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# The COVID confinement measures and EU labour markets

*COVID & Empl Working Group*

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## **Abstract**

This paper assesses the potential impact of the early 2020 COVID confinement measures on EU labour markets, on the basis of an analysis of the restrictions on economic activity imposed in three EU Member States (Italy, Spain and Germany). Following the legislative measures adopted, we classify all economic sectors into different categories according to the likely impact of the COVID crisis, and compare the share of employment that is likely to be strongly affected in each country. Once this is done, we apply these categories of sectors to recent data on EU employment and estimate the groups of workers that would be more or less affected by the economic lockdown measures. Finally, we use all this information to speculate about possible mid-term developments and broader socio-economic implications of the COVID crisis in Europe.

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## **Authors**

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## **Executive summary**

In this paper we present an assessment of the potential labour market impact of the confinement measures implemented by many Member States to halt the spread of the coronavirus pandemic in the first quarter of 2020. These measures are broadly similar as in most cases they impose restrictions on personal freedoms and economic activity, although there are important differences in the way countries have dealt with the definition of essential activities and those that should mandatorily be closed.

These restrictions are having an important impact in nearly all European labour markets. The outcomes in different countries will vary depending on the specific restrictions imposed, but also on the design and characteristics of their institutions and their employment and economic structure. All these factors will result in unequal impacts, in terms of overall employment effects but also in terms of the types of jobs and workers affected.

For assessing the potential impact of these measures on EU labour markets, we have analysed the restrictions on activities imposed in three EU Member States (Italy, Spain and Germany). Following the legislative measures adopted we classify all economic sectors into different categories according to the likely impact of the COVID crisis, and compare the share of employment that is likely to be strongly affected in each country. Once this is done, we apply these categories of sectors to recent data on EU employment and estimate the groups of workers that would be more or less affected by the economic lockdown measures. Finally, we use all this information to speculate about possible mid-term developments and broader socio-economic implications of the COVID crisis in Europe.

### **Main findings**

The impact of the COVID crisis is likely to concentrate on the most vulnerable segments of the working population. Restrictions on economic activity are mainly affecting workers with lower wages and worse employment conditions. The impact also appears to be significant for women and young workers. It is important to notice that these segments of the working population are also probably the ones with less resources available to face unemployment and sudden income losses. The challenges for unemployed people are likely to be quite significant in the short and medium term, since they will have to look for jobs in a context of subdued economic activity and employment scarcity.

The fact that the crisis is global and has an important impact on investment, global value chains and international trade implies that employment and economic growth are unlikely to suffice by themselves to alleviate the situation of the most affected segments of the population, at least in the short-term. In this context it appears essential to put in place measures aimed to provide income support and ensure access to social protection to those vulnerable segments of the population. While these types of measures are useful to alleviate and improve the economic and social conditions of the vulnerable people, they support final demand, a pivotal driver for the recovery and therefore an adequate tool to promote job creation. Furthermore, the sudden rise in unemployment levels and the difficulty to ensure smooth labour market transitions call for the use of short-term working schemes and for active measures to support job seekers.

The labour market impact of the crisis is also likely to be much stronger in some Mediterranean countries (plus Ireland). A collective EU response based on pan-European emergency mechanisms is being set up to provide support for the countries most in need. In the mid-term, we can expect that the economic sectors most affected now will remain problematic until the pandemic is under control, because they involve an important degree of social interaction and final (often external) demand. It is thus likely that a very significant proportion of the workers now employed in those sectors will face very uncertain prospects in the medium term, in a context of protracted economic crisis that will provide very thin opportunities in any other way. The immediate policy needs mentioned above, therefore, will probably have to be extended or adapted for mid-term application at least. To be really successful in the long run, these measures should be combined with bold industrial and investment policies that provide alternative opportunities at a properly large scale, such as an ambitious European Green Deal.

