semi-structured interviews in the Brittany region. At the same time, employees working remotely may feel the inability to show their honesty and productivity, turning into a signalling strategy like sending more messages to colleagues and supervisors to be visible (Kurkland and Bailey, 1999; Taskin and Edwards, 2007; Sewell and Taskin, 2015). This could be seen as a reflection and/or incorporation of the ideological stance provided by the mainstream economic approach to work relations. According to the efficiency wage theory, under asymmetric information, that is when

the workers' effort cannot be measured/monitored, it is assumed that without supervision (then embodied in an "efficient" employment contract) workers tend to shirk (Bloom *et al.*, 2015).

Feldstead and co-authors (2003) investigate the extent to which new technological devices have been introduced to replicate visibility and direct control showing that this was the case mostly for more technologically sophisticated organisations, like telecommunication. More traditional communication mechanisms, like phone calls, are not adequate since they result in time consuming activities or are not enough suited to track workers' productivity (Kurkland and Bailey, 1999), that's why they are not always appreciated by managers. Taskin and Edwards (2007) address the question of the impact of telework on workers' autonomy and control focusing on the public sector in Belgium, therefore applying the same research question to an already highly bureaucratised work environment. According to their findings, telework enables supervision and managerial control over workers by superimposing new practices to old and more traditional ones. Managerial control is reinforced by performance management techniques fostering performance-based work and individualisation. The authors also find that HR management agreed to the possibility of teleworking as a rewarding mechanism for most productive employees. The introduction of new forms of control related to telework appear to be a widespread phenomenon, since a change in daily organisational practices is necessary to maintain direct control from managers onto teleworkers (Kurkland and Bailey, 1999). It is interesting to note that, once introduced for remote-working, these new forms may be kept in place even within the premises of the firm.

Sewell and Taskin's (2015) study on telework among BioPharma workers highlights how the perception of autonomy deteriorated as a consequence of the introduction of formalized meetings used by managers to check what had been done and by whom. Also in this case, new forms of control add to or replace existing ones, reinforcing hierarchical supervision, and expanding its scope. In particular, changes in types of managerial control differently affect Clerks and Professionals, with the former being subject to a more stringent supervision and even to an intensification of work (Olson and Primps, 1984). Similar findings are shown by Dimitrova (2003), investigating control practices across the occupational structure. More interestingly, this author finds that control practices are similar between traditional and remote work for Professionals and high-level Clerks, while they intensify under telework for Sales workers. As expected, these tighter forms are characterised by both more frequent interpersonal interactions and formally encoded procedures.

Furthermore, the degree of standardisation of the labour process - that is the extent to which tasks, procedures and output are encoded in a formalised system - should foster the adoption of telework since it allows to substitute direct and physical control with bureaucratic control. Pouliakas and Branka (2020) tested this hypothesis showing that the tasks profile of EU remote workers is mostly characterised by standardised tasks. An interesting finding, challenging the mainstream idea according to which those at the top of the professional ranking (i.e professionals) carry out not standardised tasks but are often granted remote working and higher pay. What really matters for

our discussion is not just the static picture of the actual distribution of tasks, but, first, if and to what extent tasks standardisation increases the potential of telework adoption by organisations. And second, if and to what extent under remote working new forms of bureaucratic control emerge along the hierarchical division of labour within the same organisation. Indeed, according to Neirotti *et al.* (2013) the increase in adoption of telework within Italian SMEs follows the routinisation of their core business processes.

On the contrary, the extent to which teamwork, as a form of horizontal and vertical cooperation within the organisation, is a necessary ingredient to production may reduce the scope for telework. For instance, although ICT tools like collaborative platforms, videoconferencing and phone calls are more frequently adopted at higher quality levels together with the diffusion of digital skills, telework cannot perfectly substitute social and personal interactions (Pyöriä, 2011).

These arguments can identify hypotheses to be tested to understand the determinants of the lower share of actual teleworkers against the potential one during the past decades. At the same time, they serve as a conceptual framework to study the implementation of telework regimes at a mass scale. In this sense, the Covid-19 global pandemic acted as an exogenous shock which forced organisations to adopt telework as a daily and common form of work along the whole occupational structure. We can therefore highlight two main and interrelated aspects. First, how organisations reacted to this shock along autonomy, standardisation and teamwork dimensions across different occupations and economic sectors. Second, how and to which extent workers respond, in many cases adapting and reshaping firms' decisions related to remote organisation of work. When faced with a change in work organisation, workers are never passive, but tend to respond in ways that can significantly alter the work organisation in practice (even if not in theory).

3. Methodology

This paper draws on findings from in-depth interviews conducted during the months of April and May 2020 in France and Italy. A total of 25 interviews were done in each country among dependent employees who were working from home because of the Covid-19 outbreak, and who may or may not have had experience of telework before. Yet, employees who were in a permanent telework arrangement before the Covid-19 crisis were not eligible to participate in this study. In order to get a comprehensive understanding of workers' experiences with teleworking during the confinement we aimed at some heterogeneity both in terms of socio-demographic characteristics (i.e. gender, age, household's composition) and in terms of the characteristics of jobs (i.e. sectors of employment, individuals' skills level, occupation and contractual arrangements). Table 1 shows the final composition of the sample by country. Respondents were reached through multiple channels (personal contacts, snowball, social networks, contacts from previous field work).

Table 1 : Distribution of respondents by socio-demographic and job profile characteristics⁴

VARIABLE	CATEGORIES	Italy	France
Gender	Male	12	11
	Female	13	14
Age	<=45	15	17
	>45	10	8
Type of household	Couple with children	12	13
	Couple without children	6	6
	Single person	1	4
	Other	6	2
Private/public employee	Private	18	18
	Public	7	7
Occupational level	High	11	12
	Medium-Low	14	13
Type of contract	Permanent	17	18
	Temporary	8	7
Working time	Full time	23	24
	Part time	2	1
Direct contact with clients/other people	Yes	12	15
	No	13	10

The semi-standardised set of questions was first prepared in English and then translated by researchers conducting the fieldwork into the native languages of respondents. In every interview, the grid was adapted according to the specific situation of the interviewees, who were free to set their own priorities in their narration. The interviews broadly covered three main thematic areas, of which only the first one will be analysed in the present paper:

- **work organisation and labour relations** (e.g., transition to telework, negotiation of the transition, relation with colleagues and teamwork, autonomy, control mechanisms, tasks and coordination);
- **job quality** (e.g., intrinsic quality of work, wage and contractual issues, working time, social, economic and psychological risks, health and safety);

⁴ Respondents have a fair wide range of occupations and operate in a reasonably large spectrum of sectors. The professional composition of our sample in France and Italy is reported below.

FRANCE: 6 managers (2 top level managers, 4 middle managers), 1 full-time union officer, 5 technical professionals (1 informatic engineer, 1 agronomist, 1 psychiatrist, 1 iconographer, 1 rail expert), 3 knowledge workers (1 primary school teacher, 1 dance teacher, 1 Ph.D. researcher and university lecturer), 4 sales and service workers (3 call centre operators, 1 tourist guide), 6 clerical support workers (1 subtitler, 1 juridical officer, 1 accounting clerk, 1 city council employee, 1 editorial secretary, 1 clerk/janitor).

ITALY: 3 managers (2 top level managers, 1 middle manager), 5 technical professionals (1 tax consultant, 1 data analyst, 1 service designer, 1 mobility specialist, 1 editor), 6 knowledge workers (1 primary school teacher, 3 high school teachers, 1 Ph.D. researcher, 1 research assistant and university lecturer), 2 sales and service workers (1 social worker, 1 call centre operator), 9 clerical support workers (4 accounting or purchasing clerks, 2 secretaries or personal assistants, 2 administrative or accounting officers, 1 employment centre employee).

- **work-life balance** (e.g., clash of telework and family life, mechanisms of adjustment).

The interviews were conducted remotely, through video conferencing tools such as Skype, Whatsapp or Zoom. Some interviews were conducted by phone in case the internet connection was insufficient or when this was requested by the interviewee. The length of the interviews spans from 48 minutes to 2 hours and 37 minutes, with an average of about 1 hour and 30 minutes. All the interviews were recorded and entirely transcribed. Their content thus resulted in a textual corpus that was dissected according to a 2-layer coding system, modelled from the interview grid. This entailed an iterative, rather than linear, process between our data and the emerging patterns, while also looking for relevant “breakdowns” that could challenge the interpretation of the fieldwork materials (Alvesson and Kärreman, 2011). The analysis of these materials ended when theoretical saturation (Corbin and Strauss, 1990) was deemed satisfactory.

4. Empirical findings

The conceptual framework informing the analytical dimensions studied in the present paper draws from both the Labour Process Theory (Braverman, 1974; Edwards, 1982; Thompson and McHugh, 1990) and the organisational theory of the firm (Nelson and Winter, 1982; Dosi *et al.*, 2001; Dosi and Marengo, 2015) according to which organisational practices are the locus in which social relations are explicated at the workplace.

