

Exploring policy options on teleworking

Steering local economic and employment development in the time of remote work

This paper explores and classifies some of the most common policy options adopted by national, regional and local policy makers in the context of or prior to the COVID-19 pandemic to enable, encourage and make the most of teleworking. It also considers efforts to foster the attraction and retention of remote workers and entrepreneurs in particular places. The current crisis represents, among other things, a mass experiment in teleworking, unprecedented in size and scope. A shift towards large-scale, long-lasting teleworking would have profound implications for the geography of local employment. However, SMEs may be less equipped than larger firms to face this change. Public policy can play an important role in turning teleworking into an opportunity for all, to minimise the potential of widening pre-existing disparities between people, places and firms.

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Executive Summary

Prior to the COVID-19 outbreak, teleworking used to be treated chiefly as a matter of opportunity to improve employee's work-life balance. Suddenly, the pandemic turned it into an urgent solution to reduce the risk of contagion and ensure economic continuity. The practice has spread from an occasional option mainly concentrated in a few countries, and in urban areas in particular, to a mass solution adopted throughout the OECD area and beyond. According to surveys, numerous companies at the global level are considering shifting to mass teleworking on a permanent basis even after the COVID-19 health crisis has been addressed.

A widespread shift to teleworking would have different impacts on people, places and firms. In particular, this transformation is bound to have an amplified effect at the local level. While a decline of cities seems unlikely, mass teleworking could promote a relocation of some jobs away from large metropolitan areas and represent an opportunity for regions lagging behind to catch up. This may be the case for small and medium-sized towns, semi-dense and rural areas with high-speed internet, which could attract growing shares of teleworkers and retain more residents, in a world where more jobs can be accessed from anywhere. Large-scale teleworking could also entail substantial changes for employees and employers. Part of the future ability of employees to improve their own work-life balance and of employers to retain talent might be based on the ability to extensively telework. However, pre-existing disparities (such as between high- and low-skilled workers, large firms and SMEs, etc.) might grow in the future, based on the different levels of amenability to teleworking. Empirical studies provide mixed evidence on the impact of teleworking on a number of key aspects, including labour productivity and employee satisfaction, calling for multi-stakeholder dialogue and data monitoring.

After the outbreak, governments at all levels launched a mixed set of policies to face the pandemic challenges and offer tailor-made responses to teleworking. Typically, national governments undertook framework measures to enable work from home. While enacting social distancing, they encouraged private employers to adopt this mode, and had to adjust the regulatory environment accordingly. Options ranged from introducing brand new or adapting pre-existing regulations to issuing guidelines or other quasi-legal tools. In addition, several national governments set up online platforms to make digital services offered by large IT providers accessible to all.

Regional and local governments, in turn, focused on building the capacities in the field to increase teleworking uptake. Several of them acknowledged the presence of digitalisation gaps and thus prioritised offering information and training services to citizens and firms. Conversely, a few digitally advanced communities even started drawing the first examples of long-term plans for a broader diffusion of teleworking on a permanent basis. Lastly, various governments, mostly regional, designed financial support schemes to foster the uptake of teleworking by SMEs, typically by subsidising investments in digital tools and skills.

Even prior to the pandemic, countries and regions worldwide launched programmes to foster the attraction of talented digital and remote workers or entrepreneurs, through the provision of grants, co-working facilities, start-up visas and other tools. Other jurisdictions set up measures and incentives for home-based businesses, including modifying rules on tenancy agreements and property taxation to foster this

entrepreneurial form. In this context, teleworking was supported as an asset to help in fighting an ageing population, preventing a brain drain and making local entrepreneurial communities more vibrant. Pre-COVID policies of this kind could gain new momentum, with teleworking at a mass scale.

The following guiding principles could help promote a smooth transition towards a large-scale and enduring use of teleworking, with a sustainable teleworking model for different types of people, places and firms:

- a. **Take a comprehensive approach to policy design for teleworking.** A long-lasting and large-scale use of teleworking could deeply affect local labour markets in urban and rural environments, along with residential and mobility patterns, as well as society more generally. These impacts are not yet fully predictable. A multidisciplinary, long-term perspective in policy design would help drive these transformative dynamics towards local development opportunities.
- b. **Promote fairness and inclusiveness across people, firms and places.** Teleworking is unevenly accessible by different groups of workers, places (urban and rural) and firms (SMEs and large firms), and has diversified effects across them. Policies on teleworking could help level the playing field if complementary measures are in place.
- c. **Prioritise societal goals.** A large-scale diffusion of teleworking could help reduce urban congestion and CO2 emissions, foster rural development, promote gender equality and pursue other sustainable development goals. Policies could prioritise socially beneficial solutions, and facilitate needed transitions, such as in the case of retailers and service providers located near office buildings, which may suffer from reduced demand.
- d. **Provide relevant national and local framework conditions.** The availability of an agile legal framework and effective local public services (e.g. in fields such as child and elderly care), as well as high-speed internet, digital skills and a secure cyber environment are necessary requirements to make teleworking accessible and secure for all.
- e. **Create a new evidence base.** Given its unprecedented features, large-scale teleworking requires new data and metrics to inform policy decisions. Its effects should be monitored over time to avoid biased conclusions and take into account the variety of circumstances for different people, firms and places. Policy design could facilitate data collection and adaptability to changing trends, as well as systematically provide for forms of ongoing monitoring and evaluation.

The paper concludes with a diversified set of preliminary policy recommendations to implement each of the above principles.

This work is divided as follows: section 1 puts teleworking into context, showing how the COVID-19 pandemic radically changed the approach to this long-standing policy issue. Section 2 shows that mass teleworking is a complex phenomenon affecting many policy areas and impacting groups of people, places and firms in different ways. Section 3 highlights that during the COVID-19 pandemic all levels of government were required to take action to support teleworking, and provides a classification of policy options. Chapter 4 offers takeaways for national and regional policy makers. Finally, Annex A presents a collection of policy practices on teleworking from countries, regions and cities of the OECD and beyond.

A new approach to teleworking

A change in perspective: from opportunity to necessity

The COVID-19 pandemic has radically changed the perspective around the long-debated issue of teleworking.¹ In the past, the primary driver of corporate work-at-home programmes was the opportunity to attract and retain talent. The outbreak turned teleworking into a matter of public health response, driven by the necessity to reduce the risk of contagion while ensuring continuity in economic activity.

Typically, teleworking was framed as an element of work-life balance. A 2016 OECD policy brief focused on this practice as a case for flexible working arrangements to improve employee work-life balance in a way that also supports employer needs. The study argued that the increased use of ICTs would facilitate growth in teleworking opportunities, but also warned against the risk of blurring the frontier between work and family life. Moreover, IT progress would be likely to affect different jobs and occupations in different ways, widening rather than reducing inequalities in remote work. In all, the diffusion of flexible working arrangements across jobs and companies would require creative thinking about existing models of work organisation and managerial practices (OECD, 2016^[1]).

Radically changed circumstances cast new light on these traditional rationales for teleworking. A 2020 OECD note on employment in the context of the COVID-19 pandemic highlights that many countries are taking measures to limit physical interaction in the workplace and the daily commute, in order to reduce the risk of contracting and spreading the coronavirus. In this context, teleworking features as a key issue among the policy options to reduce worker exposure to COVID-19 and help firms weather the current crisis (OECD, 2020a^[2]).

As teleworking has become topical during the pandemic, the wide range of impacts and uncertain net effects on productivity and other indicators brought about this transformation are gaining attention. Public policies can play a decisive role in maximising the gains for productivity and welfare inherent in the use of more widespread telework. Among other things, governments could promote investments in the physical and managerial capacity of firms and workers to telework and address potential concerns for worker well-being and longer-term innovation related in particular to the excessive downscaling of workspaces (OECD, 2020b^[3]).

A change in scale: from niche to mass adoption

The change of the analytical perspective has gone hand in hand with the increasing magnitude of this practice. From an unevenly widespread option still mainly concentrated in a few countries, teleworking has rapidly become a large-scale solution adopted all over the world in the context of the COVID-19 pandemic. Changes in containment regulations and high variation across countries and industries hinder precise estimates on the current global spread of teleworking. However, it is common opinion that the COVID-19

¹ The OECD defines teleworking as ICT-facilitated mobile work that takes places either at home or at another location outside the normal workplace (OECD, 2019, p. 80^[6]).

pandemic is, among other things, a large-scale experiment in teleworking, and the number of teleworkers has increased significantly over the last few months. Although evidence suggests that teleworking rates were accelerating even prior to the pandemic, the latter has massively accelerated the transition.

In Europe, evidence shows a dramatic growth in teleworking. Already by 24 March 2020, approximately one month after the outbreak was reported in Europe, 21 out of 31 EU/EEA countries had ordered the closure of workplaces or established teleworking (European Centre for Disease Prevention and Control, 2020^[4]). According to the 2015 European Survey on Working Conditions, the share of employees who had worked from home at least once over the last year spanned from 10% in Slovakia, Italy and Bulgaria to 50% in Sweden and Denmark. Employees (and especially parents) in the Nordic countries were twice as likely to work from home as the average employee. Around 9% of workers in the EU had used ICT outside of the employer's premises: 2% teleworked mainly from home and 7% were exclusively ICT-mobile workers (Eurofound, 2015^[5]). Only three years later, but still prior to the outbreak, the OECD estimated that the share of people using digital equipment at work who had teleworked from home at least once a week in the EU had grown to a quarter (OECD, 2019^[6]). More recent estimates (April 2020) suggest that close to 40% of those currently working in the EU began to telework fulltime as a result of the outbreak (Eurofound, 2020^[7]).

A similar overall rate (39%) was recorded for several countries across the OECD area in spring 2020 (OECD, 2020c, p. 12^[8]), even though the growth pace of this practice differs significantly. In early April 2020, up to half of American workers were currently working from home – more than double the fraction who worked from home, at least occasionally, in 2017-18 (Brookings, 2020^[9]). In France, the prevalence of teleworking appears lower, but its increase compared with pre-COVID is more pronounced: a survey carried out by an independent polling organisation on 19 May 2020 estimated that 39% of French employees (7 million workers) had been teleworking since mid-March (ODOXA, 2020a^[10]), while according to the Ministry of Labour, the rate of employees working from home at least once a week was just 3% in 2017 (DARES, 2019^[11]).

Several factors are underpinning these country variations. Differences in the industrial structure, the distribution of employment by firm size, the rate of self-employment and workers' digital skills are among the main factors explaining the varying prevalence of telework across EU countries (JRC, 2020^[12]). The quality of digital infrastructure is another factor for different regions within countries.

Not least, it should be highlighted that containment measures affect not only labour per se, but also work-related fields. Vocational education and training (ILO, 2020a^[13]) and on-the-job training (McKinsey, 2020a^[14]) can be cited as an example.

A change in rationale: from temporary to permanent solution

A widespread shift towards teleworking will have far-reaching consequences on labour and production, even after the pandemic. A “social distancing economy” in which remote work and meetings, online sales and marketing are the new standard, and indoor activities become a much larger sector than prior to COVID, might remain for a while (Criteo, 2020^[15]).

Many jobs in OECD countries are indeed compatible with teleworking. Recent studies show that 56% of the American workforce holds a job that is compatible (at least partially) with remote work, and 25-30% of the workforce will likely be working at home multiple days a week by the end of 2021.

Several concurrent factors will contribute to a surge in teleworking, such as the increased demand to work from home by employees. Already before the crisis, surveys repeated over time showed that 80% of American employees want to work from home at least some of the time, and over a third would take a pay cut in exchange for the option. The research also shows that managers who have worked at home themselves are more likely to endorse it for others. In addition, there will be an increased awareness of

cost-saving opportunities by promoting work from home. A typical employer can save approximately USD 11 000 per year for every person who works remotely half of the time, thanks to reduced office space and business travel costs. Employees can save between USD 2 500 and USD 4 000 a year (working remotely half the time) and even more if they are able to move to a less expensive area and work remotely full time (Global Workplace Analytics, 2020^[16]).

Albeit with different methodologies and figures, other studies with a focus on the USA confirm the longer term plans to use teleworking since the pandemic began. A survey of 317 CFOs and finance leaders carried out by a global research and advisory firm on 30 March 2020 revealed that 74% aim to move at least 5% of their previously on-site workforce to permanently remote positions post-COVID-19. In addition, nearly a quarter of respondents said they plan to move at least 20% of their on-site employees to permanent remote positions (Gartner, 2020^[17]).

However, forecasts pointing to a broader adoption of teleworking are not limited to OECD countries. According to a recent survey carried out by the real estate services firm Cushman & Wakefield with over 2 000 office landlords and office occupiers in China, around 21% of the interviewed enterprises will change their mode of working and adopt a home/remote working business platform for their office employees in the future, and 50% are still undecided. Additionally, 81% of the interviewed enterprises in China are likely to add more intelligent communication network technology software and devices, such as cloud conference-related software and devices. Their goal is to enhance the home/remote working experience for their office employees, and boost employee engagement and work productivity (Cushman & Wakefield, 2020^[18]).

Ultimately, a change in the very nature of teleworking is underway, and three distinct approaches are possible, each with different implications. “Work from home” replicates the working conditions of the office to the largest extent possible, with well-defined legal provisions regarding hours, equipment, and even spaces. This conception of teleworking used to prevail prior to the COVID-19. In contrast, “objective-based working” does not foresee an enforcement of working hours: employees have tasks to fulfil in the ways they find suitable and with the equipment they have on hand, similar to freelancers. This is what has frequently happened by necessity during the lockdown. Third, “blended working” (known as “smart working” in some countries, including Italy) brings together working from home and in the office, entailing meetings with other colleagues and desk sharing on agreed days. This is a mixed approach that is likely to garner great interest by firms in the post-emergency phase (Global Workplace Analytics, 2020^[16]).

In the longer run, when the adoption of teleworking will be no longer driven by the need to address a health crisis, sectors, firms and workers are likely to have different approaches to the “new normal”, in order to maximise their own productivity and innovation. If some types of activity benefit more from a physical presence (e.g. staff inductions, brainstorming sessions), firms will encourage that or be outcompeted by other businesses that do. This is consistent with the evidence about firms’ plans for a hybrid model, which would imply a meaningful, albeit not dramatic increase of teleworking over the long term. A recent study suggests that one-tenth of all work days (one-fifth for office workers) will shift from business premises to residences in the post-pandemic world relative to the pre-existing situation (Barrero et al., 2020^[19]). Early indications are therefore that for most, homeworking will increase but still not be a majority working practice and that it will be fitted to worker and business needs in a way that should be positive for productivity.

Whatever form teleworking will take, steering local economic and employment development in the time of remote work requires a full grasp of the issues at stake among all concerned. Therefore, the next section will seek to highlight the potential repercussions of mass teleworking on people, places and firms.

What is at stake? Key policy issues

A complex phenomenon with diversified social impacts

The surge in teleworking adoption in the context of the COVID-19 pandemic helped ensure worker safety and business continuity. However, this type of work arrangement raises numerous challenges for both employers and employees. Such changes could have strong repercussions across local labour markets and industries, should its widespread adoption survive the pandemic. The ability to promote massive use of teleworking will be part of the future ability of employees to improve their own work-life balance, of employers to retain talent, of regions to attract quality jobs and of SMEs to stay competitive. Teleworking has also gained new momentum in some political debates within countries, particularly with respect to worker rights. Discussions that had taken place in recent years have become topical again around the world, involving a number of disciplines and social partners.