# 1 Introduction

Following Asia, Europe has been the second region of the world hardest hit by the coronavirus (COVID-19) pandemic of early 2020. As the number of cases spread throughout Europe, threatening to collapse many health care systems, most European countries implemented unprecedented measures to restrict personal freedoms and economic activity, in order to reduce contact between people and thus stop the spread of the virus. These measures are broadly similar but differ in some important aspects, such as the harshness of the confinement or the sectors which are considered essential and thus spared from the lockdown. In a situation of extraordinary uncertainty for European labour markets, an estimation of the employment implications of these confinement measures can be very useful. Furthermore, such an estimation can also provide some hints about the labour market prospects for the even more uncertain period that lies between the current confinement and a definitive exit from the COVID crisis. This intermediate period is uncertain even in its duration, but most likely it will take between 12 and 18 months, until a cure and vaccine are widely available throughout the world. <sup>(1)</sup>.

To gain a better understanding of the labour market implications of the COVID confinement measures, we carried out a detailed comparative analysis of the sector lockdowns in three European countries: Germany, Spain and Italy. The three countries analysed have regulated the productive lockdown by identifying essential and not essential activities, broadly related to the satisfaction of fundamental needs: health, food, security, education and administrative services. But in the three countries, the firms that are allowed to operate are instructed to meet stringent health and safety requirements for their employees, including the use of protective equipment (masks and gloves) and the maintenance of social distancing also at the workplace. For example, Germany specifies a distance of 1.5 meters, while in Italy it is only one meter.

Several aspects need to be highlighted with respect to the heterogeneity of the confinement decrees across countries. First, not all economic activities classified as non-essential are forcefully closed according to the national decrees. In general, some non-essential activities are allowed to continue operating if stringent health and safety requirements are met and if it is considered that it is not a significant threat for public health. For instance, many non-essential manufacturing sectors are allowed to open under those conditions even in Italy and Spain. By contrast, there are some economic activities that are not only considered non-essential but specifically problematic in the current context because they involve a high degree of social interaction with the public: these activities are in most cases explicitly and forcefully closed. In table 1, we have added a column with notes where we explicitly differentiate non-essential sectors that are at least partly active or forcefully closed.

Second, most of the countries regulate the productive lockdown by listing the sectors considered essential or not, or explicitly not allowed to operate. In economies with extensive subcontracting practices and complex value chains, this may imply in some cases that part of the chain is disrupted if a producer supplying an essential sector is not allowed to operate, for instance. For this reason, at least in the cases of Italy and Spain (probably in other countries too, even if we have found no explicit reference) a company that declares itself as a supplier to an essential activity can continue to operate even if it is not in an essential sector. This means that the enumeration of sectors which are essential or not, allowed to operate or not, is just a broad estimation because there can be many exceptions in practice. <sup>(2)</sup>

Third, the problem of complex value chains is further complicated by the deep extent of cross-border market integration both at the European and international level, which has an impact on production especially for intermediate goods. For example, a firm in a sector allowed to operate in country A but mostly producing intermediate goods for a sector not allowed to operate in country B can be in practice forced to close, and vice versa.

Fourth, the confinement measures imposed to citizens (restrictions of personal freedoms) can also have a significant impact on final demand, forcing closures of companies allowed to operate but without any actual business (for instance, business services like cleaning may be allowed to operate but in many cases will be closed because demand for their services has plummeted as hotels, restaurants and many retail outlets are closed).

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<sup>(1)</sup> <https://www.theatlantic.com/health/archive/2020/04/pandemic-summer-coronavirus-reopening-back-normal/609940/>

<sup>(2)</sup> Also, some companies are repurposing their production to meet new consumers' needs or to provide urgently needed supplies to fight the pandemic, and hence they may switch sectoral classification (see for instance <https://www.weforum.org/agenda/2020/03/from-perfume-to-hand-sanitiser-tvs-to-face-masks-how-companies-are-changing-track-to-fight-covid-19/>).