We start by shedding light on the timing and management of the transition to mass telework during the first lockdown and on the technical adjustments required in order to put employees in condition to telework (par. 4.1).

We then try to explore how the transition to telework reshaped the content of tasks performed by workers, defined as the bundle of work activities materially (technically) required to transform inputs into outputs during the production process (Fernandez-Macías and Bisello, 2020)⁵. In our analysis, we do not dig into what type of task, if any, changed after the switch from office-based to remote work. Rather, we investigate the extent to which the bundle of tasks content was modified (par. 4.2).

Next, we analyse to what extent the transition to telework required a reorganisation of the *methods of work*, that is the organisational practices prevailing at the workplace. In terms of work methods

⁵ From this perspective, task content entails what people do at work which can encompass three main sets of activities (Fernandez-Macías and Bisello, 2020). First, physical activities, that is those requiring physical strength and dexterity. Second, intellectual tasks involving the processing of codified and uncoded information as well as problem solving. Third and finally, social activities which refer to the activity of dealing with people whether clients, customers, patients, users. All these three dimensions bundle together to simultaneously characterise a given job (Bisello *et al.*, 2021) although substantial heterogeneity in the prevailing type of content emerges across jobs along the vertical and horizontal division of labour.

(or forms of work organisation), three main dimensions are identified: self-latitude and direct control (par. 4.3), teamwork (par. 4.4) and bureaucratic control (par. 4.5).

For what concerns the first dimension, we refine the framework proposed by Fernandez-Macias and Bisello (2020) according to Maggi (2016), therefore detailing the broad category of self-latitude into autonomy and discretion. Autonomy is then intended as the “ability to produce its own rules” and therefore to modify its own set of actions; while discretion relates to the possibility to choose alternatives within a predefined set of actions in a regulated process. Direct forms of control broadly cover personalised forms of hierarchical and supervisory control within the organisation as well as external ones, when the control is exerted by figures outside the workplace (i.e., clients). Teamwork is broadly defined as the “extent to which the worker has to collaborate and coordinate her actions with other workers” (Fernandez-Macias and Bisello, 2020). Finally, the concept of standardisation refers to bureaucratic control, the form of command over the workforce imposed indirectly and impersonally through means of technical and procedural standards, or routines (Edwards, 1982).

4.1. Transition to telework

Chronologically, Italy has been the third country after China and Korea to be largely hit by Covid-19 and the first European country to implement nationwide social distancing and economic lockdown policies. On the 31st of January, all flights to and from China were cancelled and a national emergency was declared. In February, eleven municipalities in Lombardy and Veneto were quarantined. On the 9th of March, the lockdown was extended to the entire country. On the 21st of March, the Italian government imposed closure of a detailed list of “non-essential” economic activities and recommended the application of telework even for private companies, following a disposition passed at the end of February that strongly encouraged its implementation for the public sector⁶. The Covid-19 pandemic hit France about one week later compared to Italy but similarly seriously. A national lockdown was introduced on the 16th of March, a week after Italy, and lasted until the 11th of May. Also the French government issued a series of decrees drastically restricting the freedom of movement for citizens and closure of leisure, accommodation and cultural activities and a small part of the retail sector. However, differently from Italy (but also Spain and Germany, see Fana *et al.* 2020), according to the French national decrees no manufacturing sectors have been suspended or listed as non-essential.

In France, most of our respondents (21/25) started teleworking the same day the national lockdown entered into force. The only one who started in the previous week was a middle manager working at the HQ of an interim recruitment agency, who was already teleworking for health reasons. Only

⁶ For a detailed summary of the Italian economic confinement decree see Fana *et al.*, 2020.

three respondents started teleworking after the lockdown was imposed, in a lapse of time that spans from one to two weeks.

For what concerns respondents in Italy, the panorama of the transition to telework seems to have been more heterogeneous. The shutdown of “non-essential” economic activities have been largely anticipated in at least some of the cases in our sample, the decision to switch to telework being taken in advance with respect to the government decree.

Different considerations apply to those workers in our sample who are employed in economic sectors declared “essential” according to Italian national decree. Most of the clerical workers in our sample fall in this category, whether they are employed in the public or in the private sector. In some cases, workers benefited from full-time telework arrangements adopted also in firms and services authorised to pursue their activities in the workplace. In other cases, part-time telework arrangements were put in place, often several days after the beginning of the lockdown, allowing employees to work from home either part of the week or part of the day, while working in their workplaces the rest of the time.

Although most of the respondents began teleworking in the days around the lockdown decision, this does not mean that the organisations they worked for were immediately ready for such a change. Generally speaking, it seems that specific telework guidelines have sporadically been introduced at the outbreak of the Covid-19 crisis. In those workplaces where telework agreements were already in place (mostly big firms), employers unilaterally extended and reiterated existing, and sometimes rigid, telework guidelines and policies, to which employees, already allowed to telework, were already accustomed. In those workplaces where, on the contrary, no telework agreement was in place (mostly small firms), employees did not receive any specific guidelines and seemed to have relied mostly on self-organisation and gradual and informal adjustments. In these firms, for instance, transition to telework seems to have been more often the outcome of direct or personal negotiations between the employers and the employees, either individually or collectively.

Public organisations such as administrations, schools and hospitals found themselves completely unprepared for the lockdown, both in France and Italy. Work activities in these organisations are usually characterised by direct physical contact between workers and users and/or on a low degree of standardisation of work, depending on the specific occupation. Respondents working in this type of organisations usually reported a slow or absent proactive behaviour of the hierarchy which infused a sense of abandonment but, in some cases, also enhanced workers’ collective agency (see par. 4.3). Regarding the responsiveness to the organisational change some workers stressed disorientation (especially in hospitals and schools, where working routines were very vulnerable to the lockdown situation).

Transition to telework also demanded technical adjustments to put employees in condition to telework. Those technical adjustments concerned both the provision of tools and the remote accessibility of professional softwares and online business systems and platforms. Where smart

working agreements were in place before the pandemic crisis, employees often already had professional laptops and tools provided by the employers. When lockdown occurred, the main issue at the IT level was thus the enhancing of online business networks.

Where no smart working agreement was in place or where telework was not largely implemented before the pandemic crisis, employers often had to find and distribute laptops and other tools to their employees, especially in those cases in which employees usually work on fixed computer workstations at the workplace. Where this happened, effective transition to telework took obviously longer, from some days up to a month. At the same time, employers had also to take necessary measures in order to grant remote access to business networks and professional software.

Large organisations, especially private companies - like a telemarketing company, an insurance company or an interim recruitment agency -, organised telework through specific tools, like VPNs, to guarantee workers' access to their office computer and software and to keep control on their work. Others, such as medium and small sized private employers or medium sized public administrations did not need or were not able to do so. Some of them, however, decided to rely on simpler and cheaper alternatives, such as the installation of remote-control softwares like TeamViewer or AnyDesk.

4.2. Tasks' content adaptation and redefinition

In most of the analysed cases, the transition to mass teleworking during the first lockdown has led to a process of adaptation and/or redefinition of the tasks content assigned to workers. It is worth stressing that these changes were not necessarily due to telework *per se*, but more often the result of the contingent situation created by the social and economic confinement measures introduced by the governments. Indeed, according to our findings, changes in task contents were explained more by the type of economic activity and the way they have been affected by lockdowns than by occupations.

In Italy two main drivers of change in task contents can be detected. The first driver applies to those sectors declared “non-essential” and therefore suspended between March and early May 2020 by the Prime Minister's decree. Among these activities, those related to the production of tangible goods were directly affected and workload drastically reduced. For example, in the case of an automotive company in Turin the impossibility of continuing ordinary workplace activity led to implementation of temporary lay-off schemes for shopfloor workers. However, employees not working on the shopfloor, mostly medium or high skilled workers like managers or engineers, were placed into full-time telework. Three of our respondents fall in this category and all of them underwent an important redefinition of their tasks because of the closure of the directly productive departments of the company and to the expected economic consequences of the pandemic:

“Those who are directly in production have been put on temporary lay-off. Instead, those who do office work, like I do, can do smart-working, but they cannot do the same activities

they did before. So, they try to fill that part somehow. [...] Right now they are asking me to really do every type of job: the pitch to sell the product, communication, marketing, etc. [...] Activities that are outside my job title and on which I did not even plan to try my hand in my near future.” [Italy, Product Manager in an Automotive Firm]