In Germany, the proposal of introducing a legal entitlement to teleworking had been part of the political discussion long before the COVID-19 pandemic. A multi-stakeholder consultation initiative known as “Dialogue on the Future” raised public attention on the matter in 2019. A survey showing that one third of the employees were willing to experiment with teleworking ignited the debate (BMAS, 2019^[20]). While part of the political spectrum promoted the introduction of a “right to telework” as opposed to the “culture of presence at the workplace” (with a minority even supporting a “right to disconnect”), others claimed that more flexible arrangements would do better than the introduction of new laws to improve work-life balance (Der Spiegel, 2019^[21]). In recent months, supporters of the right to telework have had no difficulty in resuming the issue and bringing it on top of the agenda (Der Spiegel, 2020a^[22]).

The pandemic is casting new light on legal jurisprudence for teleworking, even on pre-COVID cases. In April 2020, the Swiss Federal Supreme Court handed down a ruling in favour of an employee’s request to have teleworking costs compensated by the employer, based on the principle that production costs must be borne by the employer. In the case in point, which dates back to 2019, the employee claimed recognition of the expenses arising from having used part of her apartment to work, as she did not have her own workstation at the company’s premises. According to local labour experts, the ruling is likely to generate new discussions and, possibly, jurisprudence on worker rights issues, as a large number of employees have had to transform part of their homes into workplaces in the context of the pandemic, taking on part of the production costs (LaReione, 2020^[23]).

Social partners too have had central stage in the debate. In Italy, according to estimates by the country’s largest trade union, teleworkers rose from 0.5 million to 8 million people during the COVID-19 pandemic. In May 2020, the country’s largest trade union carried out its first national survey on the matter. Although 60% of current homeworkers will continue with this modality after the pandemic, 31% felt they did not have the necessary skills, half thought they did not have enough dedicated space at home, and 65% of women reported an increased burden in domestic tasks (Cgil/Fondazione di Vittorio, 2020^[24]). Just a few weeks earlier, the largest business association at the national level had reported an increased propensity by local firms to adopt teleworking (Confindustria, 2020^[25]).

Other social and economic players across the world are looking closely at the current trends in teleworking, reflecting the variety of interests in question. For instance, while large real estate firms are assessing the

future of office towers in global financial cities (Der Spiegel, 2020b^[26]), architects and urbanists are advocating the great comeback of historical towns in depopulated remote areas (The Times, 2020^[27]).

All of the above hints at the multitude of perspectives, opportunities and challenges underlying a mass shift towards teleworking, as well as the magnitude of its potential socio-economic impact. A breakdown of the different issues at stake across people (employers and employees), places (local labour markets) and firms (including SMEs) highlights the magnitude of this mega-trend and its implications for policy makers. Table 1 will conclude this section with a summary of the main questions discussed.

How mass teleworking could affect employers and employees

While teleworkers face the task of balancing work and personal life effectively, without detriment to productivity and participation in teamwork, their employers confront the challenge to provide the necessary digital infrastructure, offer training and ensure a safe virtual work environment. A first crucial question is therefore whether the benefits of a mass shift towards teleworking would outweigh its costs. Past studies provide mixed evidence on a number of crucial aspects, including variations in productivity and improvements in employee's work-life balance. Findings often depend on the type of job, industry, and even worker considered. Different groups of workers are exposed to the opportunities and threats brought about by teleworking in different ways: permanent and temporary workers, dependent and self-employed, parent and non-parent, male and female, senior and junior, high- and low-income/skilled, resident and cross-border, local and immigrant, etc. – each of these groups has its own perspective on the matter. This points to the need of a versatile policy approach, able to discern the diversified impact of teleworking across industries and types of jobs and tasks.

Teleworking and ICT-mobile work are commonly associated with a number of positive effects, such as greater working time autonomy leading to more flexibility in terms of working time organisation, and reduced commuting time resulting in a better overall work-life balance and higher productivity. At the same time, typically acknowledged disadvantages include a tendency to work longer hours, and an overlap between paid work and personal life – which can lead to high levels of stress. A distinction can be drawn between home-based teleworkers, who seem to enjoy better work-life balance, and “high-mobile” workers (other workers who have a high level of ICT use), who are more at risk of negative health and well-being outcomes (Messenger et al., 2017^[28]). The way and the extent to which professional isolation potentially stemming from teleworking influences job performance and turnover intentions is another debated topic in the literature (Golden, Veiga and Dino, 2008^[29]).

The tendency to increase the number of hours worked is confirmed by recent evidence. Statistics collected during the containment showed not only a clear spike in business VPN usage but also people working significantly longer than usual. The USA increased its average workday by almost 40%, adding an extra three hours, the largest jump worldwide. The UK, France, Canada, and Spain are seeing a two-hour increase. This is due, at least in part, to the fact that employees started work earlier, as they did not need to commute, but finished at the same time as usual (Business Facilities, 2020^[30]). Some increases in VPN usage may also be related to the need to multi-task and thus longer time is required to perform the same tasks, particularly given child care needs while schools and day care centres were closed or altered.

As for productivity, empirical studies provide diverging results, depending on the types of jobs and specific tasks considered. Results of a 2012 study suggest that telecommuting may have positive implications on productivity of creative tasks but negative implications on productivity of dull tasks (Dutcher G., 2012^[31]). According to a survey carried out in Japan during the pandemic, workers indicate that they are, on average, less productive at home than in the office. While some of the reasons for this, such as the lack of familiarity with remote access software, will fade over time, other factors, such as the lack of face-to-face interaction with colleagues, suggest that a productivity gap will remain (VOX EU, 2020^[32]). However, while a WISERD report finds a more balanced range of views on productivity (Felstead and Reuschke, 2020^[33]), other

studies have found collaboration (in terms of number of meetings) increased during the pandemic (Defilippis et al., 2020^[34]), not forgetting how an oft-cited pre-COVID study of Chinese call centres found positive impacts of work from home on productivity (Bloom et al., 2014^[35]). In addition, the 2018 Telework Report to Congress suggests that teleworking implies significant savings in terms of reduced employee absences (US Office of Personnel Management, 2017^[36]).

Recent OECD work provides a thorough analysis of existing literature on the teleworking-productivity nexus and both the positive and negative effects. Overall, for firm-level productivity to grow with telework it is crucial that worker satisfaction increases enough to offset the potentially negative effects on communication, knowledge flows and managerial oversight. The relative strength of these channels, in turn, is likely to depend on the intensity of telework. The negative effect due to the lack of personal interactions likely becomes stronger with telework intensity, as opportunities for in-person communication diminish. Worker satisfaction improves with low levels of telework but may suffer from “excessive” teleworking, e.g. due to solitude or a fusing of private and professional life. Worker efficiency therefore improves with low levels of telework but decreases with excessive telework, implying a “sweet spot” where worker efficiency – and thus productivity – is maximised at intermediate levels of telework (OECD, 2020b^[3]). Beyond within-firm effects, according to several observers a mass shift to teleworking is likely to exacerbate disparities between types of workers across industries and regions. In 2017, a survey promoted by the Ministry of Labour of France showed that 60.6% of regular teleworkers were executives (*cadres*), which represented only 16.9% of all employees. While 11.1% of managers and 3.2% of intermediate professions reported teleworking at least one day a week, the practice was still marginal among employees (1.4%) and almost non-existent among blue-collar workers (0.2%) (DARES, 2019^[11]). In May 2020, a new survey by a French polling agency confirmed the presence of significant differentials across groups: teleworkers included 89% of managers, 54% of “middle management” (*professions intermédiaires*), 26% of employees and only 3% of manual workers (ODOXA, 2020a^[10]). A survey in April 2020 by the same polling agency highlighted the issue of regional differentials: 41% of the labour force was teleworking in Île-de-France, against 11% in Normandy (ODOXA, 2020b^[37]).

There is strong evidence that higher-income workers were able to reduce their movements much more than lower-income workers. According to smartphone location data in the USA, lower-income workers were more likely to continue daily commuting during the containment, while wealthier workers had higher chances to stay at home and limit their exposure to the coronavirus. Although people in all income groups were moving less than before the crisis, higher-income earners were limiting their movement the most, especially during the workweek. In nearly every state, they began doing so days before the poor, benefitting from social distancing at an earlier stage of the contagion. The differential was particularly high in metropolitan areas with the greatest pre-COVID disparity between the richest and the poorest residents (Valentino-DeVries J. et al., 2020^[38]). Other recent findings go to the same direction: higher-income workers are much more likely to be working from home during the pandemic and much less likely to be unable to work at all than lower-income workers (V. Reeves R. Rothwell J., 2020^[39]).

While it is likely that many employers will continue to allow staff to work from home in the future due to cost savings, several observers, such as the Confederation of British Industry, have pointed out that teleworking is easier for older workers with larger homes and accumulated social capital at work, whereas younger staff might well want to spend more time in offices (O’Connor Sarah, 2020^[40]). An additional divide between worker groups may depend on skillsets. Recent OECD work drawing on data from the OECD Survey of Adult Skills shows that workers possessing higher levels of skills are significantly more likely to telework in OECD countries. While 30% of workers could telework across the OECD, the likelihood decreases for workers without tertiary education and with lower levels of numeracy and literacy skills. The findings raise important questions with respect to the extent to which the pandemic could exacerbate existing labour market inequalities, and the extent to which these inequalities could further worsen amidst intensified technology adoption in the pandemic’s aftermath (Espinoza and Reznikova, 2020^[41]).

When analysing the repercussions of mass teleworking, a distinction should be made between teleworking as a choice, i.e. part of comprehensive labour arrangements, and enforced work from home due to a health emergency. While some workers might find it advantageous to blend family life with work hours, others might want to separate them as much as possible, even if they are employed in professions amenable to teleworking, suggesting a range of approaches to managing potential work-life conflicts (Nafishah, Shafiz Affendi Mohd and Wan Rozaini Sheik, 2009^[42]). However, whether and the extent to which teleworking will still be a matter of choice after COVID-19 is uncertain. For this and many other reasons, monitoring will be crucial in a post-containment scenario.

Mass teleworking raises a number of concerns from a social point of view, albeit many of the current observations stem from the unusual situation related to the pandemic. For instance, the question of teleworking as a choice is particularly salient from a gender equality perspective, as there are signs that increased childcare and general caring responsibilities have adverse effects on productivity even on the most highly educated women (i.e. academics) (Fazackerley, 2020^[43]). Additionally, studies show that lockdown measures undertaken worldwide to contain the coronavirus have increased the risks associated with domestic violence, especially for women, children, and LGBTQ+ individuals (CFR, 2020^[44]). Finally, in light of the impact of greater isolation from society potentially arising from teleworking and the accompanying likely increase in loneliness, it is important to not only assess the mental health costs but also physical health costs. Research suggests a negative emotional impact of teleworking, particularly in terms of such emotions as loneliness, irritability, worry and guilt, and that teleworkers experience significantly more mental health symptoms of stress than office-workers and slightly more physical health symptoms (Mann and Holdsworth, 2003^[45]).

How mass teleworking could affect urban and rural areas

Not all territories are prepared to smoothly adapt to an abrupt change in work models. Regions show different shares of jobs amenable to teleworking, depending on local skillsets, digital infrastructure and the composition of their industrial base. While the cross-regional digital divide may exacerbate pre-existing disparities between local labour markets, regions that are currently lagging behind, such as rural, inner or mountain areas, as well as small and medium-sized towns, might become attractive destinations for teleworkers, offering higher living standards and lower living costs. The ability of such places to attract new residents will depend on local amenities (not all of which can be affected by policy, e.g. environmental amenities such as access to nature, air quality and weather) and infrastructure, along with other elements of attractiveness like affordability, connectedness to larger centres and the ability to reach critical mass in service delivery. However, the expansion of teleworking could trigger more offshoring of certain activities, contributing to a reshuffling of jobs across as well as within countries. A number of studies issued during the first months of the COVID-19 pandemic seek to explore the spatial dimension of mass teleworking.

The short-term rise in teleworking could spark broader acceptance of this form of work over the long term, with differentiated effects across regions. A surge in teleworking adoption could contribute to some decentralisation of jobs away from major metropolitan areas or on the outer edges, as workers are freer to locate where cost of living is lower or quality of life is higher. Such shifts could help alleviate rising housing prices in big cities, as well as congestion from regular commuting, opening up opportunities for more rural communities or smaller metropolitan areas to attract residents (OECD, 2020d^[46]). However, this trend could have also adverse effects on cities. For instance, shop owners that rely on office jobs and commuters, and whose income has been wiped out during the pandemic (and are subject to the same high urban rents as employees) might be on the losing side. France is considering large-scale support to corner shops to mitigate these repercussions (Livini, 2020^[47]).

To some extent, relocations are already in planning or actually happening. In a recent study focussing on the UK, 15% of people surveyed said they were considering moving as a result of life in lockdown, with a

third (34%) stating they think differently about their home as result of the COVID-19 outbreak, especially the importance of a garden and the need for more indoor space for homeworking (Nationwide, 2020^[48]). At the same time, the US already has evidence of people moving towards lower density areas. New York City has been particularly affected. The AEI Housing Center has found that between May and August 2020, buyers have opted for homes in areas with 19% less density on average than the same period last year. Demand is up 74% in the least dense quintile of zip codes. Most of the decline has been at the expense of the densest quintile (down 3.9 percentage points) (American Enterprise Institute, 2020^[49]). According to other sources, anywhere from 14 to 23 million Americans may be planning to move as a result of remote work. Combined with those who are moving regardless of remote work, near-term migration rates may be three to four times what they normally are. Major cities would see the biggest out-migration: 20.6% of those planning to move are currently based in a major city. More than half (54.7%) are moving over two hours away or more from their current location, which is beyond daily or even weekly commuting distances for most (Upwork, 2020^[50]).

However, a decline of cities is neither plausible nor desirable. Evidence shows that urban density, as well as city size, tends to boost productivity (OECD, 2015^[51]; Harding, 2020^[52]). Large urban centres enable economies of scale that make the provision of some services more efficient – for example freight and passenger ports, specialised services, and entertainment hubs. Because not all services can be produced or consumed remotely, a decline in large urban centres would lead to a loss of economies of scale and amenities that may reduce productivity, employment and consumer choices in certain industries (personal services, food services, retail etc.).

Research seeking to model the long-term effects of mass teleworking on urban structures shows potential impacts on firm and household location decisions and real estate prices. In particular, an increase in telecommuting could contribute to a drop in housing prices, as telecommuters would leave central neighbourhoods to buy bigger houses in the periphery. Travel times could drop due to reduced traffic congestion and pay inequality across neighbourhoods would go down, as high earning workers would be able to live farther away from their places of work, causing more mixing across income levels (Parkhomenko A. et al., 2020^[53]).

On the same note, recent announcements by big tech companies to continue with mass telecommuting even after the pandemic could pave the way not only for localised telework, but also for a broader decentralisation of America's highest-value employment away from the largest metropolitan areas and into the lower-priced heartland. Such a trend would be all the more interesting considering that neither market forces nor bottom-up economic development efforts have managed to close this gap over the years (Muro M., 2020^[54]).

The issue of teleworking-driven migrations towards lagging regions has gained particular attention in Italy. Some observers point out that the economically deprived Southern regions could offer remote workers lower costs of living compared to the North, the presence of 4G being equal or slightly better (D'Alessandro J., 2020^[55]). However, data on the share of households with broadband seem to contradict these assumptions (Bonini, 2020^[56]).