**Table 1. Timeline of COVID confinement decrees covered in this analysis.**

Country	Date	Content of measure	Link
<b>Italy</b>	31 <sup>st</sup> January	Italian Government declared the State of emergency, and allocated the first funds to deal with the emergency.	<a href="http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?area=nuovoCoronavirus&amp;id=5351&amp;lingua=italiano&amp;menu=vuoto">http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?area=nuovoCoronavirus&amp;id=5351&amp;lingua=italiano&amp;menu=vuoto</a>
	23rd February	First containment measures and creation of the so called "Red zone" including the entire Lombardy region and several provinces in Veneto, Piedmont, Emilia Romagna and Marche	<a href="https://www.gazzettaufficiale.it/eli/id/2020/02/23/20G00020/sg">https://www.gazzettaufficiale.it/eli/id/2020/02/23/20G00020/sg</a>
	11th March	National lockdown and initial suspension of economic activities	<a href="https://static.gedidigital.it/repubblica/pdf/2020/cronaca/DPCM11marzo2020pdf">https://static.gedidigital.it/repubblica/pdf/2020/cronaca/DPCM11marzo2020pdf</a>
	22nd March (modified on the 25 <sup>th</sup> )	Decree suspending all non-essential economic activities	<a href="https://www.gazzettaufficiale.it/eli/id/2020/03/25/20G00035/sg">https://www.gazzettaufficiale.it/eli/id/2020/03/25/20G00035/sg</a>
	10th April	Decree proroguing the suspension of already defined non-essential economic activities, but reinstating a few (bookshops, childcare facilities)	<a href="https://www.gazzettaufficiale.it/eli/qu/2020/04/11/97/sg/pdf">https://www.gazzettaufficiale.it/eli/qu/2020/04/11/97/sg/pdf</a>
<b>Spain</b>	14th March	Royal Decree 463/2020, declaring the State of Alarm and announcing the first containment measures with a list of suspended activities: leisure, artistic and cultural activities, sports, etc.	<a href="https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-3692">https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-3692</a>
	29th March	Royal Decree 10/2020 impose new restrictions on economic activities, publishing a simplified list of essential activities that are allowed to continue with their activity: food production and the manufacture and distribution of basic products, health and social care activities, etc. These restrictions applied from 30th March to 9th April	<a href="https://www.boe.es/buscar/doc.php?id=BOE-A-2020-4166">https://www.boe.es/buscar/doc.php?id=BOE-A-2020-4166</a>
	13th April	Previous decrees no longer valid and restrictions respond again to the original confinement measures	<a href="https://www.boe.es/buscar/doc.php?id=BOE-A-2020-4166">https://www.boe.es/buscar/doc.php?id=BOE-A-2020-4166</a>
<b>Germany</b>	16th March	Recommendations from the Minister of Health	<a href="https://www.bundesgesundheitsministerium.de/presse/reden/regierungsbefragung-coronavirus.html#c17563">https://www.bundesgesundheitsministerium.de/presse/reden/regierungsbefragung-coronavirus.html#c17563</a>
	17th March	Regulation Baden Wurttemberg (regular updates)	<a href="https://www.baden-wuerttemberg.de/de/service/aktuelle-infos-zu-corona/aktuelle-corona-verordnung-des-landes-baden-wuerttemberg/">https://www.baden-wuerttemberg.de/de/service/aktuelle-infos-zu-corona/aktuelle-corona-verordnung-des-landes-baden-wuerttemberg/</a>
	22nd March	Agreement between the Chancellor and the heads of state	<a href="https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundestkanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248">https://www.bundesregierung.de/breg-de/themen/coronavirus/besprechung-der-bundestkanzlerin-mit-den-regierungschefinnen-und-regierungschefs-der-laender-1733248</a>
	17th March	List of essential occupations Berlin	<a href="https://www.berlin.de/sen/bjf/coronavirus/aktuelles/notbetreuung/">https://www.berlin.de/sen/bjf/coronavirus/aktuelles/notbetreuung/</a>
	22nd March	Regulation North-Rhine-Westphalia	<a href="https://recht.nrw.de/lmi/owa/br_vbl_detail_text?anw_nr=6&amp;vld_id=18354">https://recht.nrw.de/lmi/owa/br_vbl_detail_text?anw_nr=6&amp;vld_id=18354</a>

Source: Authors' elaborations.