“Let's say that the work I'm doing has changed. In the sense that before I worked on projects. Now we are mainly working on defining new opportunities, because obviously the fear of the consequences of the virus is greatly accelerating the business development part. So even if I don't do business development in theory, I'm working a lot on offers. So a lot of the work I have done in the past few weeks has been quotes: talking to the various technical departments, meeting to collect data for quotes, writing offers, defining technical requirements, etc. Another part of the work I do is linked to the review of business processes, which is something that is being done at the company level that has been implemented even more during the epidemic precisely because of the fear of the economic consequences of the virus. Previously I dealt with these areas less frequently - I personally have always worked on the definition of new concepts - but in this case they asked us to do it with a much higher frequency, to push much more on new opportunities and offers, partly to keep us busy, partly because they want to encourage a quick recovery.” [Italy, Service Designer in an Automotive Firm]

As for the second driver, the emergency situation created by the pandemic reshaped objectives and priorities, modifying the content of workers' tasks also in those sectors declared “essential”. This is especially true for companies producing services and intangible goods. In our sample, this is the case for instance of a bank branch manager:

“Before this tragedy began, I managed the ordinary administration of the branch, various practices and resolutions. Since the end of April, the activity has intensified considerably. [...] Now we need to disburse the loans guaranteed by the State. Someone else was supposed to manage the paperwork and we just had to lend; instead I am managing these practices in all phases: proposal, demand, tests and delivery.” [Italy, Bank Branch Manager]

On the other hand, changes in tasks content have been stressed especially by workers usually operating in direct contact with customers/clients and more generally the public. This is hardly surprising considering that communication is an important component of serving and attending, caring, teaching and training people, selling goods and other services activities. In these cases, the regular performance of work activities was severely affected by the lockdown. This seems to have been the case for both low skilled clerical and service workers and medium or high skilled professionals, employed both in the private and in the public sector. While all these workers used to spend part of their working time in direct contact with users and their activity was largely limited by the transition to telework, their situation during the first lockdown was far from homogeneous.

For what concerns low skilled clerical and service workers, three different outcomes can be identified within our sample. First, in some of these cases, employees working remotely were able to enjoy greater freedom in the definition of the content of their work, mainly due to the reduction of their workload. Some of them - like an administrative officer in a vocational training centre in Italy or a real estate registry officer in a city council in France - autonomously decided to reuse part of their working time in mostly bureaucratic tasks that were left out in the ordinary work routine or took this opportunity to catch up the amounts of work that they had left behind:

“Now I have milder rhythms, due to the fact that in my type of work, lacking users, 70% of the work is missing: assisting communication between users and teachers, communicating absences, preparing correspondence, answering the phone, making conventions, managing contacts with families who ask for information or certificates... Now I can recover stuff that usually is left out. When I am at home I get up at 9 am, I start tidying things up, doing what I have to do... I am more than anything else in a phase of recovery of many things that I have left out, because maybe the daily activity takes too much time, the relationship and the contacts with teachers, with the administration and with students... Now instead I am able to recover. There is no frenetic activity, but the distance allows you to concentrate on the previous work that maybe at other times is much more demanding.”
[Italy, Administrative Officer in a Vocational Training Centre]

“Since we couldn't do any more field work, I could focus on administrative tasks. That helped me a lot, otherwise I would have fallen behind by working in pairs, because my coworker didn't easily use computer tools, it's complicated for her... everything that's computer, it was me who had to do that... the colleague didn't telework and so that was a great relief for me because I could work alone without having to assist her...” [France, City Council Officer, Real Estate Registry Officer]

In other cases, especially in those organisations which had to readapt their operations to the new constraints imposed by the lockdown (schools, trade unions, hospitals), the intensity of work changed but it was only partially or temporarily affected: the workload decreased at the beginning as long as their organisation was undergoing a process of adaptation, but then recovered to ordinary standards. As a consequence, the content of the tasks assigned to clerical workers was only temporarily readapted and employees quickly returned to their usual activities, without experiencing lasting or substantial changes. In this regard, the case of a clerical worker in a white-collar trade union federation in France is quite indicative:

“It's been a pretty busy period... At the beginning, I didn't have the bookkeeping to do any more... but now, as the activity has stabilised, I have the bookkeeping again... but the calls have been reduced a bit... I've reorganised my way of working a bit... Now I have fewer calls, I can concentrate on other things... The employees are a bit panicky with the crisis... but in the end it didn't bother me too much. It's my job and it was complicated to manage it before.” [France, Account Secretary in a White-Collar Trade Union]

Finally, in few isolated cases, the redefinition of tasks' content seems to have been not only lasting and substantial, but also unilaterally imposed by the employer. This could lead to the full job content being altered during the telework period, as in the case of a tourist guide in France appointed during the lockdown to the communication office as he could not perform his ordinary tasks:

“It's not at all my goal to work on these digital tools. I felt like I was being given things to fill up my working hours. At the end of the day my role is not very clear. On the one hand I'm happy because I'm developing new skills, but on the other hand that's not why I committed myself at all and I have no possibility to see what's expected of me. [...] I feel completely hindered in my abilities. What I can do I can't do. And the things that I can have expertise on, I'm asked not to give my expertise. I've even been explicitly asked to keep quiet and not to think about it. For example, a week ago I was sent a publication to put on fb to talk about the reopening of visits, to be posted on a Monday. So, according to the statistics I was able to make on the page, Monday is the day when you really shouldn't publish, so I simply suggested to do it another day, to one of my colleagues, and then I received an email saying that I didn't have to contest an order, that things were like that and that I was a troublemaker at the moment I was giving an opinion. And this was confirmed by the monks, who told me that my role was to apply what I was told, that I was a tool.” [France, Tourist Guide in an Abbey]

The situation was quite different in the cases of medium or high skilled professionals involved in tasks requiring the direct and physical contact with users, such as social workers, school teachers, university lecturers, psychiatrists etc. The content of their tasks could not be redefined (teachers, for instance, had to continue teaching), but was adapted to the contingent situation. However, the importance of emotional and interpersonal aspects of these jobs makes a difference in how remote performance of their tasks is perceived by our respondents. Teachers, for example, see direct and physical interactions with the students as being one of the defining characteristics of their profession at any level (primary school, high school or university) and also the one which is more than any other affected by the constraints imposed by telework. They also emphasise how this interactive dimension, in addition to being a value *per se*, is also strictly connected to teaching, because it allows to constantly verify the transmission of knowledge:

“Not being with the body at school is another matter, in the long run this is not school. Children get lost, because school is a community, it is being together, it is a relationship first of all. Instead in this way, simply by sending assignments or doing virtual classes...” [Italy, Primary School Teacher]

“During the video lessons I don't really realize how much people are following me. I am not 100% sure that they are following the lesson and are not doing anything else. [...] And then obviously it is very difficult to create a personal relationship. Last year, for example, I talked to students during breaks, we had a chat, I offered them coffee... This year during

the break, we all unplug the microphone and it ends there.” [Italy, Research Assistant and University Lecturer]

“The quality of learning fell as well as the results. I am not even able to see them in a proper way, as my movements often lead me out of the frame of the computer camera. I can’t even check if they understand the moves that I try to teach them. Sometimes I even think that they understand the opposite of what I mean. [...] Moreover, I am not able to talk to them as I used to do before, when I could have a conversation with them at the end of the class.” [France, Dance Teacher]

There is consensus among those performing teaching and caring but also coaching activities (not only teachers, but also a social worker, a psychiatrist, a trade union officer) that telework reduces both the effectiveness and the efficiency as well as the purposefulness of their work. The perceived deterioration in the quality of their work due to remote communication relates to the importance of interpersonal and interactive face-to-face dimensions of their tasks, which cannot be easily reproduced under telework. The risk reported by these workers was also to pretend to have the same kind and quality of relation through digital communication tools. Some of these workers soon realized that such an option was not affordable unless they agreed to dedicate an unreasonable amount of time to keep such occasional communication with users. The only solution was a suspension, or at least a substantial reduction of the time spent in communication with users, as in the case of a primary school teacher or of a psychiatrist:

“I had to transpose all our communications with parents on tools such as WhatsApp, I would have to make a phone call for every family, and this is clearly not possible.” [France, Primary School Teacher]

“We couldn’t actually do our job because our job is to welcome people, children and their parents, to play with children and discuss with parents. So, our job is a lot of “doing together”. On the phone we don’t “do together”.” [France, Psychiatrist]

Finally, it is important to notice that the process of tasks content redefinition described above has not taken place in every organisation. Some of our interviewees reported that their working activities have remained substantially the same. This appears to have been the case especially for workers particularly accustomed to telework, who therefore have been able to continue working on projects already underway or on objectives already set. The same holds for medium skilled technical professionals and low skilled clerical workers whose activities were already highly standardised by means of digital devices or tools. In the latter case, workers have been asked to maintain their work activities as if they were working (full-time) at the workplace:

“It depends on what the artist decides, already when he wants to release his project. I didn’t notice any big differences from ordinary work, it just slowed down.” [France, Middle Manager in the Music Industry]

“What I do right now is always the same. In addition, there is only some work linked to this contingent situation: getting everything in order, buying all the devices to protect employees, the delivery of the devices and the management of all this. At the accounting level, however, everything has remained the same.” [Italy, Accounting Clerk in a Winery]

4.3. Self-latitude and direct hierarchical control

Workers’ self-latitude is a central dimension of work organisation, capturing how tasks are organized and the degree to which workers can decide upon their priorities, working time and the extent to which their work is constantly monitored by supervisors or clients. In this paragraph, we retain the distinction between autonomy and discretion as stated in Section 4.