Academic literature on amenity migration highlights that depopulation is not an irreversible phenomenon. For instance, more and more communities in the European Alps, which had suffered from outmigration for many decades, have become in-migration destinations since the 1990s. This new demographic trend is particularly pronounced in the French and Italian western Alps and on the periphery of the central Alps (Löffler et al., 2016^[57]). The growing disconnect between the physical location of employers and employees brought about by a mass shift towards teleworking is likely to add new impetus to this trend.

Large-scale, permanent teleworking that changes the spatial distribution of different types of workers can also alter electoral trends. For example, economic and industrial decline are found to be related to the anti-EU vote. Areas with lower employment rates or a less-educated workforce are also more likely to vote anti-

EU, reinforcing the nexus between demography, geography and electoral behaviour (Dijkstra L. et al., 2018^[58]). In other words, mass teleworking could alter the so-called “geography of discontent”.

However, post-COVID projections should take into account the extent to which jobs amenable to remote working can differ significantly within countries. Capital regions have in most cases the highest rate of potential remote working, which is 9 percentage points higher than their country average. Overall, regional differences in potential remote working are stark. On average, there is a 15-percentage point difference between the region with the highest and lowest level in a given country. Potential remote working is also higher in more densely populated areas. Cities have a 13-percentage point higher share of jobs amenable to remote working than rural areas. Finally, rates of potential remote working across regions reflect the skill composition of the local workforce, as workers with higher qualification are more adaptable to teleworking. Although other factors such as the composition of the industrial base may play a role, evidence shows that the share of workers with tertiary education appears to be strongly correlated with the share of jobs amenable to remote working (OECD, 2020e^[59]). A study from the UK Office for National Statistics confirms that homeworking opportunities vary significantly between industries and regions, depending on the type of tasks, the diffusion of digital skills and the availability of IT infrastructure (Office for National Statistics, 2020^[60]).

How mass teleworking could affect firms of different sizes

Similar to territories, companies are not equally equipped to deal with teleworking, particularly SMEs. Surveys carried out during the COVID-19 pandemic worldwide provide a wealth of data on the uptake of teleworking and other digital practices (e.g. e-commerce, cybersecurity etc.) by respondents. They highlight the risk of perpetuating size-related disparities across firms. SMEs incur disproportionately higher costs in teleworking uptake and its complementary investments (e.g. cybersecurity), compared to larger firms. Competitive disadvantages could also particularly affect smaller businesses located in areas with poor IT access. Additionally, the abrupt shift in the public sector to teleworking could lead to disruptions and delays in public service delivery and administrative procedures (authorisations, licensing, provision of incentives, procurement), with disproportionately higher impacts for SMEs.

- **United States:** A survey issued by the US Chamber of Commerce on 5 May 2020 showed an acceleration in digitalisation trends. The share of small businesses transitioning some or all of their employees to teleworking increased from 12% to 20%, and small businesses that had begun moving the retail aspect of their business to digital means increased from 10% to 17% (US Chamber of Commerce, 2020^[61]).
- **Japan:** According to 11 May 2020 reports, a survey managed by the Tokyo and Osaka Chamber of Commerce showed a gap in the prevalence of teleworking by company size (48% for large corporations versus 10-20% by SMEs), due to a lack of infrastructure and digital skills among smaller firms (The Japan Times, 2020^[62]).
- **Germany:** A survey undertaken in early May 2020 highlighted that whereas at the outset of the crisis 88% of German SMEs operated with mandatory in-person work, 81% expect that the pandemic will make their companies more flexible and one third of SMEs esteems digitalisation has grown in importance due to the pandemic (McKinsey, 2020b^[63]).
- **Europe:** A further study on Europe suggested that only 56% of all companies with 50 or fewer employees provided remote access to email, applications, and documents for their employees, compared to 93% of all firms with more than 250 employees (McKinsey, 2020c^[64]).
- **France:** An April 2020 survey by a French polling agency highlighted that the size of business implies huge differences in teleworking adoption in the country. During the early stage of the pandemic, home workers accounted for 17% of workers in firms with less than ten employees, against 38% in firms with more than five thousand (ODOXA, 2020b^[37]).

Efforts will be needed to maintain SME competitiveness in light of expanded teleworking. Due to gaps in financing, management skills, and reduced ability to benefit from economies of scale, SMEs may be more impacted by the challenges arising from teleworking, and less able to take advantage of the gains. As seen in the previous sections, the gains may include lower costs for office real estate and reduced absenteeism. In addition, there are indications of an increase in productivity and employee satisfaction when low or intermediate levels of telework are in place. Conversely, challenges encompass higher costs for digital training and equipment as well as managers' reduced ability to supervise employees, whereas "excessive" telework could affect workers' well-being, slow down productivity, reduce team spirit. Yet, further evidence is still needed on how teleworking impacts productivity, and on its differing effects by type of activity or firm size.

The need for a forward-looking and evidence-based policy approach

The risk of rising imbalances is a common thread to all the categories analysed above, i.e. people (employers and employees), places (local labour markets) and firms. Two somewhat opposite trends are looming. On the one hand, pre-existing disparities between groups of people (high- and low-skilled workers) and firms (large and SMEs) might become even larger in the future, based on the differentials in readiness to adopt teleworking. On the other hand, lesser performing places might find new opportunities to catch up – as in the case of rural areas, which could attract growing shares of teleworkers and retain residents, who could access remote jobs without losing their bond to their local community.

The presence of mixed evidence on issues such as productivity and employees' wellbeing, along with the range of issues at stake, call for a gradual policy approach. Such an approach would need to be informed by data and underpinned by ongoing dialogue with social partners and other relevant stakeholders. At corporate management level, the International Labour Organisation fosters a test-and-learn approach, based on the identification of objectives, tasks and milestones, as well as tracking and discussion of progress made – an approach that could be applicable also to policy making (ILO, 2020b^[65]).

Table 1 outlines, without claiming to be exhaustive, some of the main policy questions underlying a potential mass diffusion of teleworking.

Table 1. Main policy questions and most frequently reported opportunities and threats associated with teleworking (employee, employer, firms, urban areas, rural areas, society)

	Policy questions	Opportunities	Threats
Teleworker	Does teleworking improve work-life balance?	Better adaptability of work cycle to personal needs Family-friendly, e.g. more flexibility for parent workers Time saved from commuting	Blurred life-work borders Self-induced increase in workload Higher childcare burden on women, perpetuating disparities Difficulties in reporting overtime
	Does teleworking imply savings for employees?	Lower daytime food costs Lower housing cost (more flexibility in choosing household location)	Higher household costs for electricity, IT facilities, space to work, etc.
	Does teleworking affect career prospects?	Increased trust between employer and employee	Less visibility, promotions, pay raises Less in-company networking opportunities Reduction in access to training and knowledge flows
Manager	Does teleworking improve performance?	Reduced absenteeism Increased productivity with low teleworking intensity	Managers' reduced ability to supervise employees Decreased productivity with excessive teleworking intensity
	Does teleworking imply savings for employers?	Lower costs for the workplace, partial dismissal of facilities	Higher costs for digital training and equipment
	Does teleworking increase corporate spirit?	Higher satisfaction among employees (low teleworking intensity) Higher retention of employees	Reduced sense of community
Firms	Are all firms equipped to shift towards large-scale teleworking?	Progressive reduction of ICT costs Digital spill-overs, i.e. improvement of digital skills and infrastructure	Disproportionally higher costs for SMEs in digital uptake Competitive disadvantage for firms located in areas with poor IT infrastructure Prevalence of tasks not amenable to teleworking in certain industries
Urban areas	How does mass teleworking affect densely populated areas?	Reduced congestion, less pressure on transport infrastructure Lower rent prices if fewer people seek housing in the area Increased cohesion with rural areas	Drop in demand for public and private services Devaluation of real estate investment in urban areas Outflow of human capital
Rural areas	How does mass teleworking affect less densely populated areas?	New work opportunities, job retention Inflow of human capital, repopulation Larger tax base to finance public services Incentive to speed up investment in IT infrastructure Increased cohesion with urban areas	Initially, lower availability of public and private services Pre-existing digital divide with urban areas Risk of excessively increased rent prices/displacement of locals
Society	How does mass teleworking impact society as a whole?	Less greenhouse gas emissions due to lower commuting and business travel Improved wellbeing Improved welfare sustainability (e.g. more flexibility for childcare) Improved territorial cohesion (e.g. inner-city/outer-city)	Increased climate impact of data centres Potentially increased costs for healthcare: sedentariness, anxiety, social isolation Disparities in access to opportunities (high- vs. low-skilled workers, online vs. offline industries) Risk of increased domestic violence

Source: Author's elaboration.

In the context of the pandemic, regional and local governments are taking important short-term actions to adapt to the social-distance economy. Beyond helping with the sanitary response, including awareness-raising activities, delivering healthcare, and supporting vulnerable groups, they are playing an important role in providing complementary responses to the national plans for unemployment insurance and income supports, particularly to preserve SMEs and the jobs they provide. One important action in this sense is equipping firms, micro- and small firms in particular, for teleworking.

The following section provides an overview of various policy practices to promote teleworking carried out across different levels of governance, both prior to and in the context of the pandemic. Awareness of the different available options and their implications can guide decision makers in designing an effective policy mix tailored to local characteristics and needs.

Policy options on teleworking

A diversified and multi-level set of policies to foster teleworking

During the COVID-19 pandemic, all levels of government were required to take action to support teleworking. A number of policies were introduced by national, regional and local governments to overcome different challenges and provide tailor-made responses.

Table 2 provides an overview of the different types of teleworking policy responses described throughout this section and their distribution across countries, regions and cities. They are tentatively presented in increasing order of firm engagement in implementation, from mere governmental endorsement of teleworking (policy types no. 1 and 2) and regulatory interventions to enable this working mode (from 3 to 6), to non-financial (from 7 to 9) and financial support measures to foster teleworking uptake by SMEs (10 and 11), up to schemes for the attraction of remote workers (from 12 to 15).

On one hand, national governments played a major role in providing the legal (both soft and binding regulations, either readjusted or new) and digital infrastructure (e.g. platforms for services) to enable teleworking. On the other hand, subnational jurisdictions were particularly active in undertaking non-financial (information and training) and financial support measures (typically grants for the reimbursement costs incurred for digital investment) aimed at fostering teleworking uptake among SMEs.

The distribution pattern of policy typologies across regions seems to be related to the local degree of digital readiness. A few territories hosting a strong digital community even started drawing the first examples of long-term plans for teleworking, whereas other regions had to prioritise digital education and training to make teleworking accessible for all.

Several cases of policies on teleworking adopted prior to the pandemic will also be analysed, given their heightened relevance and the body of knowledge and experience they can impart. In recent years, countries and regions worldwide launched several programmes to foster the attraction of talented digital and remote workers or entrepreneurs, through the provision of grants, co-working facilities, start-up visas and other tools (types no. 12 to 15). Other jurisdictions set up measures and incentives for home-based businesses, which could gain new momentum in the current context (no. 9). A part from these few exceptions, all other types of policies listed below have been launched during the pandemic.

Table 2. Types of teleworking policy responses, by country, region and city

#	Type of policy response	Example countries	Example regions and cities
1	Recommendations to adopt teleworking during the outbreak	Australia, Austria, Canada, New Zealand, Poland, Portugal, Slovakia, Spain, Switzerland	
2	Long-term plans to maintain teleworking as a preferential option on a permanent basis		Milan (Italy), Santa Clara County – California (USA)
3	Soft regulations on teleworking, e.g. guidelines	Australia, Belgium, Canada, France, Greece, USA	
4	Modification of pre-existing regulations on teleworking	Australia, Colombia, France, Hungary, Italy, Korea, Slovenia	
5	Brand new regulations on teleworking	Chile	
6	Mutual tax agreements on cross-border workers forced to telecommute during confinement	Belgium, France, Germany, Luxembourg, Netherlands, Switzerland	Indiana, Maryland, Minnesota, Mississippi, New Jersey, North Dakota, Ohio (USA)
7	Online platforms for teleworking and digital services	Austria, Canada, Ireland, Italy, Latvia, Malaysia, Mexico, Portugal	Quebec (Canada)
8	Information and training on teleworking for SMEs		Abruzzo (Italy), Braga (Portugal), Barcelona, Basque Country (Spain)
9	Remote professional training for SMEs	Turkey	Île-de-France, Normandy, Occitanie (France), Friuli Venezia-Giulia, Liguria (Italy)
10	Policies to support home-based businesses	Australia, Netherlands, UK, USA,	Victoria (Australia), Vienna (Austria), Alberta, Ottawa (Canada), Barcelona (Spain), Bristol, Scotland (UK)
11	Financial support to SMEs for teleworking uptake	China, Japan, Spain	Styria, Tyrol (Austria), Apulia, Basilicata, Friuli Venezia-Giulia, Liguria, Lombardy, Molise, Piedmont (Italy), Basque Country (Spain), Tokyo (Japan)
12	Grants to attract remote workers		Vermont, Tulsa – Oklahoma (USA)
13	Co-working facilities to attract remote workers		Witterberge and Upper Lusatia – Saxony, Eberswalde – Brandenburg, Schleswig Holstein (Germany), Milan (Italy)
14	E-residency	Estonia	
15	Start-up visas to attract digital entrepreneurs	Chile and many others countries (≈ 50 worldwide)	

Source: Author's elaboration.

Each of the following sub-sections analyses a specific category of measures, identified according to the type of intervention and the rationale pursued. A full list of measures, broken down by implementing country, region and city, with a brief description and references associated with each item, is available in Annex A.

From short-term recommendations to long-term plans for teleworking uptake

At the outbreak of the pandemic, national governments took extensive action to recommend the adoption of teleworking arrangements among private employers, often setting the example with public administration staff. Particularly noteworthy in this sense is the case of Canada, whose federal government took a range of initiatives to improve the management of telework for persons in the core public administration and to ensure that employees have the necessary tools to work safely from home.

Endorsements of teleworking were made by a number of countries worldwide, including Australia, Austria, Canada, France, Greece, New Zealand, Poland, Portugal, Slovakia, Spain, and Switzerland. In most of

these countries, this went hand in hand with the adoption of containment measures to reduce the risks of contagion, and only firms that met the classification requirements for an essential business were allowed to remain open. Flexibility is a core principle inspiring these efforts. The Greek government, for instance, has promoted teleworking arrangements, allowing private employers to develop teleworking policies within the framework provided by the Ministry of Labour. Employers will only need to report said arrangements on the Ministry of Labour's IT system for each of the workers involved.

Some local governments have subsequently issued longer term plans, encouraging teleworking even after the pandemic is over. The city of Milan (Italy) and the Santa Clara County, in California (USA) are two examples.

In April 2020, the municipality of Milan started a public consultation on a draft post-COVID recovery plan titled "Milan 2020. Adaptation Strategy". The document stresses the need to maintain teleworking as a preferred setting in the short and medium term. In May 2020, the city government agreed with the largest local private employers that 80% of their labour force should keep on working from home in the next few months.

In May 2020, the Santa Clara County Board of Supervisors passed a recommendation to further encourage telecommuting after the COVID-19 crisis ends. The bill recognises the benefits of improved air quality and reduced congestion the Bay Area has experienced since containment policies were in force and many employees began working from home. The long-term objective is to maintain high productivity levels while reducing climate impacts. Engaging private employers in reducing greenhouse gas emissions is another major goal. A pilot project aimed at encouraging large employers to increase the share of employees who telecommute has been proposed, titled "Clear Air Telecommute Challenge". The Silicon Valley Leadership Group, a public policy organisation representing more than 350 companies, supports the idea and advocates the participation of the business sector in formulating the plan.