As it will be shown in the following sections, both government responses and their enforcement are also heterogeneous and can allow substantial discretion. For instance, in some cases national measures cannot be modified at the local level in any direction, whereas in other cases, especially when countries are characterised by a higher level of administrative decentralisation, we are likely to find regional differences. Italian and German decrees allow regional or local governments to introduce stricter measures concerning the lockdown, whereas the same is not applicable to Spain. The date in which regulations have been introduced and their evolution over time also varies substantially across countries; for instance, in Spain there have been alternating periods of extraordinary suspension of economic activities in which only strictly defined essential sectors are allowed to operate.

Finally, it is important to note that estimated differences in the labour market impact of measures adopted against Covid-19 will not only reflect the different national approaches as explained above but also sizeable differences in the economic structures (sectoral specialisation) of the different countries. For instance, the closure of all leisure and hospitality activities will affect most those countries more specialised in touristic activities. This will be discussed in detail in later sections of this paper.

## 2 A comparative analysis of the COVID lockdown measures across sectors

According to our analysis of three national confinement decrees, which is summarised in Table 2, the sector lockdowns are most consistent in the extremes: that is, the sectors considered non-essential are more or less the same everywhere (leisure, hotel and restaurant activities), and in the other extreme there is also a high consistency in the classification of some sectors as fully essential (food and pharmaceutical production, utilities, transport and health). According to our analysis, Spain is slightly more restrictive than Germany and Italy in the classification of sectors: in other words, in Spain there are fewer sectors classified as essential, and the percentages of those sectors deemed essential are often slightly lower. <sup>(3)</sup> Italy is, on the other hand, slightly less restrictive according to our analysis of the sector lockdown decrees: in particular, in Italy most of the professional service activities are deemed essential while in Germany and Spain they are not; and in Italy, most manufacturing sectors have at least a certain proportion of activity considered essential, while in Germany and Spain they are more often considered fully non-essential. But in general, the differences should not be over-emphasized, because the list of sectors considered essential or not are rather consistent in the three countries analysed, and we can assume that the small differences identified may just reflect national idiosyncrasies. Many of the differences, furthermore, are likely to have very little practical consequence because they concern sectors that are operating mostly via telework in the three countries independently of their classification as essential or not. This is the case of education, for instance, which is considered essential in Italy, mostly essential in Germany and non-essential in Spain, yet it continues to operate in many cases in a similar way in the three countries.

### Box 1: France

Compared to the countries covered in this report, the French government adopted milder lockdown measures. The main act adopted is the 15th March Arrêté <sup>(4)</sup> providing measures against the propagation of the COVID-19 virus. Based on a social distancing rationale, the Arrêté lists all those sectors that must be closed since they are characterized by a high degree of interpersonal interaction and therefore involve a high contagion risk. These mostly relate to retail, leisure, accommodation and cultural activities. In this respect, French regulation overlaps with all other countries under study. Exceptions still apply based on the “essential” character for the national wellbeing, like supermarkets including small retailers of food and beverage, pharmacies, banks, press distribution. Public and private schools are closed and operate via telework. Within the retail category, the Arrêté still allows retail of vehicles equipment, and employment services like temporary agencies. It is important to note that, unlike other countries, no manufacturing sectors have been closed nor listed as non-essential. In general, firms are encouraged to allow employees to work from home via telework or smart-working on the one hand and to use/impose annual leaves on the other hand. Finally, it is worth noticing that the lockdown of production sites depends on negotiations between employers and trade unions at the firm level.