From the interviews two distinct phases emerged as it concerns workers’ self-latitude. The first phase coincided with the early moments of the transition characterised by a big and generalised increase in autonomy partly explained by the disrupted context which in some cases produced a sense of abandonment from hierarchy and management. The second phase started when new work practices consolidated: managerial control was to some extent restored and, as a general tendency, workers’ autonomy was restrained or gave way to discretion (see par. 4.5).

We analyse this diachronic evolution through the lens of two dimensions of analysis. The first one is the degree of teleworkability of jobs (i.e., the possibility to execute tasks remotely). The hypothesis is that the type of occupation had a major role in the extent of workers’ autonomy under telework. The second dimension of analysis is the degree of autonomy enjoyed prior to the shift to telework, which is strongly associated with workers’ position within the occupational hierarchy. Occupational hierarchy, in fact, determined to a large extent the level of autonomy in work organisation under the new regime, as well as the form of normalisation.

As we have seen in the previous paragraph (4.2), jobs with a low degree of teleworkability in our sample, namely those relying on direct contact with customers and users, were certainly those whose tasks were mostly affected by the transition from direct to remote communication. Given the low degree of teleworkability of these jobs, the sudden shift to telework disrupted the working routine and new protocols of work had to be put in place. Under this situation of uncertainty, workers could carve out, at different degrees, room for autonomy, intended as freedom to redesign their work methods (we will further explore this issue in the last section). This greater autonomy mainly spurred from the lack of precise guidelines from employers or managers and manifested itself in the possibility of choosing or modifying the methods of carrying out the work and the technical tools to support it, as in the case of teachers or social workers.

Jobs with a high degree of teleworkability, on the contrary, were only slightly affected by the shift to telework. These jobs, whether low or high skilled, fit or proved accustomed to remote work (in our sample, call centre operators or IT managers). Consequently, as reported by respondents, their work methods were not particularly affected:

“My work at this stage is roughly the same. [...] I feel autonomous in the same way, also because luckily, we already did smart-work before. Luckily, I work on something that I have not started now, on which I had already worked before, so I already felt autonomous before the confinement... just like now, nothing has changed.” [Italy, Data Analyst in a Bank]

“I monitor the work of my team as I did before. I have my team spread over 5 countries all over the world. It makes absolutely no difference to me. Out of 100 people, I only had one person who was at the headquarters, so they are supervised with monitoring tools. They have missions, and I will realize very quickly if the work is not done, so there is no risk.” [France, ICT Manager in a Telemarketing Multinational Company]

It is worth noting, however, that, even if the shift to telework did not upset work methods, the absence of direct control was a significant change especially for low skilled jobs. For instance, a call centre employee (in Italy) reported that greater autonomy resulted from being able to withdraw from the social control exercised by her colleagues in the workplace, as she felt free to spend more time on the phone with the clients while working from home:

“My colleagues criticise my way of working because I lose too much time on the phone with customers while they tend to hurry up and make as many contracts as possible. Me, on the other hand, I have a different way of working and in this context of telework if I want to stay a little more on the phone with a client, explaining something or solving a problem, I can do it. At work, on the contrary, all telephone stations are stuck and everyone hears everything.” [Italy, Call Centre Operator]

In a specular way, managers in some cases reported the loss of direct control as a significant change:

“There are processes that require hierarchical authorizations and many times it becomes confusing because people outside [commercial agents] either do not know or pretend not to know that there are hierarchical levels and try to override for personal benefits... and this situation must be kept under strict control, and it is much easier to control it when we are all grouped at the workplace rather than remotely.” [Italy, Commercial Manager in an Electromedical Manufacturing Company]

On the other hand, workers needed to adapt their working procedures to the new situation which increased the need for horizontal coordination. Especially in the case of low-teleworkable occupations, at least during the early stage of telework, the emergency situation allowed some workers to gain decision-making power over the definition of priorities, sometimes to the point of temporarily appropriating the prerogatives usually attributed to the management. In other cases, however, this increase in autonomy filled a gap when managers were not able to timely react to the new situation, letting workers feel frustrated:

“As far as deadlines are concerned, everything is a little confusing in reality. I have suffered a little from the absence of clear objectives, because since the beginning of the quarantine even the supervisors have not known how to handle it. [...] In the first period, therefore, I found myself replacing the supervisor, not in a hierarchical perspective, but trying to propose work organisation tools, tables, documents, etc. Obviously the supervisor does it in a more centralized way, instead my attempt, precisely because I am not a manager and I do not command the others, was to call everyone and get a bottom up picture of the situation, to understand what they thought were the priorities of the week, what things they needed support for, and then maybe the people who had a smaller workload could help to prevent some from doing too much.” [Italy, Service Designer in an Automotive Firm]

“I’ve had no communication from anyone, no one told me anything. After a couple of weeks, my supervisor sent us a collective message to ask who was available to telework. At the beginning I didn’t accept, because I was in a single room and she didn’t tell us what kind of job she wanted from us, we had to answer with a closed envelope. I called her to understand what they had in mind and once she explained to me, I talked to my partner to see if it was OK for him. He said OK and I accepted because I needed to do something. But I had no instructions about anything, I had quite virulent discussions with the management because they sent me to do things I didn’t have any kind of information about and basically I got insulted on the phone by my students’ parents and in addition there was a big communication problem with regard to the return [to school] because in my school is an extremely hierarchical system that tends to infantilise and humiliate the base of its pyramid.” [France, Clerk/Janitor in a Public High School]

In addition, this greater autonomy was not only enjoyed by workers individually, but in some cases it also manifested in the form of collective self-organisation and horizontal cooperation as a reaction to the management's shortcomings:

“At the beginning it was a mess. Older colleagues wanted to do everything on WhatsApp, while others wanted to use Zoom, so we had to mediate. We – three young professors – said to each other: “At the beginning we will only use WhatsApp, then we will go step by step”. So, we created WhatsApp groups for each class and we sent homework using those groups. Then we trained our colleagues to use Classroom and started doing lessons there.” [Italy, Private High School Teacher]

“So, I had to basically set up the switch to this teleworking regime, with contradictory injunctions that I’ve been used to since I worked in the hospital, which were to protect the caregivers from possible contamination. [...] We did this quite autonomously, we imagined it among ourselves. And then we had meetings of all the doctors in my department with my department head. So, my department head is in contact with the other department heads.

So, we did a bottom-up and top-down process.” [France, Psychiatrist and Responsible of a Psychiatric Service in a Hospital]

The second relevant factor impacting self-latitude during telework is directly and positively related to the degree of self-latitude enjoyed prior to the shift to the new regime, which in turn is strongly associated with workers’ position within the occupational hierarchy. This divide seems to have emerged especially during the second phase, characterised by a process of adaptation to telework and restoration of organisational routines as well as management authority. After an earlier phase of uncertainty, especially for those organisations not accustomed to telework, supervisors tried to restore forms of control. This restoration was carried out through two main channels, even if not always distinguishable. The first one was the replacement of personal direct control with digital direct control (use of softwares and communication platforms that provide supervisors with remote surveillance); the second mechanism was proceduralisation of telework or the attempt to replace the lack of direct control with bureaucratic control (see par. 4.5).⁷ Workers who already enjoyed a high level of self-latitude were more able to increase their self-latitude in the first phase and to secure it during the second phase:

“We already had a high degree of autonomy, we were already very autonomous, but with the lockdown, [managers] not [being able to] physically seeing [us], it was even more so.” [France, Illustrator for a Children's Literature Publisher]

Regarding digital direct control, the extent of these new forms seems to vary across our sample. Focusing on the possibility to autonomously modify the organisation of tasks performed and the definition of production objectives, the degree of autonomy did not change for those workers already accustomed to telework (mainly managers and professionals). For those already experiencing a high degree of autonomy in performing their tasks, the new work context did not imply any significant change. In this respect, workers on less standardised but more highly skilled and autonomous tasks (teachers, researchers, doctors etc.), although facing pressures to control from their supervisors, were more able to exert and secure their autonomy:

“No one has posed a question of control over online educational activity. Anyway, there is normally no control over lecturers' pedagogical planning: everyone can carry out the program he wants. I also think there are those who, perhaps rightly so, have chosen not to do anything anymore, if they already had the students' grades, given the circumstances.” (France, Ph.D. Researcher)

“Somehow, we got a little pressure from our medical informatics director who says "Attention, attention, we must act!". But there is a resistance movement. For example, there are colleagues of mine, doctors in my department, well committed, who say: "There's no way I'm going to do anything". So, I think there will be extremely varied and