Setting up the regulatory framework for teleworking

COVID-19 required several countries to adopt new regulations on teleworking or to modify and raise awareness of existing ones. National governments have played a major role in these efforts, while regions and local governments have complemented such effort by implementing national regulations at the local level.

New regulations have been announced in Chile focussing on teleworking and the rights of teleworkers. The law enables workers and businesses to agree on teleworking arrangements, clarifies the obligations of employers in terms of risk prevention and worker protection, and sets the right to disconnect for employees.

Several countries have introduced temporary regulations or expanded the scope of existing ones to facilitate teleworking during COVID-19. These include Australia, Colombia, Hungary, Italy, Korea and France. An increase in teleworking is leading policy makers to consider amending labour laws governing aspects of employer-employee relations in Australia and appropriate workplace behaviours to more effectively address situations where workforces are not physically co-located. For example, currently, notification of termination of employment must be done face to face rather than by text or other electronic communication. Colombia issued a note with specific dispositions on working from home, teleworking, flexible working hours and early or collective holidays, among others. Hungary temporarily amended the labour legislation to extend teleworking, home office, and flexible working time. Italy introduced work arrangements with simplified modalities for teleworking for all sectors amenable to it; simplified procedures for requests and the notification of telework; simplified tendering procedures for the public sector. Korea has temporarily simplified procedures for employers to apply for a subsidy (up to KRW 2 million, i.e. about

EUR 1 500, a year per employee) for introducing flexible work arrangements such as work from home, remote work or selective working hours.

Regulations have been accompanied by awareness-raising activities and the development of practical guidelines in many countries. This is the case of Australia, Belgium, France, Greece, and the USA, which published guidelines for employers and employees to better understand how to implement teleworking, given that their law already allows this modality. Noteworthy, among the published guidelines on teleworking, the Hellenic Data Protection Authority issued, in April 2020, guidelines on teleworking to ensure data security and compliance with the General Data Protection Regulation of the European Union. Australia's independent industrial relations tribunal, the Fair Work Commission (FWC), has temporarily varied a number of the industrial awards that form part of Australia's employment safety net in response to the COVID-19 pandemic. This has included temporary flexibilities to better facilitate working from home arrangements in certain sectors. Noting the increased uptake of working from home arrangements during this period, the FWC has published a draft model award flexibility schedule as a starting point for discussion between stakeholders with a view to ensuring the award system supports the continuing need for flexible work arrangements.

The extended duration of teleworking during the pandemic also raised questions on the status of frontier workers, leading governments to update their regulations and bilateral agreements on the matter. In the EU context, this term refers to workers who are employed in the frontier zone of an EU Member State and return each day or at least once a week to the frontier zone of a neighbouring country in which they reside and of which they are nationals. A number of European countries, including Austria, Belgium, France, Germany, Luxembourg, the Netherlands and Switzerland, have concluded bilateral agreements to lay down specific tax regimes for frontier workers. For instance, Germany has concluded mutual agreements with Austria, Luxembourg, and the Netherlands, which are expected to help make sure frontier workers currently working from home due to COVID-19 are still eligible for tax benefits granted by Germany. In Luxembourg, the general rule establishes that workers are taxed in the country of work, with French frontier workers being allowed to work up to 29 days in France for their Luxembourg employer without the remuneration becoming taxable in France. France and Luxembourg have agreed that the increased number of days that frontier workers have worked from home due to COVID-19 will not be taken into account for the calculation of the 29-days limit. Several states across the USA (including Indiana, Maryland, Minnesota, Mississippi, New Jersey, North Dakota and Ohio) issued guidance on the impact that COVID-19 disruptions will have on withholding obligations for multistate employers.

Public-private platforms for teleworking and digital services

Several national governments have created online platforms to foster firm and citizen access to digital tools for teleworking during COVID-19. Such initiatives are particularly relevant for SMEs, as these often lag behind larger firms in terms of the access to digital technologies.

Two prominent examples come from Austria and Italy. The Austrian Federal Ministry for Digital and Economic Development encouraged the set-up of "Digital Team Austria", a group of IT companies that commit to offering digital services to SMEs free of charge, such as solutions for video conferencing and online meetings, virtual workspaces, cyber security, and digital training among others, which are specifically designed to support teleworking. Information on Digital Team Austria is gathered on a website, where SMEs can learn about the IT firms participating and get in touch with them directly.

Similarly, the Italian Minister of Innovation launched an initiative called "Digital Solidarity". This includes the creation of an online portal where companies (in particular SMEs and the self-employed) can register to access for free digital services provided by large private sector companies in fields such as teleworking, video conferencing, access to mobile data, and cloud computing, to enable them to cope with restrictions to movement and work.

Other countries have also taken action to facilitate firm access to digital tools, including Canada, Ireland, Malaysia, Mexico and Portugal. Canada's national employment service online tool "Job Bank" adjusted its website and adapted its services to support workers and employers during the COVID-19 pandemic, by adding a new feature that allows applicants to specifically search for teleworking opportunities. Enterprise Ireland, the Irish government organisation responsible for the development and growth of domestic enterprises in world markets, has created a webpage dedicated to COVID-19. The webpage provides comprehensive information, including on remote working and access to digital tools. The Malaysia Digital Economy Corporation, set up by the government as part of the country's digital strategy, offers an extensive list of digital solutions for SMEs by Malaysian tech companies. Mexico announced the launch of the microsite "Together for Work", providing advice and guidance on teleworking, distance training, as well as advocacy, legal advice and business promotion services. The Portuguese government, in collaboration with tech companies, has made available a set of free tools to support telework, with a contact centre for support.

Lastly, a relevant example from a subnational government comes from the province of Quebec (Canada), which created a public directory promoting local retailers that were still offering online sales during the most acute phase of the pandemic.

Non-financial support to SMEs for teleworking uptake: information and training

Regional and local governments have led the provision of information and training on teleworking arrangements and facilitated access to professional training for SMEs during the COVID-19 emergency. This has helped ensure that workers can easily take up teleworking and also have opportunities to re-skill and up-skill more broadly.

Cities have set up dedicated help desks to provide information on teleworking. For example, in Barcelona (Spain), Barcelona Activa, the city's business support agency, manages a network of information centres providing on-line and telephone assistance on employment issues in the context of the COVID-19 outbreak, such as temporary lay-offs, teleworking arrangements, work risk prevention and workplace sanitation. As of 9 April 2020, Cibernàrium, which is the centre for training and technological dissemination of Barcelona Activa, had received more than 5 800 applications, tripling its ordinary subscription rates. In Braga (Portugal), the municipal agency for economic development InvestBraga and its innovation branch Startup Braga organised a series of online courses and webinars to help SMEs improve their digital skills in fields such as e-commerce, teleworking and videoconferencing.

Some regions have established technical support bodies to train and help workers navigate the adoption of telework. The regional agency for economic development of the Basque Country (Spain) has launched Inplantalariak, whereby a team of technology advisors supports for free the self-employed and micro-firms with less than ten employees in finding solutions on teleworking, remote monitoring and management, cyber-security and e-commerce.

Finally, several regions have taken steps to support the provision of distance learning and training, to ensure that workers can access skills development opportunities during COVID-19. A prominent example is given by the Occitanie region (France), which has developed a plan aiming to "train instead of lay off" (*former plutôt que licencier*). The plan foresees EUR 4 million in support of job seekers who wish to continue or take on distance learning. In France, also the Île-de-France and Normandy regions have provided support services to ensure training organisations can continue their activities online during the COVID-19 pandemic.

Many regions in Italy have also taken steps in this direction. For example, the Autonomous Region of Friuli Venezia-Giulia offers support to public entities in charge of professional training to strengthen their capacity to deliver distance learning, while Liguria provides an integrated path of active labour policy, combining e-

learning with income support to temporarily unemployed people. Recipients can also apply for a voucher for the purchase or rental of digital technology. Both cited programmes are financed through the European Social Fund. The region Abruzzo adopted the framework "Guidelines for the use of the distance/e-learning" set out by the Italian Conference of Regions in 2019, enabling remote learning in professional training activities managed by regional bodies.

At the national level, another example is given by the activities carried out by the Turkish Employment Agency (İŞKUR) to increase the employability of young people through active labour market programmes such as on-the-job-training, vocational training and counselling. Its Job Clubs Project, in particular, is an intensive job and vocational counselling programme, which provides methodological and motivational support to special target groups such as women, youth, disabled and long-term unemployed. After the outbreak, Job Clubs and other services such as student orientation and employer counselling started to be offered online, engaging job seekers and givers through social media and other online channels.

Financial support to SMEs for teleworking uptake: subsidies and other incentives

During the COVID-19 pandemic, a number of jurisdictions across the OECD and beyond showed awareness of the challenges met by SMEs in the adoption of teleworking, and enacted dedicated policy instruments. The most typical example is the provision of grants to reduce the costs of IT investment incurred by micro- and small firms. While there is evidence of a few national policy cases falling under this category, regional governments have played a major role in this field.

Several national examples provide subsidies and access to IT services for SMEs. The Japanese government introduced subsidies for SMEs adopting teleworking, up to 50% of the costs for uptaking IT solutions, creating or changing work rules and training workers, etc.. In Spain, the Acelera PYME programme provides grants and loans to support SMEs in financing investments in digital equipment or remote working solutions. Outside the OECD, China supports SMEs cloud computing and purchase of cloud technology and for online working such as remote office, home office, video conferencing, online training, collaborative R&D and e-commerce.

Examples of subnational action are present in at least seven Italian regions. Apulia published a call for proposals to support the adoption of "Family-friendly innovation plans" by SMEs. Plans eligible for subsidies should aim at the destandardisation of working hours (e.g. through a greater use of flexible timetables or time banking) or the establishment of new work modalities, such as teleworking. Basilicata set up a support scheme for businesses adopting smart working plans: SMEs, self-employed workers and freelancers can receive aid of up to 70% of the expenditure incurred for the activation of smart working plans for their employees. Friuli Venezia-Giulia launched a call for grants to self-employed, cooperatives and small businesses with up to 50 employees to support the adoption of smart working business plans, with subsidies covering the full costs incurred throughout the whole lifecycle of teleworking adoption. Liguria set up a voucher scheme for SMEs adopting smart working plans: benefits cover 60% of investment for digital training and technology. Lombardy set up a public scheme to support the adoption of smart working plans, whereby subsidies cover the costs incurred for digital training and the purchase of IT. Molise published the public call "Io lavoro agile" to promote smart working among SMEs. Finally, Piedmont expanded a pre-existing programme for smart working, increasing its budget. All measures taken by Italian regional governments draw from the Regional Operational Programmes linked to the European Social Fund (ESF) or the European Regional Development Fund (ERDF).

The Basque Country launched the Industria Digitala initiative to foster teleworking among SMEs, It subsidises between 25% and 50% (depending on the business size) of the expenditure incurred for digital consultancy, engineering and the acquisition of hardware and software to promote teleworking. This programme is funded through the ERDF.

In Austria, the "Families! Friendly" funding programme, with which the Styrian Chamber of Labour (AK) and the Styrian Business Promotion Agency (SFG) have been supporting the creation of teleworking jobs (and more inclusive working premises) in smaller firms since 2019. It was expanded thanks to the new programme called "Telearbeit! Offensive". The programme applies to micro- or small enterprises based in Styria. Eligible investments cover current expenses for telephone and internet charges, office and business equipment, mobile phones, infrastructure at the company's premises as well as rental or leasing of equipment (e.g. servers). The share of costs covered is 80%.

In Japan, the Tokyo Metropolitan Government has been offering financial aid to SMEs and other companies for shifting to teleworking. The subsidy will cover expenditure incurred for software and other equipment necessary for telecommuting.

Policies for the attraction of remote workers and workers in the digital sector

In recent years, i.e. even before the pandemic, policies aimed at the attraction of teleworkers and workers in the digital sector have become increasingly widespread worldwide. This section aims to provide a brief overview of such diversified experiences, which could gain new momentum should mass teleworking become a permanent factor.

Several cities and states across the USA saw the potential of remote worker attraction policies even prior to the pandemic. In 2018, the Vermont legislature passed the Remote Worker Grant Program to encourage professionals interested in moving to Vermont. Another jurisdiction of the USA – the city of Tulsa, Oklahoma – launched a similar initiative in the same year (Business Wire, 2018^[66]). Both schemes provide remote workers with reimbursement grants of up to USD 10 000. Their stated goals include fighting against depopulation and attracting high-skilled talents. Between January and September 2019, the management authority of the Vermont programme awarded around USD 321 000 to 84 new remote workers (Kurrle et al., 2019^[67]). In its first year, Tulsa Remote received more than 10 000 applications from over 150 countries and all 50 USA states and welcomed nearly 100 participants to Tulsa. In its second year, Tulsa Remote is more than doubling that number by selecting 250 people to receive the incentive package (Business Wire, 2019^[68]).

Attraction policies can also be promoted by small towns. As of 2019, Wittenberge (19 000 inhabitants) in Brandenburg (Germany), is home to a pilot private-public initiative aimed at attracting workers in creative and digital sectors. While private investors provide the working facilities (they renovated an old oil mill and turned it into a co-working space), the municipality provides households (it requalified vacant houses and offers them at low rental fares, in addition to paying for desk fees). Other places in Eastern Germany, whose population has been declining since reunification, have taken similar initiatives, such as Upper Lusatia (Saxony) and Eberswalde (Brandenburg). In the second semester of 2020, 20 out of 60 applicants had the chance to relocate to Wittenberge's co-working space.

Co-working spaces are another opportunity to promote remote working. As reported in the framework of the Heinrich-Böll-Stiftung Schleswig-Holstein 2019 pilot project CoWordLand, a number of regions and cities from throughout Germany and other European countries, spanning from France to Bulgaria, are experimenting with co-working spaces in rural areas as a new solution to requalify empty buildings and fight against the exodus of young people.

Start-up visa programmes seek to attract foreign talent and business. They are national immigration policies aimed at attracting foreign founders by offering streamlined administrative procedures for the provision of entry visas and residence permits as well as, occasionally, fiscal incentives and financial support. This has been a trend since the launch of Start-up Chile in 2010. Since then, many programmes followed its footprints worldwide: in 2016, the non-profit organisation Startup Poland reported a huge number of initiatives from Canada to Israel, from Italy to New Zealand (Startup Poland, 2016^[69]). In its first

seven years of activity, Start-Up Chile received more than 1 600 startups (involving 4 500 entrepreneurs) from 85 countries, with a gross portfolio valuation of USD 1.4 billion and USD 1 billion in capital raised.

However, not all public policies for attracting workers in the digital sector aim to relocate them to the territory of the country in question, as shown by the case of the Estonian e-Residency. The programme defines as a government-issued digital identity that allows the establishment of an EU-based company remotely, as well as accessing Estonia's e-services and business environment. Although it does not require relocation, its claimed benefits have a clear spatial dimension: according to the Estonian government, e-residents conduct business with other local companies, invest in, travel to and, in some cases, pay taxes in the country (Kaljulaid, 2018^[70]). In its first five years, 62 000 people around the world have joined Estonia as e-residents and established over 10 100 companies employing approximately 1 700 people (The Baltic Times, 2019^[71]). Respondents to a survey managed by the e-Residency staff during the COVID-19 pandemic praised the programme's convenience for remote workers and location-independent entrepreneurs who run borderless business online, as it allows managing business entirely online. It therefore helps entrepreneurs and their companies to be digitally resilient even at a time when borders are closed and international travel shut down, the majority of people are working from home, and lockdowns are in place for all but essential needs (Brown, 2020^[72]).