⁷ A residual category is composed of organisations, often very small ones (a winery or a small museum among our cases), that did not introduce any special innovation in either procedures or direct control.

disparate positions depending on each person's personality. In practice, I didn't do anything during this period, but also because every day I was in a kind of uncertainty, having to deal with colleagues on the phone.” [France, Psychiatrist and Responsible of a Psychiatric Service in a Hospital]

On the contrary, low-skilled workers (like call center operators) faced a substantial increase in supervisors' control which very often take the form of recording and listening their activity:

“We are monitored very often, at least twice a day... Normally we are listened to twice a month, it was different, and we had two mail checks per month...” [France, Call Centre Operator in a Telemarketing Company]

The size of the organisation also played a role in the way in which forms of direct control were reconfigured during the transition to teleworking. For instance, some workers mainly employed in small organisations and who are often in contact with their supervisors reported an increase in direct control often exerted via personal communications (i.e., phone calls, WhatsApp messages):

“During the lockdown with my manager we exchange audio messages on WhatsApp or phone calls, in an important amount during the day. Usually we call each other at 9 a.m., then several times during the day and then at 6 p.m. when we have finished working to take stock of the situation. So, my manager sees if I did what I had to do, because when she calls me if I don't know what to say it means that I haven't been working.” [Italy, Commercial Assistant to a Financial Advisor]

On the contrary, medium and high skilled workers working in large vertical organisations experienced a certain increase in control exerted mainly through softwares and platforms or through new procedures:

“Our managers were already following us remotely through the computer: if there were things to do, they could see it and if you hadn't done them, they could see it too. [...] When we log in it's like punching in, but other than that there is no great control.” [Italy, Accounting Officer in a Public Administration]

The use of these tools for disciplinary purposes seems to have contributed to a greater integration of direct supervision with the bureaucratic control exercised through rules and procedures (activating in green on Skype when working, activating in yellow when on break, etc.). In one case, it also appears to have created the conditions for greater peer scrutiny among co-workers, since all members of a team can track other colleagues' behaviour:

“We have a tool that I have always abhorred and never used, which is Skype for Business. Before we did not have a strict obligation to use it, but now in telework it is mandatory. It has various status modes: status in which you are connected, available, busy at work, not on the computer... So, there is the eye: your boss can know if you are at work, if you are busy in a videoconference... For example, if I go to the restroom or if I take a coffee I put

on yellow, "not on the computer", so if the boss is looking for me, he knows I'm having a coffee. I am quite precise in using it. When I go to my work group, I know what all my colleagues are doing: if they have been offline for 10 minutes, 3 hours, 4 hours... I can see it." [Italy, Tax Consultant Officer in a Telecom Firm]

What is more interesting for the sake of our analysis is that the increase in direct control applied also to some high-skilled professionals, made possible by the activation of the intrinsic technological properties of corporate virtual networks (like VPNs), implemented at a mass scale during telework. These devices, while allowing remote connection to corporate networks, can also be used as control systems. As a result, workers perceive them as opaque tools, thus encouraging self-regulation mechanisms: the sheer possibility of being controlled activates forms of self-control in the workers. At least for one interviewee, however, this situation also generated a feeling of distrust between the employer and the worker:

"We understood that they can track us if they want, if they see that you are not online. For example, one person was told by HR that they would not pay him the full day because he was only connected for 5 hours. This thing should not theoretically be possible, because in official communications smart-work is an "act of trust" that the company does towards employees, assuming that we are responsible and therefore there is no software on which when you start to work in the morning you have to punch in virtually. [...] In theory, therefore, we have no control tools, but from what I understand, HR can see how many hours we have been connected to the PC, through the VPN. [...] So the perception we all have is that you cannot do your own things and we have to show that we are there, that we are doing something and that we are connected. Because nobody really believes in the idea of trust in reality." [Italy, Service designer in an automotive firm]

4.4. Teamwork and internal communication

The impact of the transition to telework appears to vary within our sample depending also on the role and the relevance of teamwork - the extent to which the worker has to collaborate and coordinate her actions with other workers - at the workplace. Of course, the sudden interruption of face-to-face interactions had an impact on every type of organisation. The majority of the respondents underlined two main difficulties connected to the transition from direct to indirect communication: the increase of the number of phone calls, mails, messages sent or received per day and the lower efficiency of written or indirect communication compared to oral and direct one:

"The computer tools, WhatsApp, e-mails are enough, but in my opinion, they do not compensate for the human relationship which is however another thing: the verbal communication but also the physical relationship. The verbal relationship is important because writing is not very effective at times: you have to be careful about what you write,

while direct communication is more of a discussion.” [Italy, Administrative Officer in a Vocational Training Centre]

In some cases, however, despite the interruption of face-to-face workplace interactions and the transition to remote communication through various means (phone calls, WhatsApp, Microsoft Teams, Skype, etc.), interviewees emphasised the absence of significant variations in the quality communication with their colleagues. This kind of assessment seems to be associated in particular with low or medium skilled clerical workers or technical professionals embedded in labour processes with a low degree of interdependence (e.g., accounting and administrative clerks, secretaries, editors). Some of these respondents even stated that remote communication had positive effects on their efficiency and productivity:

“The fact of working distant from the colleagues and the supervisor did not create problems. I usually work in the same room with my supervisor, but since we are at home we often talk via WhatsApp and we are very much in communication, so more or less we see what both of us are doing.” [Italy, Accounting Clerk in a Winery]

“Interactions with colleagues are more limited, but I find it pretty good, because sometimes it's too easy to go see someone four times to ask him something, while now you have to think about it: because it is not the same thing to call someone four times when you know that you are going to disturb him. So it makes the interactions more essential and meaningful: it really makes sense when you call someone. When we're all together there are a lot of interactions that we could avoid, whereas here we bother each other less and maybe we're more effective in the interactions.” [France, Editorial Secretary in a Research Institute]

On the contrary, for medium or high skilled workers for whom the degree of interdependence in the labour process is greater and teamwork requires a higher level of coordination, transition to telework and to remote communication had a heavier impact on work organisation and especially on the quality of internal communication. The main difficulty was associated with the holding of online meetings, which were perceived as less efficient and effective compared to face-to-face meetings. This is due not only to technical problems linked to the quality of the internet connection or to the limits of video conferencing tools, but also and more significantly to the greater effort necessary to individually and collectively maintain the focus and keep the concentration high during online meetings. In some cases, these difficulties also had repercussions on the quality of work relationships within the teams, in terms of loss of mutual confidence or even of exacerbation of competitive dynamics:

“For the most part we have always had face-to-face meetings [...] but now everything is online so it is a bit different. On the one hand, I get distracted very quickly when I attend meetings because you have the screen, the phone in your hand, the input of other people in the house who talk to you, the thought of what I want to cook, various things. On the other hand, there is also a much greater level of misunderstanding, both for technical connection

problems and for communication issues. [...] Then the lack of clarity in the work also created competitive dynamics within the team which were more difficult to clarify remotely.” [Italy, Service Designer in an Automotive Firm]

“We do at least two meetings a day at best. Meetings are not heavy, but they must be well structured because everyone wants to have their say. The problem is that the focus is lost and the concentration must be kept high in order to optimise time and ensure that it actually has value. [...] For example, when we have a meeting with the sales network, there are at least 40 people. Not all of them can connect, the software does not let you see them all and they cannot talk to each other.” [Italy, Commercial Manager in an Electromedical Manufacturing Company]

More importantly, according to workers, continuous online meetings appear to have been a way for the management to keep control over the labour process, worried about the inadequacy of coordination among their subordinates or even about their lack of moral support. At the same time, it could reflect a sense of emptiness of managerial tasks while in telework: their presence in the firm’s premises is already part of the social content of tasks performed by managers and supervisors in general. In reaction to their absence from the workplace, managers are said to have called an excessive number of online meetings, which often have appeared redundant and counterproductive in the eyes of their subordinates. The recognition of the inefficiency and the ineffectiveness of online meetings thus led some interviewees to criticise their managers or supervisors for insisting on organising them too frequently:

“Since telework has started, every day at 2 p.m. we have a meeting with our supervisor. This meeting is a waste of time, it’s useless: the supervisor is not our psychologist! I understand the idea of the team, but doing it every day... It would be enough to do it twice a week. Doing it every day is a bit too much, it’s always the same people who speak, those who have a more expansive character [...], the others mainly listen or pretend to follow.” [Italy, Service Designer in an Automotive Firm]

“We held meetings, first on Skype and then on the school platform after it was activated. We had more meetings than usual because maybe our manager was a little paranoid because he always wanted to call for a meeting... Maybe I have the impression that we had a few more meetings than usual.” [Italy, High School Teacher]

On the contrary, confronted with the proliferation of formal channels of communications created by managers and supervisors, often employing tools ordinarily used for informal communication (such as WhatsApp or Telegram), some workers reacted by creating or reinforcing their own parallel and informal channels of communication, sometimes even excluding managers and supervisors. These channels (WhatsApp groups, Slack or Skype chats, etc.), can be used for leisure purposes (chatting, commenting news, etc.) but can also be used to exchange information about work, or even being deeply integrated in the labour process (as in the case of a call centre employee):

“Some people at work opened a free Slack account, while the firm promotes Teams because they have a contract with Microsoft, but many of us find it too heavy and complicated, so we prefer working on Slack, we have a parallel channel.” [France, Informatic Engineer in an ICT Service Company]

“Now we work a lot with WhatsApp. We created several groups: a group with colleagues from the accounting unit to exchange information, as needed. Then there is another WhatsApp group created by the supervisor to manage more technical aspects. We also use the group with the colleagues in the accounting unit for leisure – maybe we talk about this and that – as well as to organise ourselves for the attendances at the office... On the contrary, on the "standard" one, where there is the supervisor too, we only talk about work stuff.” [Italy, Accounting Clerk in Craftworkers and Small Business Association]

“With colleagues we have created WhatsApp groups to manage call requests: we do a "round": we are 5 and therefore we take requests in turn as they arrive. And we use the WhatsApp group to say to the colleagues: "I'll take this request". It is a way of maintaining order, otherwise we forget whose call it is. Before, we did it verbally and now we use WhatsApp in order to remember the round and to be careful that everyone takes her own calls. We are 5 on the WhatsApp group: all colleagues, no supervisor. We are all of the same level and of the same Customer care department. Then there is another group where there is also the supervisor and it serves for technical support if we have problems.” [Italy, Call Centre Operator]

Technology has played a prominent role in enabling the transition to telework and in particular in sustaining and facilitating the flow of communications and information within the organisations. However, we should not see the possibility of a successful transition to telework as deterministically attributable to the technological density of the work environment, neither to the degree of integration of ICTs in the labour process, since it depends on the intrinsic characteristics of the labour process itself and on how the technological properties of ICTs are activated in different organisational contexts.

It could seem evident that a higher level of digitalisation of workplace communication represents a necessary precondition for a successful transition to telework. However, for some of the cases in our sample, remote coordination among colleagues and supervisors didn't seem to have required any particular communication technology, apart from ordinary tools such as phones and cell phones or widely used email services or messaging platforms like WhatsApp. That appears to have been the case especially of some low skilled clerical workers working in positions of low interdependence with their co-workers:

“We keep communication among colleagues on the phone. In the normal situation, once a month there was a meeting where work was organised. During this period, video-conferences have been organised to find out how telework was going. However, I have participated only in a few video-conferences because of the characteristics of my job. I

communicate with my colleagues on the phone and ask them what they need. If I had been at the office, I would have had these contacts verbally, but hearing them on the phone didn't bother me.” [Italy, Accounting Clerk in a Craftworkers and Small Businesses Association]

“Up to now I have not done any online meetings.. [...] The work is quite ordinary, when I have some doubts I ask. But it's not that I have many contacts, because my job is mainly secretarial, it's a quick white-collar job. The tools I use are the mobile phone and emails. I call the other secretariats or make phone calls with the administrations. In this phase I exchange a few emails, three or four or at most five a day.” [Italy, Administrative Officer in a Vocational Training centre]

In other cases, the lack of direct personal communication among colleagues was compensated through the deployment of specific communication tools and platforms aimed at enabling collaboration, continuous communication, document sharing or visual interaction⁸. This pattern mainly characterises organisations where the labour process is essentially based on teamwork or on close consultation. In some of these cases, those tools were not already implemented in the labour process, or their technological properties were not fully activated and exploited before the pandemic. Therefore, their introduction or activation during the transition to telework produced a sudden and substantial change in the work practices together with the gradual creation of new (tele)work routines. Tools such as Teams, thanks to their multiple functions (chat, screen and file sharing, separate threads, video-chat etc.) ended up funneling the fluxes of communication that previously depended on phone calls or in-presence interaction:

“Teams, we had it for some time, because we had been under the Microsoft 365 environment for a year, but [so far] we were not using video tools and associative tools at all (file sharing, chat, etc.).” [France, Editorial Secretary in a Research Institute]

“We coordinate with the colleagues of the research group via email or through Microsoft Teams. It is a videoconferencing tool that we have started to use specifically in this situation and that allows everyone to see and interact with each other in real time and also allows desktop sharing. We mainly use it for text revision. So, there is one of us, usually the boss or his delegate, who has the source file and who shows it and shares it with everyone else. And there is a person who reads aloud this source file, where there is the edited text, the introduction to the text, the critical apparatus to the text etc. As we read, we interact to understand what needs to be done, if it's okay or if there are formatting errors.” [Italy, Research Assistant and University Lecturer]

However, workers' reactions to the introduction of these tools appear to be quite heterogeneous across our sample. In a few cases, these innovations seem to have been at least partially rejected by respondents. Due especially to their lack of training or to their low level of digital skills, these

⁸ The list (indicative and non-exhaustive) includes Microsoft Teams, Skype for Business, Slack, Zoom, Google Hangout, GoToWebinar, etc.

interviewees found these tools unuseful and redundant or refused to fully exploit their communicative potential and preferred to use them at minimum level. Some even covertly decided to boycott them, resorting to “traditional” means of communication such as phone calls or emails:

“Teams has become a very important flow to animate collective work. We are currently preparing a special issue of our journal. We also use it to send messages. Maybe its flaw is that it multiplies the channels sometimes, because when it is not used well it is better that things go by email. When we start to mix everything, to overlap the files in the main thread, in the requests of appointments, I tend to get more lost...” [France, Editorial Secretary in a Research Institute]

“We are all connected with Microsoft Teams, they will also give us a course to learn how to make the best use of this system, but at the moment we do it ourselves. We mainly use it as a chat, but we have used it very little... Because there are a lot of sections, I spend a lot of time before I find the right one... And then they get angry if you upload a file in the wrong section. So, we mainly contact each other by phone or email, because it's a little messed up on Teams.” [Italy, Employment Centre Employee]

In those organisations where specific communication tools and platforms had already been introduced or where their implementation was at a more advanced stage, telework seems to have fostered and accelerated their further integration into the labour process. In fact, if some respondents perceived their organisation as more technologically “ready” to face the transition to telework, this does not imply that the transition didn’t produce significant, although less disruptive, transformations. Communication tools such as Skype for Business, that were before complementary and/or subsidiary, became absolutely primary and essential to sustain teamwork. The supervening centrality of these tools in the labour process ended up restructuring and reshaping work practices, especially those related to communication with colleagues, as witnessed by this data analyst in a bank:

“For us the main communication tool, in addition to mails, is Skype for Business, which is a messaging software. I log in via email and company login with a password and I can connect with everyone else. So, if I need to speak a little faster than in an email, if I am doing an analysis or another activity and I need to communicate instantly, the contacts of all the colleagues are already loaded on this platform and also those of all external consultants. In this period [...] I receive messages almost continuously: the flow has increased because with colleagues with whom I used to work side by side, now we write to each other on Skype for Business, I'm speaking of thousands of messages per day!” [Italy, Data Analyst in a Bank]

However, in some of these cases - an electromedical manufacturing company and an automotive company -, specific communication and collaborative tools, despite being already in use and highly integrated in the labour process before the lockdown, seemed not able to fully replace workplace communication. The main reason relies on technical limitations of the available tools and

platforms or in the lack of fit between the possibilities offered by these tools and specific needs of the workers, which were of course reshaped and redefined in the transition to telework. In other words, if these tools seemed to be well suited to assist workplace teamwork when supported by face-to-face interactions, they proved unfit to sustain and enable all the necessary flow of communication by themselves:

“To communicate we mainly use webinar platforms. [...] In the past, we used GoToWebinar, then lately we tried to use some free platforms, also to evaluate them a bit, like Zoom or others. But none were perfectly suited to our purposes.” [Italy, Commercial Manager in an Electromedical Manufacturing Company]

“We have collaborative tools that are not always adequate. On Skype you can share the screen, but if you want to write a shared document you cannot do it. So, for example I can access a document that is loaded into a folder that is in the network area accessible through the VPN only if my colleague who is on the other side of the city has closed it. We cannot work together or comment on things simultaneously. [...] We need more collaborative tools than those we already have to do teamwork, but the company is not willing to make an investment in such a software right now.” [Italy, Service Designer in an Automotive Firm]

4.5. Standardisation and bureaucratic control

In addition to remote control, organisations adopted and/or expanded forms of bureaucratic control to compensate for the lack of direct control and the reshuffle of tasks. We define bureaucratic control (or proceduralisation, or standardisation) as the formalisation of working activities in sets of procedures and goals codified in formalised systems (Edwards, 1979; 1984).