To sum up, while framework policies such as residency and visa schemes are an exclusive matter of national governments, subnational jurisdictions such as regions, cities and even towns can take centre stage in setting up attraction schemes, whose offer (work or living facilities, fiscal or other monetary incentives, etc.) may depend on assets available at the local level. Policies of this type have a clear spatial dimension, but their actual impact on workers' flows is variable. Evidence on local projects is mostly limited, especially due to their recent timing, whereas structural programmes adopted by national governments (e.g. Start-up Chile, the Estonian E-Residency) in relatively recent years have already shown promising results.

Policies to support home-based businesses

Telework will not only affect employees but also the self-employed. The experience of pre-COVID policies for home-based businesses can provide governments with useful insights to support autonomous workers and freelancers that have switched to teleworking just in recent months or are planning to do so.

A 2018 OECD-EU report offers a portrait of home-based businesses, defined as firms located in households rather than offices or other commercial premises. This type of company accounts for slightly more than half of private firms, and while most home-based businesses are one-person enterprises, up to 40% have additional employees. The reduction of operating costs and the opportunity to better reconcile professional and family responsibilities are the most typical reasons for starting a business at home. While some home-based businesses display growth potential, many seek to remain small in order to maintain the home location. Working from home appears to be more common amongst self-employed women than among men (Reuschke and Domecka, 2018^[73]).

The home-based business community is highly diverse. Challenges may vary depending on the concerned industry, geographic location, and business owner features. Public policies can foster the creation and growth of home-based businesses in a number of ways, as shown by a number of practices worldwide.

Access to business advice, mentoring and entrepreneurial networks is one policy area. Measures in this field often go hand in hand with the provision of affordable co-working spaces and meeting spaces for a flexible use by a range of potential home-based entrepreneurs with specific needs (e.g. childcare, skills development and disability). For example, the city of Milan grants vouchers for workers in the digital sector who relocate in a public co-working space, whereas the chamber of commerce of Vienna offers face-to-face business support and free access to meeting spaces. Similarly, the city of Barcelona funds the

Almogàvers Business Factory as a means to provide individual and group training and business advisory. In Australia, the Entrepreneurship Facilitators programme brings mentoring and business advice directly into people's homes, focussing on areas with high youth and mature age long-term unemployment.

Policy makers can also remove hindrances to home-based business in regulations, policies and urban design, by adjusting mono-functional building classification systems, rules on tenancy agreements and property taxation. As shown by the Netherlands, which has been successfully experimenting with dual building planning for years, a shift in housing and planning culture towards supporting and encouraging home-based working is likely to stimulate home-based entrepreneurship amongst tenants and owners. Even housing associations can be a proactive partner in supporting the creation of home-based businesses, particularly in marginal areas and among disadvantaged populations. For example, in the UK, Cube Housing provided 15 start-up grants of GBP 1 000 (approximately EUR 1 110) to their tenants in 2013.

Policies and programmes supporting work-life balance are also relevant for many home-based entrepreneurs. In 2017, the European Commission launched the "Work-Life Balance Initiative for Working Parents and Carers", encouraging a better use of EU funds to improve childcare and long-term care services. By so doing, it aimed to increase labour market participation, including through self-employment. A practical case in this sense is the Caboodle collaborative workspace project in Bristol, UK, targeting home-based entrepreneurs which childcare needs. Launched in 2017, it offers "pop-up" co-working sessions with an on-site crèche, allowing parents and carers to work alongside one another while their children are cared for nearby.

Microcredit schemes administered through local and community-based organisations can be particularly helpful for home-based businesses. The US Small Business Administration reports that virtually every business that receives a loan of less than USD 20 000 is home-based. Peer-to-peer funding and crowdfunding are other important options. For example, the city of Milan manages a programme for social innovation start-ups, topping up the funds collected through crowdfunding campaigns with public money. As of 2017, a number of home-based businesses had been supported. The EU Programme for Employment and Social Innovation also aims to improve access to finance for home-based business. Launched in 2014, it fosters the availability and accessibility of microfinance for vulnerable groups and micro-firms, and facilitates access to finance for social enterprises.

There is also a need to improve access to information on local and national regulations that apply to businesses run from residential homes. Some countries and cities have produced dedicated guides for home-based businesses, such as Alberta and Ottawa (Canada), Scotland (UK) and Victoria (Australia).

Finally, policy makers can improve the evidence base on home-based business activities. While business registers and labour force survey data can provide some insights into this sector, most evidence comes from surveys. Expanding the evidence base could contribute to making home-based entrepreneurship more visible.

Takeaways for policy makers

The non-neutral impact of teleworking on people, places and firms

The COVID-19 pandemic showed us that large-scale, long-lasting teleworking has a non-neutral impact on people (employers, employees), places (urban, semi-dense and rural areas) and firms (large firms and SMEs), even in the short term. Indeed, politicians, business associations, trade unions, legal practitioners and urban planners all over the world are watching this phenomenon closely.

Different groups of workers are exposed to its opportunities and threats in different ways: permanent and temporary workers, dependent and self-employed, parent and non-parent, male and female, senior and junior, high- and low-income/skilled, resident and cross-border, local and immigrant, etc. – each of this group has its own perspective on the matter. According to surveys carried out worldwide in recent months, employees have shown a general willingness to continue teleworking after the health emergency, and many large employers in the digital sector and beyond are considering adopting large-scale teleworking plans. However, reports indicate that employees have been working significantly longer than usual – one of the many aspects calling for a smooth transition to mass teleworking.

Workers' amenability to teleworking reflects income differentials: the ongoing transformation is not neutral, as it risks to amplify pre-existing inequalities. Digital skills make the difference in enabling access to teleworking, and public institutions can help people, firms and places to catch up by providing information and training, also in cooperation with private players (e.g. through government-sponsored awareness campaigns carried out by chambers of commerce or other business networks in the field). Further to digital knowledge, teleworking requires collaboration and management skills on the side of both the employee and the employer as well as corporate organisational capital and the availability of high-quality IT infrastructure.

Different groups of firms are unevenly prepared to deal with a long-lasting teleworking scenario, depending on their size, industry and location. While larger firms often have a solid experience with teleworking and can largely benefit from economies of scale, SMEs are frequently not familiar with it and lack the know-how, financial resources and skills necessary for adapting to it. Policies can help SMEs in bridging the digital investment gap. However, some industries and tasks are more amenable to teleworking than others: physical labour, which plays a greater role in many essential industries, is often not replaceable.

When containment measures are in force, high-skilled workers are less exposed to threats to employment, as their jobs are more likely to be amenable to teleworking than the low-skilled. Therefore, regions where their incidence is higher are comparatively less vulnerable. Firms located in areas with a good digital infrastructure benefit from an important competitive advantage over those situated in lesser performing regions, when teleworking is the only chance for business continuity. Finally, regions with a diversified industrial base may be more resilient to digitisation and, relatedly, a larger share of local jobs is likely to be suited to teleworking.

New knowledge on teleworking and the way forward

The need for a forward-looking and monitored transition

The COVID-19 crisis has accelerated a pre-existing, disruptive process of digitalisation, not only among firms but within society as a whole: e-commerce, online learning and remote healthcare, just like teleworking, are practical examples of the transformation currently under way. For this reason, the transition to teleworking could be conceived as a long-lasting process that might contribute to reshaping the future of work, rather than a short-term exception that will end when social distancing policies are no longer needed to address the health crisis. In this view, policy makers could carefully try to foster teleworking in a way that benefits both the economy and society as a whole over the long term.

Nonetheless, there is contrasting evidence on the impact of teleworking on a number of key issues, including productivity and worker satisfaction. Indeed, teleworking itself is not the same we used to know before the pandemic, given its dramatic increase in scale and its new potential role as a structural practice over the long term. Therefore, policy makers could engage themselves in building a new evidence base and monitor future trends, promoting more extensive data collection on teleworking practices to ensure a smooth shift and make the most of them. A test-and-learn approach, based on the identification of objectives and policy solutions, tracking and discussion of progress made in consultation with social partners, could be an option.

The importance of agile regulations and multi-stakeholder dialogue

New initiatives on teleworking will need to be consistent with broader labour regulations. Awareness of framework conditions will be crucial to calibrate policy responses, allowing policy makers to choose the right mix between introducing new pieces of legislation, modifying pre-existing laws and issuing soft regulations. Labour codes could be adapted to enable this practice and properly protect the rights of employees and employers, taking into account the challenges arising from teleworking, which affect, among other things, the preservation of work-life balance, productivity, access to training for all, privacy and career development opportunities. Teleworking also raises new issues susceptible of being addressed in regulations, such as the right to disconnect in order to avoid blurred fringes between work and personal life. Policies could also take into account any potential spill-over effects of teleworking for urban and rural development, the environment, the economy and society as a whole – not to mention its potential contribution to accelerating the uptake of digital practices by SMEs. The adoption of new regulations would largely benefit from an extensive dialogue with social partners and other stakeholders: bottom-up policy design processes are particularly recommended in this context, given the plurality of interests at stake.

The COVID-19 crisis has showed how agile management structures are more likely to adapt and survive to changes and crises, while rigid organisations are more vulnerable. The same concept can be applied to public policy. Given the fluidity of the transformations currently under way, policies should not be seen as something set in stone, but as an ongoing journey of adaptation. Policy makers could therefore opt for agile regulations, open to innovation and changes. Regulatory sandboxes (special frameworks set up by a regulator to conduct experiments in a controlled environment) could help to pilot innovative solutions and pave the way for enduring changes. At the same time, mixed working schedules, combining in the office and incremental shares of remote work, could contribute to a smooth transition.

Teleworking could help promote fairness and equality with complementary public action

Teleworking could be a powerful tool to promote fairness and equality, bringing opportunities to all people, places and firms and fighting pre-existing disparities. Moreover, this instrument could be used in a strategic way to benefit society as a whole. Teleworking affects different workers in different ways. Compared to

dependant workers, the self-employed can organise their own work autonomously, but also need to bear the costs for investments. Past policy practices for home-base businesses, including tailored instruments for access to finance and the provision of shared utilities, can help to deal with the specific challenges faced by independent workers who work from home. Teleworking could amplify inequalities between women and men in duties such as housekeeping and childcare. Researchers have proved that domestic violence has increased during this crisis. Complementary welfare policies and services would contribute to making teleworking more sustainable and accessible to all. Junior workers and trainees are another potentially disadvantaged group, as a mass switch to teleworking could hamper their ability to expand their nascent networks and learn from experienced colleagues. Cross-border workers too could be harmed, should fiscal regulations not take into account the needs arising from long-term teleworking abroad.

More broadly, low-skilled and temporary workers are among the least likely to benefit from teleworking, as they typically operate in client-facing services, manufacturing and agriculture, which cannot be performed remotely. Policies could compensate by providing skill development opportunities and improving the opportunity cost of working in essential industries. Regardless of the group they fall into, all teleworkers will be required to improve their digital, managerial and organisational skills. Governments at national, regional and local level could indeed play a major role in promoting and subsidising training.

Policies can help in making teleworking accessible to all firms

A long-standing and mass diffusion of teleworking would impact firms in different ways depending on their size, industry and geographic location. SMEs face disproportionately higher costs for investment in digital technology and training, and are less likely to exploit economies of scale compared to larger firms. Moreover, some industries and tasks are more amenable to teleworking than others, and so are firms located in areas with high-speed networks.

Policies can contribute to making teleworking accessible for all firms by creating a level playing field and compensating for competitive disadvantages. Subsidies and other financial incentives for SMEs adopting teleworking plans can help reduce investment costs, whereas the provision of training and the creation of a widespread digital infrastructure could help to ensure that all companies compete on an equal footing. Policies can also play a key role in fostering agile management structures, more adaptable to changing circumstances, in order to increase firms' resilience. Tax incentives could be addressed to firms meeting flexibility and corporate welfare criteria, such as promoting teleworking, family-friendly policies or other practices for a better work-life balance and the inclusion of disadvantaged categories.

Regions lagging behind can turn mass teleworking into an opportunity

Lastly, large-scale teleworking could entail a partial reversion of traditional job flows from urban to semi-dense and rural areas. Jobs amenable to teleworking are more likely to affect companies whose premises are located in urban areas. With work from home becoming a common standard and proximity to the workplace losing momentum, teleworkers are more likely to relocate into intermediate density or even thinly populated areas that offer higher well-being and lower costs. In this case, the availability of high-speed internet access would be a key factor in determining the ability of territories to gain and retain remote workers and other workers in the digital sector.

Regional and local policy makers can play an active role in this sense. Beyond investing in IT infrastructure, they can put in place a variety of tools, including subsidies, tax breaks and other economic incentives, to attract location-independent workers. The provision of co-working facilities, cheap rent prices for housing and access to entrepreneurial communities and public services can complement such schemes. Moreover, regions and local communities could take the opportunity to foster the diversification of their industrial base, increasing resilience to digitalisation and its associated phenomena, including teleworking. Many regions belonging to the European Union are leveraging the European Social Fund and of the European Regional

Development Fund as financial sources for attraction schemes. At the same time, cities should be prepared to lose an inherent competitive edge in terms of attractiveness, which up to now outweighed serious issues like poor quality but expensive housing, overcrowding and air pollution.

Box 1 outlines a range of guiding principles and related policy recommendations that could help promote a sustainable teleworking model for people, places and firms.

Box 1. Guiding principles and policy recommendations for a smooth transition towards a sustainable teleworking model for people, places and firms

The following guiding principles could contribute to promoting a smooth transition towards large-scale and enduring teleworking:

a. Take a comprehensive approach to policy design for teleworking.

A long-lasting and large-scale use of teleworking could deeply affect local labour markets in urban and rural environments, along with residential and mobility patterns, as well as society more generally. These impacts are not yet fully predictable. A multidisciplinary, long-term perspective in policy design would help drive these transformative dynamics towards local development opportunities.

b. Promote fairness and inclusiveness.

Teleworking is unevenly accessible by different groups of workers, places (urban and rural) and firms (SMEs and large firms), and has diversified effects across them. Policies on teleworking could help level the playing field if complementary measures are in place.

c. Prioritise societal goals.

A large-scale diffusion of teleworking could help reduce urban congestion and CO₂ emissions, foster rural development, promote gender equality and pursue other sustainable development goals. Policies could prioritise socially beneficial solutions, and facilitate needed transitions, such as in the case of retailers and service providers located near office buildings, which may suffer from reduced demand.

d. Provide relevant framework conditions.

The availability of an agile legal framework and effective local public services (e.g. in fields such as child and elderly care), as well as high-speed internet, digital skills and a secure cyber environment are necessary requirements to make teleworking accessible and secure for all.

e. Create a new evidence base.

Given its unprecedented features, large-scale teleworking requires new data and metrics to inform policy decisions. Its effects should be monitored over time to avoid biased conclusions and take into account the variety of circumstances for different people, firms and places. Policy design could facilitate data collection and adaptability to changing trends, as well as systematically provide for forms of ongoing monitoring and evaluation.

Based on the above-defined principles, the following recommendations could help national, regional and local policy makers in fostering a sustainable teleworking model, to the advantage of all people, places and firms:

a. Take a comprehensive approach to policy design for teleworking:

- **Foster dialogue with the social partners and other socio-economic actors at the local level** to track the range of needs at stake (employee work-life balance, firm productivity, commercial real estate, urban mobility, etc.) and grasp any spill-over effect beneficial for society (e.g. lower CO₂ emissions due to reduced commuting, improved wellbeing, etc.) potentially

arising from mass teleworking. Awareness of the range of interests and needs at stake would support policy makers in identifying solutions that take advantage of positive social externalities and compensate for individual losses.