According to our findings, the degree of proceduralisation of working activities during telework was lower (at least initially) for employees working in direct contact with the public - lower teleworkable jobs such as teachers, medical professionals, social workers etc. - although with some heterogeneity among them. For instance, according to an employment centre employee, at the beginning of telework the management introduced detailed guidelines on how to perform work and the communication tools to be used with the public. In other cases, like teachers or psychiatrists, guidelines were experimented on the ground and were more the result of workers' individual or collective adaptation, later subject to formalisation, than on top-down instructions (which were defined by respondents as very generic and devoid of any practical application):

“We saw that what was proposed to us by the hierarchy did not bring much in the way of realisable results for the parents. From there I said to myself: "This is what I want my students to continue to do at home, this is what parents can spend their time printing, opening a mailbox, setting up these activities. That's what parents have at home and that's how my students are going to get it". So, I had a lot of parameters to take into account in

order to develop a tool that would be the least bad, I would say, possible.” [France, Primary School Teacher]

“There is a university platform on which you do everything a bit, but it's opaque and doesn't work effectively. I used a variety of multimedia tools, but not the institutional ones because they were unsuitable. That's why I used Dropbox, Google drive and email. I didn't use any video conferencing applications, I used video editing programs for some parts of the lecture and recording applications. It was not mandatory to use institutional tools: they were recommended to take advantage of the tools that the university already has available; the main goal was not to lose contact with students.” [France, PhD Researcher and University Lecturer]

It seems thus that the phase of uncertainty that followed the sudden transition to telwork left some organisations (like schools, universities or hospitals) with no adequate protocol. Consequently, this gave many respondents an important scope of autonomy, through which they were also able in some cases to cooperate horizontally in order to adapt to the new situation. Progressively, however, pandemic telework stabilised and new rules and protocols were introduced. In some schools, for instance, managers introduced precise guidelines, which detailed the way in which online teaching activities were to be carried out and communication tools were to be used, thus helping to align and standardise telework across the organisation. In this process of restoration of standard routines, autonomy gave the way to discretion, because teachers no longer had the choice of what tools to use and how to organise their online teaching activities (for example: how long online lessons should last), but were obliged to follow more precise directives that restrained and regulated their freedom of choice, while still providing them with a certain degree of discretion to be exercised among a limited number of alternatives:

“Our video lessons, according to the principal's guidelines, must not exceed 20 minutes, because the students struggle to follow a video lesson and the teacher must necessarily prepare his lessons to carry them out on audio and video platforms. I accepted and shared the idea that the video lessons must have a maximum duration of 20-25 minutes and a minimum of 15 minutes. We have therefore adapted to the guidelines of the principal [...]. Even the methods of distance learning regarding the use of the electronic register were specified in the guidelines. The guidelines specified through which sections of the electronic register the teaching activity would be carried out. The two sections are the teaching material area and the virtual classrooms. The teaching material area allows the sharing of lessons, files, links and texts, the sending of homework which students must download and upload after carrying them out. The other section, virtual classrooms, allows the creation of virtual classrooms for the elaboration and sharing of lessons, the conduct of thematic forums, interaction through messaging chat, text assignments and video lessons.” [Italy, High School Teacher]

Forms of bureaucratic control, as seen before, could also replace direct control by the hierarchy. Within a very wide spectrum of professions, supervisors have tried to counterbalance the absence of direct supervision by activating new bureaucratic procedures that workers had to follow in order to self-certify their work (written reports detailing the activity carried out or the hours worked). These actions, however, seem to have been taken solely to monitor workers' activity in the specific context and did not seem destined to be reproduced beyond the lockdown period (so much so that in some cases they already had been abandoned at the time of our research):

“The supervisor has asked us to make a report of our weekly activities: how many registrations, how many calls etc...” (Italy, Employment Centre Employee)

“The first two weeks they asked us to send a report via email in which we reported what we had done during the week. After the first week of March they no longer asked for anything.” (Italy, Editor in a Publishing House)

In other cases, however, the transition to telework provided the organisational context necessary to carry on the virtualisation of some control procedures aimed essentially at preventing episodes of workers' misbehaviour. In particular, in the case of employees of the private sector, the autonomy gained in the short term after the introduction of telework was subsequently offset during the stabilisation period when managers restored their decision-making power as well as production targets. This inverse movement therefore generated a dynamic of standardisation, through the creation of new and specific procedures, adapted to the telework situation. Nevertheless, these new procedures would seem destined to become more permanent, precisely because their virtualisation seems to guarantee greater effectiveness:

“Let me give an example: if a commercial agent calls because he wants to have certain gifts or some special discounts, perhaps he asks the person in charge of making the invoices claiming to have been authorized by the director or deputy director. Working at the workplace, before issuing the documentation, the employee of the invoices comes to the deputy director and asks for authorization. Instead in this situation maybe they try to speed up the procedure with the excuse that the customer needs it urgently. [...] So we have prevented this situation and we have started to provide authorisations through virtual devices before proceeding to issue the documentation... So, the processes have remained the same but are now virtual.” [Italy, Commercial Manager in an Electromedical Manufacturing Company]

“In early April, a weekly planning device was set up. Previously we had no weekly activity planning devices. On Monday the supervisor is now forced to give the HR department a weekly plan, so we started having a meeting every Monday with my team, where there is a discussion on the priorities of the week. [...] Now, there is a schedule with all the projects, the people assigned to the projects for that week and therefore a much more organized

planning, because it must be presented to the HR.” [Italy, Service Designer in an Automotive Firm]

Finally, for many low-skilled clerical workers and medium-skilled professionals, whose work was already highly standardised in terms of codified and pre-established procedures to be followed using ICT devices, the degree of standardisation of their activities did not seem to have changed during the transition to telework:

“I follow the same protocol that I followed before. [...] The procedures are standardised: when I have to prepare documents, make electronic filings, etc. The tasks that are assigned to us by the lawyers by e-mail are already standardised too.” [Italy, Secretary in a Law Firm]

“There is no more freedom in our work, the system has remained the same transported at home... with the same work schedule and the same time for breaks.” [France, Call Centre Operator in a Telemarketing Company]

5. Conclusions

Telework and more generally remote work arrangements can be considered one of the most debated topics in social sciences during the pandemic because of its massive and unprecedented adoption. Policymakers across the world have also paid considerable attention to this phenomenon mostly in an effort to support the transition to telework during the crisis as a measure to reduce physical interaction while avoiding a skyrocketing of job loss. An important strand of literature grew in the last year, mostly aimed at establishing the potential for remote work focusing on its technical feasibility (Sostero *et al.*, 2020; Cetrulo *et al.*, 2020; Dingel and Neiman, 2020; Galasso and Foucalut, 2020). Some of these studies (see for instance Cetrulo *et al.*, 2020; Galasso and Foucalut, 2020) also highlight that technical feasibility goes hand in hand with socio-economic wellbeing: those who can telework are on average better paid and enjoy better working conditions, although especially on the latter aspect important heterogeneities emerge. At the same time, the massive shift toward telework, exogenously driven by the pandemic and national decrees, is still well beyond its technical potential. According to the latest data provided by Eurostat in 2020 10.8% of EU27 employment teleworked at least occasionally against a potential of 37%. These stylised facts feed the idea that remote work as every work arrangement is not limited to technical feasibility but instead embraces social relations prevailing at the workplace. However, little attention has been recently paid to these issues, against a significant strand of literature developed in the last decades.

Our paper aimed at filling this gap focusing on the effect of telework on direct and indirect forms of control, worker’s autonomy, teamwork and internal communication as well as the content of tasks. To shortly summarise, our findings suggest that the impact of telework on the selected

analytical dimensions is not univocal and strongly depends on workers' occupations and hierarchical position within the organisation. Nevertheless, economic activities and the way they have been affected by national economic lockdown also played an important role on the redefinition of actual content of tasks and their qualitative performance. On the one hand, those working in processes related to the production of essential goods did not see their tasks altered, while those working in non-essential even if partly active sectors saw much more change. On the other hand, the shift toward telework had some negative impact on the quality of some medium or high skilled workers (like teachers, professors, psychiatrists, etc.), for which direct and physical interaction is a pivotal attribute of their work.

In terms of autonomy, two distinct phases emerge in the transition to telework. During the first phase, in the early moments of the transition, a generalised important increase in autonomy emerged. This phenomenon is partly explained by the disrupted context which in some cases produced a sense of abandonment from hierarchy and management. The second phase started when new work practices consolidated and managerial control was to some extent restored and, as a general tendency, workers autonomy was restrained or gave way to discretion. Direct and personal control in the form of monitoring from supervisors, colleagues or clients has been characterized by both qualitative and quantitative changes. Some workers mainly employed in small organisations and who are often in contact with their supervisors reported an increase in direct control mainly exerted via personal communication. Low-skilled and standardized workers also reported a substantial increase in supervisors' control which very often took the form of recording and listening to their activity. What is more interesting for the sake of our analysis is that the increase in direct control applies also to some highly skilled workers for whom the introduction of devices allowing remote connection to corporate networks (like VPNs) has been perceived as a mechanism of remote personal control and disciplinary power. With regard to bureaucratic control (standardisation) within a very wide spectrum of professions, supervisors have tried more or less successfully to counterbalance the absence of direct supervision by activating new or expanding existing bureaucratic procedures unilaterally imposed on workers. Forms of standardisation of teleworking practices have also been introduced as a way to regulate and restrain the autonomy gained by some workers in the short term after the introduction of telework. All in all, the stabilisation period saw an increase in control especially in its bureaucratic vest. Building on these findings, our study contributes to the argument that a need for direct control which is not feasible outside the firms' premises tends to mutate into new forms of remote control, which can be in the long run equally if not more pervasive.