- **Embrace an adaptive policy approach**, grounded on experimentation, data monitoring and updating of measures when due. Indeed, mass and long-lasting teleworking is a new, cross-cutting trend whose impact is not fully foreseeable, requiring flexibility.
- b. *Promote fairness and inclusiveness:*
- **Develop sound, place-based public services and incentivise firm investment to ensure fair access to teleworking in local labour markets** (e.g. kindergartens, childcare facilities, baby-sitting and other complementary instruments to support parent workers). Consider piloting special practices in the field of social housing, such as intergenerational living, for the benefit of teleworkers with child or elderly care duties.
 - **Frame teleworking as a viable choice, rather than as a hard substitute to traditional work.** Mixtures of teleworking and more traditional working arrangements are worth considering, as they would help unlock many of the benefits of telework, while downplaying some of the negative, and importantly encouraging much physical interaction.
 - **Make sure that teleworking does not reduce on-the-job training and career development opportunities**, especially for low-skilled and temporary workers, by organising periodic surveys and setting up ad hoc monitoring systems.
 - **Design support and monitoring schemes to reduce the risk of domestic violence** in the context of long-standing teleworking and ensure that observatories on violence against women are prepared to track this aspect.
 - Encourage firms to continue offering **thorough training opportunities for students and the youth** in a mass teleworking context, in a way that allows the former to attract new talents and the latter to gain hands-on experience and take a step towards the labour market. More broadly, working in an ever-changing environment makes the provision of training a priority for all age groups.
 - Make sure that the fiscal and regulatory framework for **cross-border workers** does not entail any negative repercussion in case of transition to teleworking.
 - **Support the self-employed and micro-firms in smoothly transitioning to teleworking**, as this model is not limited to dependent workers. Policies for home-based businesses adopted worldwide prior to the COVID-19 pandemic can offer useful insights. Options include, among other things: providing affordable co-working spaces; delivering of training and services at home; removing hindrances to home-based business in regulations and urban design; offering programmes for an improved work-life balance; microcredit schemes managed by community-based organisations.
- c. *Prioritise societal goals:*
- Intensify efforts to grasp, **measure and raise awareness of environmentally and socially beneficial spill-overs of mass teleworking**, in order to increase social acceptance.
 - **Foresee settlement mechanisms when individual interests are negatively affected**, e.g. temporary financial support, incentives to relocate or start selling online for retailers and service providers located in the proximity of work premises, which may suffer from reduced demand.
 - **Advocate work-life balance to ensure sustainability and resilience across local labour markets**, by encouraging voluntary teleworking and flexible working arrangements, family-

friendly policies and corporate wellbeing practices. This objective could be achieved through awareness raising campaigns, the promotion of best practices and fiscal incentives.

- Raise a multi-stakeholder discussion on the opportunity to introduce a **legal entitlement to disconnect** and favour collective agreements or other shared solutions in this regard, in order to offset the risk of a blurred work-life balance for employees.

d. *Provide relevant framework conditions:*

- **Ensure that the legal framework enables teleworking and its inherent opportunities for all.** Consider experimenting with agile (soft law, regulatory sandboxes etc.) regulations and updating pre-existing ones (e.g. labour codes). Ensure that the legal framework can be adapted to changes in macro-trends.
- **Incentivise training among workers and managers** to boost the digital, collaboration and organisational skills required for teleworking. These modules could be also integrated into training activities part of active labour market policies.
- **Incentivise investments to boost the IT infrastructure in rural and disadvantaged areas,** including by promoting public-private partnerships with specialised companies, such as satellite internet providers, which can reach residents of rural or suburban areas where cable or fibre internet connections are not available. Hybrid fixed-mobile technologies (FWA) are another option worth exploring, considering their higher performance: the goal in this case would be to bring 4G infrastructure (5G in the near future) to remote areas that private operators have no economic incentive to cover with full-fibre technologies (FTTH, “fibre-to-the-home”). The extent and pace with which teleworking can be encouraged and adopted more broadly may depend on the quality and reliability of telecommunications and other infrastructure in non-metropolitan and rural areas.
- **Consider setting up financial support schemes to foster teleworking uptake by SMEs,** mitigating the disproportionately higher costs they incur to adopt this mode compared to larger firms. Ideally, financial schemes could cover all cost items, such as: consultancy by certified professionals to design teleworking plans; purchase, installation of and assistance with software, hardware and IT networks, both in the office and households; cybersecurity tools; digital training for employees and managers, etc. EU regions could consider leveraging the European Social Fund and the European Regional Development Fund to set up incentives and other financial schemes to foster teleworking uptake among SMEs.
- **Consider adopting attraction and retention schemes for digital and remote workers,** offering a mix of incentives based on local assets. International practices suggest a variety of options, including tax breaks, subsidies, the provision of co-working spaces, affordable rents for housing, integration into entrepreneurial networks, etc.

e. *Create a new evidence base:*

- **Include teleworking in labour data collection procedures.** Options include, amongst other, updating labour market statistical systems at national and regional level, introducing new protocols for employment data submission by firms, and carrying out periodic surveys to monitor the opinion of teleworkers and their employers. New indicators to be measures include, among other things, the provision of clauses on teleworking in employment contracts, the type of teleworking agreement and the ratio of teleworking hours over total working hours.
- **Inform policies with up-to-date datasets** and metrics reflective of the new magnitude and of relevant social, spatial and business implications of mass teleworking (frequency of use across workers, regions, industries and firm size classes, impact on local skills and employment, employee satisfaction, variations in wages, etc.). Monitoring quantitative (e.g. productivity,

savings/costs for firms and workers) and qualitative (work-life balance, trust between and satisfaction of employees and employers) indicators could improve decision making. Beyond labour-related indicators, other aspects could be grasped by monitoring systems, e.g. variations in CO2 emissions in urban areas due to reduced commuting.

Annex A. A collection of national, regional and local policies on teleworking

This section provides a collection of policy responses on teleworking adopted by national, regional and local policy makers prior to and, in most cases, during the COVID-19 pandemic. Policies mapped cover 26 countries and 29 regions and cities from 11 countries.

National policies on teleworking

Australia

- To keep workers safe and prevent the spread of COVID-19, the Australian federal government encouraged employees and employers to work together to find the most beneficial and workable solutions that suit their individual workplaces and staff.
- Australia's work health and safety (WHS) laws require businesses to ensure the safety of workers, including when they are working from home, so far as is reasonably practicable. Jurisdictional governments agreed the national tripartite WHS policy body, Safe Work Australia, to be the central source of practical guidance and advice on managing WHS risks associated with COVID-19. SWA's guidance on managing risks associated with working from home included risks to mental health arising from isolation from colleagues, changed work and family demands as well as risks of family and domestic violence.²
- In addition, it provided guidance for employers considering work from home arrangements, which should take into account the nature of the work involved and the suitability of the employee's home. It emphasised that alternative arrangements may be necessary for workers experiencing domestic or family violence.³
- The Australian Skills Quality Authority, the national regulator for Australia's vocational education and training (VET) sector, has put together resources for VET providers to stay compliant when undertaking distance learning.⁴
- On 9 April 2020, the Australian federal government introduced temporary provisions to the Fair Work Act (Fair Work Act JobKeeper provisions), to support the implementation and operation of the JobKeeper wage subsidy scheme in Australian workplaces. One of the provisions authorises

² <https://www.safeworkaustralia.gov.au/covid-19-information-workplaces/industry-information/general-industry-information/working-home>

³ <https://coronavirus.fairwork.gov.au/coronavirus-and-australian-workplace-laws/alternative-work-arrangements-during-coronavirus>

⁴ <https://www.asqa.gov.au/distance-learning>

employers to direct employees to alter their location of work, subject to a number of safeguards. The new location can include the employee's home.⁵

Austria

- Teleworking was strongly encouraged by public authorities during the COVID-19 pandemic, and ordinary regulations applied without any change. The employer cannot prescribe home office unilaterally. On the other hand, there is no legal entitlement to telework. The employee should work from home only upon agreement between the partners. Teleworking agreements can identify the workplace, the duration (limited or unlimited), the daily and weekly working hours as well as the requirements for the bearing of costs for private expenses such as electricity, Internet or hardware.⁶
- A major policy adopted by the Austrian Federal government in the context of the pandemic was "Kurzarbeit", i.e. a reduction in worktime aimed at maintaining employment levels (a similar measure was taken in Germany). Employees are entitled to 80-90% of their salary, while the company covers only 10% of the salary costs. The federal government allocated EUR 4 billion for this purpose.⁷
- The Federal Ministry for Digital and Economic Development encouraged the setup of "Digital Team Austria", a group of IT companies that commit to offering digital services to SMEs free of charge for at least three months in order to facilitate teleworking. Services can be ordered via the websites of the respective providers, and include solutions for video conferencing and online meetings, virtual workspaces, cyber security, digital training etc. are specifically designed to support mobile work.⁸

Belgium

- At the request of the Minister of Employment, the social partners of the Higher Council for Prevention and Protection at Work have drafted a "Generic Guide to combat the spread of COVID-19 at work" in May 2020. The document provides guidelines, recommendations and advice to sectors and employers who have had to suspend (partially) their activities, with a view to preparing for a safe resumption of their work. This generic guide is customisable according to the different sectors, to take into account their specific context and needs. Consultation between employers and employees was key to ensure an effective implementation. The various measures suggested in the guide are closely interrelated, and collective technical and organisational measures to reduce risks are always preferred over measures aimed at individual protection. Guidelines are not binding; their choice may vary from one company to another, depending on its specific situation and circumstances. The guide grounds on the basic principles of hygiene and social distancing and then goes through a working day to formulate points of attention, measures and advice concerning the different situations encountered.⁹

⁵ <https://coronavirus.fairwork.gov.au/coronavirus-and-australian-workplace-laws/pay-and-leave-during-coronavirus/jobkeeper-wage-subsidy-scheme>

⁶ <https://news.wko.at/news/wien/So-klappt-die-Arbeit-von-zu-Hause-aus.html>

⁷ <https://www.arbeiterkammer.at/beratung/arbeitundrecht/Arbeitszeit/SonderformenderArbeitszeit/Kurzarbeit.html>

⁸ <https://www.usp.gov.at/Portal.Node/usp/public/content/home/532049.html>

⁹ https://www.vbo-feb.be/globalassets/publicaties/veilig-aan-het-werk---generieke-gids-om-de-verspreiding-van-covid-19-op-het-werk-tegen-te-gaan/generieke-gids-v2-2020-05-04_fr---low.pdf

- Belgium concluded mutual agreements with France, Germany, Luxembourg and the Netherlands to prevent cross-border workers from being adversely affected by the COVID-19. Due to the travel restrictions in place during the pandemic, cross-border workers face the risk that their employment income would become fully taxable in the state of residence. The mutual agreements with the four-abovementioned neighbouring states aim to ensure that cross-border workers will not suffer any tax disadvantages by working from home. Days worked from home will be assimilated to days worked in the country where the individual would normally have worked. This means that, despite working from home, the employment income can continue to be taxable in the state of work.¹⁰

Canada

- In March 2020, government employees were encouraged to work from home whenever possible. The Canada School of Public Service published a checklist to help preparing for remote work, tips to work effectively in and lead a virtual team, as well as guidance on how to create a virtual team charter.¹¹
- Canada's Treasury Board Secretariat provided guidance to departments and agencies with the expectation that managers would consider telework for all their employees, at all work sites, while ensuring continued critical government operations and services to Canadians. This directive provides the framework for the management of telework for persons in the core public administration. It also lists the key stakeholders' roles and responsibilities and suggests a template for drafting comprehensive telework agreements.¹²
- Additionally, certain federal departments, such as Public Services and Procurement Canada, have introduced initiatives to ensure employees have the necessary tools to work safely from home. Recognizing that the federal public service will continue to maximize telework for the foreseeable future, managers have been provided with guidance to either authorize the delivery of employees' office chairs to their home or provide them with an allowance of up to CAD 500 to purchase home office equipment, such as desks.¹³
- The shutdown of non-essential businesses and the public health measures put in place across Canada to slow the spread of COVID-19 have left millions of Canadians either working from home, working reduced hours or unemployed. Canada's national employment service online tool "Job Bank" adjusted its website and adapted its services to support workers and employers during the COVID-19 pandemic, and respond to the new realities of today's labour market by introducing a new feature that allows applicants to specifically search for teleworking opportunities.¹⁴
- Even before the COVID-19 pandemic, the government of Canada had developed a mechanism permitting workers whose "contract of employment requires [them] to use a portion of [their] home for work" to deduct employment expenses from their income.¹⁵

¹⁰ <https://home.kpmg/xx/en/home/insights/2020/05/flash-alert-2020-247.html>

¹¹ <https://www.cspc-efpc.gc.ca/tools/jobajds/working-remotely-members-eng.aspx>

¹² <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32636>

¹³ <https://www.tpsgc-pwgsc.gc.ca/comm/mc-cd/nouvelles-news/psm-fdm/2020-06-23-eng.html>

¹⁴ <https://www.jobbank.gc.ca/findajob/resources/covid-19>

¹⁵ <https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/t4044/employment-expenses.html>

Chile

- In March 2020, the government approved a reform of the Labour Code to strengthen rules on remote work. New dispositions enable workers and businesses to agree on teleworking arrangements, clarify employers' obligations on risk prevention and workers' protection, and introduce the right to disconnect for the employees.¹⁶
- In 2010, Chile launched the programme Start-up visa: it is a national immigration policy aimed at attracting foreign founders by offering streamlined administrative procedures for the provision of entry visas and residence permits as well as, occasionally, fiscal incentives and financial support. In its first seven years of activity, Start-Up Chile received more than 1 600 startups (involving 4 500 entrepreneurs) from 85 countries, with a gross portfolio valuation of USD 1.4 billion and USD 1 billion in capital raised.¹⁷

China

- During the outbreak, China introduced measures to foster the adoption of new technologies, business practices (e.g. unmanned retail, contactless delivery, standardized package of fresh food) and business models (e.g. online shopping, online medical care, online education, online office, online services, digital entertainment, and digital life) by companies. To accelerate the adoption of digital technologies, China supports SMEs in accessing cloud computing, teleworking, video conferencing, online training, collaborative R&D and e-commerce.¹⁸
- Enterprises were encouraged to organize their employees in down time or on rotation to participate in various online vocational trainings during the period of suspension or reduction in production due to the pandemic outbreak. They will get the subsidies for training costs. On February 12, the Ministry of Human Resources and Social Security launched a free online training platform to support the development of vocational education and online training. SMEs were also encouraged to join online training to hone their skills amid the novel coronavirus epidemic. Policy interpretation, technical know-how and management lessons were offered to SMEs for free during the pandemic via mobile telecommuting platforms.¹⁹
- China Telecom provided free cloud-based office services for SMEs severely affected by the pandemic. At the same time, it offered three months of free cloud services to SMEs across the country.²⁰

Colombia

- On 17 March 2020, the Ministry of Labour issued Circular 21, which specifies regulations and considerations for the optimal development of work at home, teleworking, flexible working hours, early or collective holidays, and others.²¹

¹⁶ <https://www.leychile.cl/Navegar?idNorma=1143741>

¹⁷ <https://www.startupchile.org/impact/>

¹⁸ <https://www.urdupoint.com/en/technology/china-to-empower-smes-with-digital-technolog-868855.html>;
<http://www.g20e.tsinghua.edu.cn/EN/contents/1185/1308.html>

¹⁹ <http://www.g20e.tsinghua.edu.cn/EN/contents/1185/1304.html>

²⁰ <http://www.g20e.tsinghua.edu.cn/EN/contents/1185/1308.html>

²¹ https://www.mineducacion.gov.co/1759/w3-article-394115.html?_noredirect=1

Estonia

- E-Residency is a governmental programme launched in late 2014. It allows non-Estonians to access local public services such as firm incorporation, banking, payment processing, and taxation. The main benefits deriving from e-Residency are location independence, allowing for remote management, and the access to the EU Single Market.²²

France

- In May 2020, the French Ministry of Labour published FAQs on telework, drafted in consultation with the social partners, to assist firms and employees that had not yet adopted telework, had no agreement in place or were experiencing difficulties in finding a suitable arrangement.²³
- Mutual agreements were concluded with Germany, Belgium and Switzerland to lay down specific tax regimes for frontier workers.²⁴

Germany

- In the context of the pre-existing "go-digital" programme, the federal government set up a new funding scheme aimed at SMEs and craft enterprises to incentivise the creation of home office jobs. Financial support consists of a reimbursement of up to 50% of the expenditure incurred for services provided by a consulting firm authorised by the Ministry of Economics. Services include the setup of e-commerce, home office and cybersecurity solutions, e.g. through the configuration of software and hardware. The ceiling for consultancy daily rates amounts to EUR 1 100, for a maximum of 30 days. SMEs and handicraft enterprises interested in the programme will use a dedicated map to find a consultant in their region.
- Germany has concluded mutual agreements with Austria, Luxembourg, and the Netherlands on the taxation of frontier workers in light of circumstances presented by the COVID-19 pandemic. Employees living outside Germany but working there are generally taxable in Germany on their employment income as non-tax residents. These frontier workers may be eligible for specific tax reliefs. One main criterion in order to benefit from these is that at least 90% of their total income is subject to German income tax (German-sourced income) within one calendar year. As the number of German work-days decreases due to COVID-19, the German-sourced income might not exceed the threshold of 90% of the total income for calendar year 2020 anymore. The mutual agreements signed by Germany with Austria, Luxembourg and the Netherlands establish that employment income related to work-days spent at home due to COVID-19 measures can remain taxable in the state where the usual place of work is located.²⁵

Greece

- During the outbreak, enterprises were encouraged to facilitate telework arrangements until further notice, if operations were not suspended. For employees working in the private sector, the

²² <https://e-resident.gov.ee/become-an-e-resident/>

²³ <https://travail-emploi.gouv.fr/IMG/pdf/qr-teletravail-deconfinement.pdf>

²⁴ <https://de.ambafrance.org/COVID-19-situation-des-travailleurs-frontaliers>

²⁵ <https://home.kpmg/xx/en/home/insights/2020/04/flash-alert-2020-191.html>

employer may impose a teleworking policy. Said arrangement had to be electronically reported on the Ministry of Labour and Social Affairs (MoLSA) IT system ERGANI for each worker involved.²⁶

- The Hellenic Data Protection Authority (HDPA) published, on 15 April 2020, guidelines on teleworking in light of the COVID-19 crisis to ensure data security and compliance with the General Data Protection Regulation (Regulation (EU) 2016/679). In particular, the Guidelines note the obligation of the employer to training employees for teleworking, and the higher expectation of privacy for employees working from home, while also outlining rules on access to the Internet, use of emails, devices as well as teleconferencing. In addition, the Guidelines suggest the use of encryption and firewalls, the division between work-related data and personal data, and the use of a strong WAP2 system when employees use Wi-Fi.²⁷

Hungary

- Temporary amendments to labour legislation to allow for teleworking, home office, and flexible work hours, while also authorising employers to take the necessary measures in order to inspect the health of employees.²⁸

Ireland

- Enterprise Ireland, the Irish government organisation responsible for the development and growth of Irish enterprises in world markets, created a web page dedicated to COVID-19 shortly after the outbreak. The webpage provides practical information on a range of topics, including remote working, access to digital tools and strategies for managing virtual teams.²⁹

Italy

- Work arrangements with simplified modalities for teleworking for all activities and occupations for which it is possible. Simplified procedures for requests and notification of telework. For the public sector, simplified tendering procedures.³⁰
- The Ministry of Innovation and Digitalisations launched an initiative called “Digital Solidarity”. This includes a portal where companies (in particular SMEs and self-employed) can register to access free digital services from large private sector companies in fields such as teleworking, online conferencing, access to mobile data, cloud computing etc., to enable them to cope with restrictions to movement and work.³¹

²⁶ <https://www.ilo.org/global/topics/coronavirus/country-responses/lang--en/index.htm#GR>

²⁷ <https://www.dataguidance.com/news/greece-hdpa-publishes-teleworking-guidelines>

²⁸ <https://www.ilo.org/global/topics/coronavirus/country-responses/lang--en/index.htm#UN>;
http://www.cielolaboral.com/wp-content/uploads/2020/04/hungria_noticias_cielo_coronavirus.pdf

²⁹ <https://eilearn.ie/covid-19/>

³⁰ <https://www.lavoro.gov.it/strumenti-e-servizi/smart-working/Pagine/default.aspx>

³¹ <https://solidarietadigitale.agid.gov.it/>

Japan

- Since before the outbreak, the Japanese government has been taking a range of measures, such as granting subsidies for teleworking uptake, issuing guidelines as well as enhancing counselling systems.
- In March 2020, the Japanese government introduced a special subsidy for SMEs adopting telework as a response to the pandemic. The scheme covers 50% (up to JPY 1 million: approximately EUR 8 100) of the cost for uptaking IT solutions, creating or changing work rules and training workers, etc.³²

Korea

- Temporarily simplifying procedures for employers to apply for a subsidy (up to 2 million won a year per employee) for introducing flexible work arrangements like work from home, remote work or selective work hours.³³
- Korea introduced measures to encouraging brick-and-mortar shops to open their business online.³⁴

Malaysia

- The Malaysia Digital Economy Corporation, set-up by the government as part of the country's digital strategy, offers an extensive list of digital solutions for SMEs by Malaysian tech companies.³⁵

Mexico

- The Ministry of Labour and Social Security published an action guide for firms in the face of the COVID-19 crisis, so that they can adopt health and safety measures at work and promote distance working modalities, such as teleworking.
- In addition, the microsite "Together for Work" was launched, containing the above Action Guide, a section on distance training, advocacy and legal advice, and support of local consumption.³⁶

New Zealand

- The government incentivized employers to retain employees through a wage subsidy programme and encouraged companies to leverage work from home options. Only businesses that meet the classification requirements for an essential business were allowed to remain open.³⁷

³² <https://alesia-law.com/en/2020/04/grants-and-subsidies-for-smes-in-japan-under-covid-19-situation/>

³³ http://moel.go.kr/english/poli/poliNewsnews_view.jsp?idx=1552

³⁴ <https://home.kpmg/xx/en/home/insights/2020/04/south-korea-government-and-institution-measures-in-response-to-covid.html>

³⁵ <https://mdec.my/wp-content/uploads/SME-Digital-Quickwins-.pdf>

³⁶ <https://juntosporeltrabajo.stps.gob.mx/>

³⁷ <https://ssc.govt.nz/resources/covid-19-state-services-workforce-guidelines/>

Poland

- Although the Polish Labour Code does not regulate teleworking, employers were able to adopt teleworking for a certain period of time, due to security and health reasons.³⁸

Portugal

- During the state of emergency teleworking was considered mandatory for jobs compatible with working at home.³⁹ Workers could unilaterally decide to start teleworking as long as their function was compatible with working at home. From 16 March 2020 onwards public servants were also offered this opportunity.⁴⁰
- The government, in collaboration with tech companies, offered a set of free digital tools in Portuguese to support telework, with a contact centre for support.⁴¹

Slovakia

- On 31 March 2020, the government of the Slovak Republic approved significant amendments to the Labour Code and related regulations, including: introduction of the option to order an employee to work from home and an employee's right to home office; reduction of wage compensation to 80% during the existence of obstacles on the part of an employer due to the shutdown, and enabling the employer to order an employee to work off the time for which the wage compensation was paid; Shortening of the period for the advance announcement of the work schedule by the employer to at least two days and the shortening of the period for the advance announcement of (ordered) vacation; increased protection for employees against employment termination and employees returning to work for reasons related to COVID-19.⁴²

Slovenia

- Aid to companies dealing with teleworking and quarantine cases.⁴³

Spain

- Teleworking was strongly encouraged during the COVID-19 crisis, in order to prevent the reduction of economic activity and dismissals.⁴⁴
- The programme Acelera PYME (EUR 250 million) offers measures to digitalise SMEs through grants and loans, to finance investment in digital equipment or solutions for remote working.⁴⁵

³⁸ <https://www.roedl.com/insights/covid-19/poland-home-office-employer-employee-corona-virus>

³⁹ <https://dre.pt/web/guest/home/-/dre/131068124/details/maximized>

⁴⁰ <https://dre.pt/home/-/dre/130243053/details/maximized>

⁴¹ <https://covid19estamoson.gov.pt/teletrabalho/>

⁴² <https://www.whitecase.com/publications/alert/overview-most-recent-measures-government-slovak-republic-regarding-spread-covid>

⁴³ <https://www.gov.si/en/news/slovenia-allocates-eur-1-billion-to-mitigate-consequences-of-coronavirus-on-the-economy/>

⁴⁴ <https://www.ilo.org/global/topics/coronavirus/country-responses/lang--en/index.htm#UN>

⁴⁵ <https://acelerapyme.gob.es/soluciones-tecnologicas/teletrabajo>

Switzerland

- Flexible hours and telecommuting are encouraged wherever possible.⁴⁶

Turkey

- The Turkish Employment Agency (İŞKUR) increases the employment and employability of young people through active labour market programmes such as on-the-job-training, vocational training and counselling. Its Job Clubs Project, in particular, is an intensive job and vocational counselling programme, which provides methodological and motivational support to special target groups such as women, youth, disabled, long-term unemployed, and others. Job Clubs training programmes are provided throughout the country, with a duration of 2-5 days. Participants will join groups of 6-15 people and receive advice on how to prepare an effective CV as well as information about job seeking channels and the labour market. After the outbreak, Job Clubs and other services such as student orientation and employer counselling started to be offered online, engaging job seekers and givers through social media and other online channels.⁴⁷

United States of America

- In April 2020, the Centers for Disease Control and Prevention (CDC) issued updated guidance directing the public to wear masks and updated safety guidelines for critical workers. The CDC have maintained guidance for businesses and employers to plan for and respond to COVID-19-related situations. Guidance for businesses includes strategies to implement flexible worksites (e.g. teleworking), flexible work hours (staggered shifts), and to increase physical space between employees at the worksite.⁴⁸
- With the majority of the nation facing limitations on business travel and mandatory stay-at-home orders, several states and localities issued guidance on the impact that COVID-19 disruptions will have on withholding obligations for multistate employers. States have responded in a variety of ways:
 - a. New Jersey and Mississippi have altered their withholding policies to allow businesses to retain their same withholding for employees' temporary pandemic-related telework location.
 - b. Minnesota and Maryland issued guidance indicating that teleworkers may create new withholding obligations.
 - c. Ohio passed legislation providing that pandemic-related remote work does not count toward the withholding threshold for municipal income taxes.
 - d. For corporate income tax purposes, the District of Columbia, Indiana and North Dakota indicated that they will not impose corporate income tax nexus due to the temporary presence of new teleworkers, without specifying what impact this will have on withholding obligations.⁴⁹

⁴⁶ <https://www.ilo.org/global/topics/coronavirus/country-responses/lang--en/index.htm#UN>

⁴⁷ <https://ec.europa.eu/transparency/regdoc/rep/10102/2020/EN/SWD-2020-68-F1-EN-MAIN-PART-1.PDF>

⁴⁸ <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html>

⁴⁹ <https://www.jdsupra.com/legalnews/covid-19-telework-triggers-state-tax-61603/>

Regional and local policies on teleworking

Abruzzo (Italy)

- In April 2020, Abruzzo adopted the framework "Guidelines for the use of the distance/e-learning" set out by the Italian Conference of Regions in 2019, enabling remote learning in professional training activities managed by regional bodies.⁵⁰

Apulia (Italy)

- In March 2020, Apulia published a call for proposals to support the adoption of "Family-friendly innovation plans" by SMEs. Plans eligible for subsidies should aim at the destandardisation of working hours (e.g. through a greater use of flexible timetables or time banking) or the establishment of new work modalities, such as teleworking. The financial appropriation for this programme amounts to EUR 14.5 million, drawing from the European Social Fund (ESF). The maximum contribution for each project is EUR 100 000. Subsidies can cover up to 80% of the expenditure incurred for drafting and implementing the plan and up to 100% of the related training costs.⁵¹

Barcelona (Spain)

- Barcelona Activa, the city's business support agency, manages a network of information centres providing on-line and telephone assistance on employment issues in the context of the COVID-19 outbreak, such as temporary lay-offs, teleworking arrangements, work risk prevention and workplace sanitation. On 9 April 2020, the centre for training and technological dissemination of Barcelona Activa, called Cibernàrium, had received more than 5 800 applications, tripling its ordinary subscription rates. The most demanded capsules concern effective virtual meetings, the use of collaborative platforms, and teleworking arrangements.⁵²

Basilicata (Italy)

- In March 2020, Basilicata set up a support scheme for businesses adopting smart working plans: SMEs, self-employed workers and freelancers can receive aid of up to 70% of the expenditure incurred for the activation of smart working plans for their employees. The total budget is EUR 3 million, partly drawing from the European Regional Development Fund (ERDF). Eligible investments include tangible and intangible capital goods, for a maximum contribution of EUR 200 000 per company.⁵³

Basque Country (Spain)

- The regional agency for economic development, named Grupo SPRI, launched two initiatives to foster teleworking among SMEs in the context of the COVID-19 pandemic:

⁵⁰ http://www2.consiglio.regione.abruzzo.it/leggi_tv/abruzzo_lr/2020/lr20009/Intero.asp

⁵¹ <https://www.regione.puglia.it/web/welfare-diritti-e-cittadinanza/-/attivazione-di-un-piano-di-innovazione-family-friendly-nelle-pmi-po-puglia-2014-2020-fse-asse-viii-azione-8.6-b>

⁵² <https://cibernarium.barcelonactiva.cat/>

⁵³ <https://portalebandi.regione.basilicata.it/PortaleBandi/detail-bando.jsp?id=581951>

- **Inplantalariak:** a team of technology advisors supports for free the self-employed and micro-firms with less than ten employees in finding solutions on teleworking, remote monitoring and management, cyber-security and e-commerce;
- **Industria Digitala:** support in the implementation of IT solutions in industrial SMEs, by subsidising between 25% and 50% (depending on the business size) of the expenditure incurred for digital consultancy, engineering and the acquisition of hardware and software to promote teleworking. Companies can benefit from an additional 5% if they have a Bikain certificate of quality in Basque language management or a plan for gender-balanced recruitment and promote the use of software in Basque language. The total appropriation for the programme is EUR 2.3 million, partly drawing from the ERDF.⁵⁴

Beijing (China)