Finally, the impact of the transition to telework for internal communications strongly depended on the importance of teamwork and the workers' role in the professional hierarchy. More precisely, as the importance of internal communication and teamwork increases with occupational status, the higher a worker's position in the occupational hierarchy the bigger the negative impact derived from telework. According to the interviewees, the transition to indirect (mediated) internal communication had a negative impact mostly because of the excessive increase of such

interactions. This is particularly true for online meetings, which were often perceived as less effective and less efficient for the purpose of the working activity. At the same time, workers' agency and cooperation emerged during the transition phase as workers reacted to the new way of communicating by horizontally organising, adopting or reinforcing their own channels and means of communication and teamwork, often excluding managers and supervisors. Therefore, the dialectics of control and resistance, formal organisation and informal coordination that have always characterised social relations in the labour process could also be observed under remote working in the context of the first year of the Covid crisis.

Few concluding considerations are worth mentioning. First, the qualitative findings discussed in this paper relates to the initial phase of the pandemic and findings may not be generalised because of the exceptionality of this specific period. However, many of the arguments and hypotheses already advanced in the relevant literature clearly emerge: given technical feasibility, social relations prevailing at the workplace matter in the reorganisation of work outside firms' premises. Second, expansion of existing and introduction of new impersonal forms of control appear to be a pivotal goal pursued by the management under telework in order not to lose the power of command (and discipline) over the workforce. Third, the pattern towards bureaucratisation concerns not only medium but in some cases also high-skilled workers, pointing to a deskilling process. Indeed, as we have also seen, the gained autonomy during the first phase has soon been reabsorbed at most and reverted.

Further studies on the development of mass telework (if any) and the labour process will be interesting pieces of research to be accompanied by detailed quantitative data on the distribution of telework across occupations and economic sectors.

Bibliography

- Aguilera, A., Lethiais, V., Rallet, A., & Proulhac, L. (2016). Home-based telework in France: Characteristics, barriers and perspectives. *Transportation Research Part A: Policy and Practice*, 92(July 2018), 1–11.
- Alipour, J. V, & Falck, O. (2020). *Germany's Capacities to Work from Home* (No. 8227; CESifo Working Paper).
- Alvesson, Mats and Dan Karreman (2011). *Qualitative Research and Theory Development: Mystery as Method*. SAGE Publications.
- Bisello, M., Fana M., Fernández-Macías, E., M., Torrejon-Perez, S., 2021, Updated European tasks database, JRC Labour, Education and Technology Working Paper Series,
- Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2015). Does Working from Home Work? Evidence from a Chinese Experiment. *The Quarterly Journal of Economics*, 130(1), 165–218.
- Braverman, H. (1974). *Labor and monopoly capital*. Monthly Review.
- Cetrulo, A., Guarascio, D., & Virgillito, M. E. (2020a). The Privilege of Working From Home at the Time of Social Distancing. *Intereconomics*, 55(3), 142–147.
- Cetrulo, A., Guarascio, D., & Virgillito, M. E. (2020b). *Working from home and the explosion of enduring divides: income, employment and safety risks* (LEM Working Paper Series).
- Corbin, Juliet M. and Anselm Strauss (1990). Grounded Theory Research: Procedures, Canons, and Evaluative Criteria. *Qualitative Sociology*, 13(1), 3-21.
- Dimitrova, D. (2003). Controlling teleworkers: Supervision and flexibility revisited. *New Technology, Work and Employment*, 18(3), 181–195.
- Dingel, J., & Neiman, B. (2020). *How Many Jobs Can be Done at Home?* <https://doi.org/10.3386/w26948>
- Dosi, G. and Marengo, L. (2015) ‘The dynamics of organizational structures and performances under diverging distributions of knowledge and different power structures’, *Journal of Institutional Economics*, 11(3), pp. 535–559.
- Edwards, R. (1979) *Contested Terrain: The Transformation of the Workplace in the Twentieth Century*. London: Heinemann.
- Edwards, R. (1984) “Forms of Control in the Labor Process: An Historical Analysis”, pp. 109-42 in F. Fischer F. and Sirianni C. (eds), *Organization and Bureaucracy*. Philadelphia, PA: Temple University Press.
- European Framework Agreement on Telework, EUR-Lex (2002).

- Eurostat (2021), Employed persons working from home as a percentage of the total employment. Eurostat database.
- Fana, M., Tolan, S., Torrejón, S., Brancati, C. U., & Fernández-Macías, E. (2020). The COVID confinement measures and EU labour markets. Luxembourg: Publications Office of the European Union.
- Felstead, A., Jewson, N., & Walters, S. (2003). Managerial Control of Employees Working at Home. *British Journal of Industrial Relations*, 41(2), 241–264.
- Fernández-Macías, E. and Bisello, M. (2020) *A Taxonomy of Tasks for Assessing the Impact of New Technologies on Work*. European Commission, Luxembourg.
- Galasso, V., & Foucault, M. (2020). *WORKING AFTER COVID-19: CROSS-COUNTRY EVIDENCE FROM REAL-TIME SURVEY DATA 1* Martial Foucault (Issue May).
- Hensvik, L., & Le Barbanchon, T. (2020). *Which Jobs are Done from Home? Evidence from the American Time Use Survey* (No. DP14611; CEPR Discussion Paper).
- Illegems, V., Verbeke, A., & S’Jegers, R. (2001). The organizational context of teleworking implementation. *Technological Forecasting and Social Change*, 68(3), 275–291.
- Kurkland, N. B., & Bailey, D. E. (1999). The advantages and challenges of working here, there anywhere, and anytime. *Organizational Dynamics*, 28(2), 53–68.
- Lomba, C. (2005). Beyond the Debate over ‘Post’- vs ‘Neo’-Taylorism. The Contrasting Evolution of Industrial Work Practices. *International Sociology*, 20(1), 71-91.
- Maggi, B. (2016). De l’agir organisationnel. Un point de vue sur le travail, le bien-être, l’apprentissage. TAO Digital Library.
- Messenger, J. (2019). Telework in the 21st Century. In *Telework in the 21st Century*. Edward Elgar Publishing.
- Neirotti, P., Paolucci, E., & Raguseo, E. (2013). Mapping the antecedents of telework diffusion: Firm-level evidence from Italy. *New Technology, Work and Employment*, 28(1), 16–36.
- Nilles, J. M. (1975). Telecommunications and Organizational Decentralization. *IEEE Transactions on Communications*, 23(10), 1142–1147.
- Olson, M. H. (1988). Organizational barriers to telework. In *Telework: Present situation and future development of a new form of work organization* (pp. 77–100).
- Olson, Margrethe H., & Primps, S. B. (1984). Working at Home with Computers: Work and Nonwork Issues. *Journal of Social Issues*, 40(3), 97–112.
- Pouliakas, K., & Branka, J. (2020). EU Jobs at Highest Risk of COVID-19 Social Distancing: Will the Pandemic Exacerbate Labour Market Divide? *IZA Discussion Paper*, 13281.

- Pyöriä, P. (2011). Managing telework: Risks, fears and rules. In *Management Research Review* (Vol. 34, Issue 4, pp. 386–399). Emerald Group Publishing Limited.
- Sewell, G., & Taskin, L. (2015). Out of Sight, Out of Mind in a New World of Work? Autonomy, Control, and Spatiotemporal Scaling in Telework. *Organization Studies*, 36(11), 1507–1529.
- Sostero, M., Milasi, S., Hurley, J., Fernandez-Macías, E., & Bisello, M. (2020). *Teleworkability and the COVID-19 crisis: a new digital divide?* (No. 5; LET Working Paper Series). <https://ec.europa.eu/jrc>
- Taskin, L., & Edwards, P. (2007). The possibilities and limits of telework in a bureaucratic environment: Lessons from the public sector. *New Technology, Work and Employment*, 22(3), 195–207.
- Toffler, A. (1980). *The Third Wave*. Bantam.
- Vallas, S. P. (1999). Rethinking Post-Fordism: The Meaning of Workplace Flexibility. *Sociological Theory*, 17(1), 68–101.
- Zuboff, S. (1988). *In the Age of the Smart Machine*. Basic Books, Inc., Publishers.