- In February 2020, the municipal government announced a package of policies for SMEs, including on taxation, finance, social security, subsidies, and rent reduction. In particular, SMEs will be eligible for grants for employee training and purchasing teleworking service products.⁵⁵
- The Beijing Business Incubation Association offered shared working spaces free of charge or for reduced prices to micro and small firms amid the coronavirus epidemic. The 86 incubators across the city can accommodate about 6 000 small firms. According to estimates, these will save USD 43 million in office rental.⁵⁶

Braga (Portugal)

- The municipal agency for economic development InvestBraga and its innovation branch Startup Braga organised a series of online courses and webinars to help SMEs improve their digital skills in fields such as e-commerce, teleworking and videoconferencing. The agency also offers free consultancy on digital issues.⁵⁷

Bristol (UK)

- The Caboodle collaborative workspace project in Bristol, UK, targets home-based entrepreneurs which childcare needs. Launched in 2017, it offers “pop-up” co-working sessions with an on-site crèche, allowing parents and carers to work alongside one another while their children are cared for nearby.⁵⁸

Friuli-Venezia Giulia (Italy)

- On 5 May 2020, this Italian autonomous region published a call for grants to self-employed, cooperatives and small businesses with up to 50 employees to support the adoption of smart working business plans. The total budget for the programme is EUR 2.4 million, drawing from the ESF. Subsidies cover the full costs incurred throughout the whole lifecycle of teleworking adoption,

⁵⁴ <https://www.spri.eus/es/ayudas/>

⁵⁵ https://www.china-briefing.com/news/chinas-latest-regional-measures-to-support-smes-during-coronavirus-outbreak/?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration

⁵⁶ <http://www.ebeijing.gov.cn/Home/News/t1622522.htm>

⁵⁷ <https://www.correiodominho.pt/noticias/startup-braga-da-exemplo-e-debate-teletrabalho-via-online/123571>

⁵⁸ <http://workandhome.ac.uk/2017/11/07/caboodle-co-working-with-childcare>

from exploratory analysis and consultancy to training, up until the purchase of software and hardware (grants of up to EUR 11 700 per firm);⁵⁹

- Support to public entities in charge of professional training to strengthen their capacity to deliver distance learning. A total budget of EUR 0.5 million, drawing from ESF, has been allocated for this purpose.⁶⁰

Île-de-France (France)

- The Île-de-France region is providing free support services to ensure qualified training organisations within the region can continue their training activities during COVID-19. To do so, the region has partnered with Ecole O'clock, a provider of distance learning trainings. Training organisations are required to fill in an online module defining their specific training needs in order to benefit from the support programme. Virtual classes can be used by 20 and up to 50 trainees.⁶¹

Lazio (Italy)

- In March 2020, this region published a call for grants to the self-employed and SMEs adopting smart working plans. Benefits range from EUR 7 500 to EUR 22 500, depending on the firm size. Costs eligible for reimbursement comprise those incurred for consultancy, training and digital technology. A total of EUR 2 million has been allocated for this purpose, drawing from the ESF.⁶²

Liguria (Italy)

- The region allocated EUR 600 000, drawing from the ESF, for vouchers to SMEs adopting smart working plans. Benefits cover 60% of investment for digital training and technology. Eligible investments can range from EUR 1 000 to EUR 5 000.⁶³
- Temporarily unemployed people can benefit from an integrated path of active labour policy, combining distance learning (or, as an alternative, smart training) with income support in the form of a monthly grant of EUR 500 for up to five months. Recipients can also apply for a voucher for the purchase or rental of digital technology. The programme, called “Smart@ttivo”, has a total budget of EUR 3.6 million (ESF).⁶⁴

Lombardy (Italy)

- In March 2020, the region set up a public scheme to support the adoption of smart working plans. Subsidies of up to EUR 15 000 will cover the costs incurred for digital training and the purchase of IT (EUR 4.5 million allocated).⁶⁵

⁵⁹ <http://www.regione.fvg.it/rafvfg/cms/RAFVFG/formazione-lavoro/lavoro/FOGLIA81/articolo.html#id1>

⁶⁰ http://mtom.regione.fvg.it/storage//2020_517/Allegato%201%20alla%20Delibera%20517-2020.pdf

⁶¹ <https://www.defi-metiers.fr/dossiers/covid-19-continue-daction-pour-lemploi-et-la-formation>

⁶² http://www.regione.lazio.it/binary/rl_main/tbl_documenti/FOR_DD_G02673_11_03_2020.pdf
http://www.regione.lazio.it/binary/rl_main/tbl_documenti/FOR_DD_G02673_11_03_2020_Allegato_1.pdf

⁶³ <https://www.regione.liguria.it/homepage/salute-e-sociale/101395-coronavirus/25311-bando-dotazione-e-formazione-smart-working.html>

⁶⁴ <https://www.regione.liguria.it/eventi-live/coronavirus-17-aprile-2020>

⁶⁵ <https://www.lombardianotizie.online/coronavirus-smartworking/>

Milan (Italy)

- In April 2020, the municipality issued “Milan 2020. Adaptation Strategy”, open for public consultation. The document stresses the need to maintain teleworking as a preferred setting in the coming months.⁶⁶ In May 2020, the city government agreed with major local employers that 80% of the labour force should keep on working from home.⁶⁷
- The city, jointly with the local chamber of commerce and trade unions, has additionally implemented a programme called “Partita AttIVA” to support the self-employed and freelancers – a large share of which are home-based – in developing their business plan, through the provision of low-interest loans of up to EUR 15 000 and mentoring services. Investment in digital training and equipment are encouraged.⁶⁸

Molise (Italy)

- The public call “Io lavoro agile” was launched in March 2020 to promote smart working among SMEs. Individual benefits can range from EUR 10 000 to 50 000. The total budget is EUR 0.46 million (ERDF-ESF).⁶⁹

Normandy (France)

- As of end of March 2020, the Normandy region provided a range of services to support distance learning and training. These include the setup of online forums for training organisations to ask questions and receive targeted support to distance learning, and a series of ten webinars to guide training organisations in the provision of distance learning.⁷⁰

Occitanie (France)

- The region developed a plan aiming to “train instead of lay off” (*Former plutôt que licencier*), which consists of EUR 4 million in support of job seekers who wish to continue or take on distance learning. As part of the plan, the region expanded the budget for training providers (*Opérateurs de Compétences*), whose role is to finance training and accompany SMEs to define training needs. The plan builds on the extensive experience of the region in supporting distance training through its Occitanie e-formation platform.⁷¹

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<https://www.comune.milano.it/documents/20126/95930101/Milano+2020.++Strategia+di+adattamento.pdf/c96c1297-f8ad-5482-859c-90de1d2b76cb?t=1587723749501>

⁶⁷ https://www.ansa.it/lombardia/notizie/2020/05/03/comune-di-milano-alle-aziende-usate-lo-smart-working_d316a538-1776-4c77-b0ca-cf93d41dbf79.html

⁶⁸ <https://www.fwamilano.org/wp-content/uploads/2020/04/Scheda-operativa-Partita-Attiva-5.pdf>

⁶⁹ <http://www3.regione.molise.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/17197>

⁷⁰ https://www.profilinfo.fr/index.php?lvl=notice_display&id=55834&opac_view=6&opac_view=6

⁷¹ https://www.laregion.fr/La-formation-au-secours-de-l-emploi?fbclid=IwAR3VpqZpUQM1jeX-7V8dx15uQM49_a1XHRdaXmdumntkgoJh2eOIP2PJtmo

Piedmont (Italy)

- In March 2020, the region expanded a pre-COVID programme for smart working, increasing its budget to EUR 4.5 million (ESF). Joint applications by different SMEs are encouraged, with the goal of financing shared services (e.g. childcare) to enhance the work-life balance of workers, parents in particular.⁷²

Quebec (Canada)

- In the context of the COVID-19 pandemic, the local revenue agency does not consider the reimbursement of up to CAD 500 for necessary computer or office equipment that an employee purchased for teleworking as a taxable benefit for the employee.⁷³
- Due to the economic impact of the COVID-19 pandemic, the Quebec provincial government created the "Panier Bleu"— a government-run directory promoting local retailers that are offering online sales. The website itself doesn't support transactions but serves as a resource for people to find businesses that are still selling products online during the pandemic.⁷⁴

Santa Clara County (USA)

- In May 2020, the Santa Clara County Board of Supervisors approved a recommendation to continue to encourage telecommuting after the COVID-19 crisis ends, recognising the benefits of improved air quality and reduced congestion that the Bay Area has experienced since containment policies began and many employees began working from home. The long-term objective is to maintain high productivity levels while reducing climate impacts. The recommendation also seeks to engage private employers in reducing greenhouse gas emissions, proposing a "Clear Air Telecommute Challenge" to encourage large employers to increase the number of employees who telecommute.⁷⁵ The Silicon Valley Leadership Group, a public policy organisation representing more than 350 companies, supports the idea and advocates the participation of the business sector in formulating the plan.⁷⁶

Schleswig-Holstein (Germany)

- The Schleswig-Holstein 2019 pilot project CoWordLand was aimed at experimenting with co-working spaces in rural areas as a new solution to requalify empty buildings and fight against the exodus of young people.⁷⁷

⁷² <https://www.regione.piemonte.it/web/pinforma/notizie/oltre-45-milioni-per-lavoro-agile-nelle-aziende-private>

⁷³ <https://www.revenuquebec.ca/fr/maladie-a-coronavirus-covid-19/faq-pour-les-entreprises/>

⁷⁴ <https://www.lepanierbleu.ca/>

⁷⁵ <https://barc.ca.gov/whats-happening/news/santa-clara-county-explores-expansion-telecommuting-post-covid-19>

⁷⁶ <https://abc7news.com/working-remotely-from-home-tips-work-jobs-santa-clara-county/6151209/>
<https://www.mercurynews.com/2020/05/04/coronavirus-made-telework-necessary-santa-clara-county-to-explore-ways-to-keep-it/>

⁷⁷ <https://www.netzpiloten.de/neue-provinz-forschungsprojekt-coworkland/>

Shanghai (China)

- Municipal Bureau of Human Resources and Social Security has introduced a subsidy policy for training fees, that is, those which organize their employees to participate in various online vocational training during the suspension period can enjoy the subsidies of 95% of the training fees.⁷⁸

Styria (Austria)

- Expansion of the "Families! Friendly" funding programme, with which the Styrian Chamber of Labour (AK) and the Styrian Business Promotion Agency (SFG) have been supporting the creation of teleworking jobs (and more inclusive working premises) in smaller firms since 2019. The programme applies to micro- or small enterprises based in Styria. Eligible investments are comprised between EUR 2 000 and EUR 50 000 (max EUR 5 000 per teleworker), and cover current expenses for telephone and internet charges, office and business equipment, mobile phones and infrastructure at the company's premises (e.g. servers). The share of costs covered is 80% (50 % by SFG plus 30 % by AK Styria). The programme also promotes investment for separate sanitary rooms in the workplace (which are mandatory for firms with more than five employees), in order to support the recruitment of staff regardless of gender.⁷⁹
- During the COVID-19 pandemic, SFG and AK Styria have launched a new programme, called "Telearbeit! Offensive", which broadens the scope of the "Families! Friendly" plan: medium-sized enterprises can also apply, the minimum eligible investment has dropped to EUR 1 000 and the rental or leasing of equipment are now eligible.⁸⁰

Tokyo (Japan)

- In order to curb the contagion, the Tokyo Metropolitan Government has been offering up to JPY 2.5 million (approximately EUR 20 500) in financial aid to SMEs and other companies for shifting to teleworking. The subsidy will cover expenditure incurred for software and other equipment necessary for telecommuting. Eligible firms have less than 1 000 employees and no outstanding tax payment.⁸¹

Tulsa, Oklahoma (USA)

- Tulsa Remote is a recruitment initiative targeting remote workers and digital nomads by providing USD 10 000 grants, one-year membership at a local co-working space, support in identifying housing, and regular community-building opportunities. Eligible applicants live outside of Oklahoma. Selected applicants will receive grants partly upfront to help with relocation expenses, partly in the form of a monthly stipend and the rest as soon as the first year is finished.⁸²

⁷⁸ <http://www.g20e.tsinghua.edu.cn/EN/contents/1185/1304.html>

⁷⁹ <https://www.sfg.at/f/lebenswerte-bueros/>

⁸⁰ https://www.sfg.at/cms/wp-content/uploads/2020/03/detailinformation_telearbeitoffensive.pdf

⁸¹ <https://metropolisjapan.com/covid-19-support-for-businesses/>

⁸² <https://tulsaremote.com/>

Tyrol (Austria)

- Tyrol supports SMEs in setting up home office workplaces to contribute to maintaining productivity and securing jobs. The subsidy consists of a non-repayable one-off grant. Costs eligible for subsidy are consulting services for the conception and setup of hardware and software equipment needed for the home office workstation (up to 50%), the acquisition of software (up to 50%) and the related hardware (up to 30%, but not more than EUR 300 per each laptop, tablet etc.). Eligible costs must amount to at least EUR 500 and cannot exceed EUR 5 000.⁸³

Vermont (USA)

- Since 2019, Vermont has been offering financial incentives to attract teleworkers in the framework of the New Worker Relocation Grant Programme.⁸⁴ Eligible applicants are full-time employees of firms domiciled outside of Vermont. Selected applicants will relocate and perform a majority of their duties remotely from a household or a co-working space located in the state. Costs eligible for reimbursement include relocation, computer software and hardware, broadband access or upgrade, and membership in co-working or similar spaces. Grants will be awarded for reimbursement of qualified expenses. The maximum amount of the grant varies according to the grantee's place of relocation, spanning from USD 5 000 to 7 500. The dedicated online platform managed by the Vermont Department of Economic Development also contains a jobs board.⁸⁵

Vienna (Austria)

- The Austrian Federal Chamber of Commerce created a network of contact points for solo entrepreneurs, which are located in each of the nine provinces and offer a wide range of services. One of the most significant services offered to home-based entrepreneurs is the provision of meeting rooms. The WKO Forum Wien offers 20 meeting rooms that are fully technically equipped, including laptop, flipchart, and internet access to members. The service also includes a babysitter service which is free of charge. Use of these meeting rooms has increased continuously. Webinars were introduced in 2014 to make training more accessible to members based in rural and outlying areas. Their content covers marketing, sales, social media and other relevant business issues. More than 8 000 entrepreneurs across the country have taken advantage of the webinars so far, helping them to learn while saving time and travel costs.⁸⁶

Wittenberge (Germany)

- In 2019, Wittenberge in Brandenburg, launched the pilot private-public initiative aimed at attracting creative and workers in the digital sector. While private investors provide the working facilities (they renovated an old oil mill and turned into a co-working space), the municipality provides households (it requalified vacant houses and offers them at low rental fares, in addition to paying desk fees).⁸⁷

⁸³<https://www.tirol.gv.at/arbeit-wirtschaft/wirtschaftsfoerderung/wirtschaftsfoerderungsprogramm/homeoffice-arbeitsplaetze/>

⁸⁴ <https://accd.vermont.gov/press-releases/remote-worker-grant-program-set-launch>

⁸⁵ <https://www.thinkvermont.com/new-worker-relocation-grant-program/>

⁸⁶ <https://www.wko.at/service/netzwerke/Publikationen-und-Online-Service.html>

⁸⁷ <https://www.spiegel.de/karriere/co-working-auf-dem-land-drinnen-arbeit-draussen-provinz-a-1281159.html>

In the second semester of 2020, 20 workers in the digital sector out of 60 applicants had the chance to relocate to Wittenberg's co-working space.⁸⁸

⁸⁸ <http://www.wg-wittenberge.de/blog.html>

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