Table 2 presents our analysis of the containment decrees by sector in Germany, Spain and Italy. For each sector and country, we provide an indicator that ranges from 0 to 1 (columns DE, ES and IT). These values have been qualitatively assigned by careful analysis of the decrees: in the majority of cases, the decrees explicitly mention the sector, although in some cases we had to infer the value. A value of 1 indicates that the sector is explicitly defined as essential, and thus can continue to operate even in the strictest confinement. A value of 0 indicates that the sector is considered non-essential, which may mean that it is forcefully closed or that it can operate only under certain conditions (more on this later). Values between 0 and 1 indicate that some sub-sectors (NACE 3 or even 4 digit codes) within a given sector (NACE at 2 digits, which is our baseline) are considered essential and some not: in these cases, the value of the indicator reflects the share of sub-sectors considered essential, when possible adjusted for relative employment shares. <sup>(5)</sup> The column “Index” is a simple arithmetic average of the three country columns, and thus can be interpreted as the average degree to which a given sector is considered essential in the three countries analysed.

<sup>(3)</sup> In many cases, the decrees refer to sectors at the three or even four digit level, but our analysis of the employment implications is done at NACE 2-digits, so in some cases we constructed an indicator of the percentage of the (2-digit) sector affected.

<sup>(4)</sup> [https://beta.legifrance.gouv.fr/download/pdf?id=0\\_V9dz5mWHJuUIOTidpe-rzpZd6I8n7FDiJ95W09ZL4=](https://beta.legifrance.gouv.fr/download/pdf?id=0_V9dz5mWHJuUIOTidpe-rzpZd6I8n7FDiJ95W09ZL4=)

<sup>(5)</sup> For instance, in Spain sector 19 (manufacture of coke and petroleum) has two subsectors: one which is considered essential (manufacture of refined petroleum) and one which is not (manufacture of coke). Since the relative weight (in terms of employment and economic activity) of coke manufacturing is much smaller in Spain than that of refined petroleum, we assigned a value of .9 to sector 19 in Spain.

As can be seen in Table 2, this average indicator has been used to rank the sectors, providing a first criterion to classify them according to the impact of the COVID confinement decrees. But to make a better assessment and classification, we need to consider two additional criteria which also derive from our analysis of the confinement decrees.

First, whether a given sector can operate via telework. This mostly depends on the nature of economic activity in each sector: in general, activities and services that do not involve direct physical interaction (either with things or with people) can be remotely provided making use of ICT equipment. All the confinement decrees state explicitly that independently of whether a given sector is considered essential or not, whenever possible it should operate via telework. For instance, the education sector is considered essential in two of the three countries analysed, yet in all three cases schools are forcefully closed and educational activity continues via the internet. There are also sectors such as advertising and market research that are considered as non-essential in all three countries yet in general can continue operating because physical presence is not critical. In practice, what this means is that irrespective of their classification as essential or not, all teleworkable sectors can continue in operation. For this reason, as indicated in the column "Notes" of Table 2, we have added a category of "teleworkable" (code 2) that spans throughout the whole table. We have included in this category education and public administration, as well as most professional services (ICT, insurance, financial, accounting, programming, research, design, advertising). <sup>(6)</sup>

Second, although the main distinction in the analysed decrees is between essential and non-essential activities, in practice there is also an implicit or explicit differentiation between those (non-essential) activities that are forcefully closed because they require direct face-to-face interaction with clients and thus they are particularly risky in the context of the COVID pandemic. These explicitly and forcefully closed activities include hospitality, accommodation, leisure and personal services. It is important to differentiate these activities from those that are also non-essential in the three countries but which do not involve a particularly high risk of contagion (for instance, most of manufacturing and construction) and thus can in most cases continue to operate even if under strict conditions. Therefore, in table 2 the activities which are fully or mostly non-essential (values below .3 in the indicator) are classified in two different categories: those that are forcefully closed (5), and those that are mostly non-essential but not forcefully closed (and thus at least partly active, code 4). The distinction between the latter two categories does not apply in situations of very strict confinement as in Spain between 30th March and 9th April, when all non-essential sectors were forcefully closed.

To summarise: on the basis of three criteria derived from our analysis of the COVID confinement decrees (definition as essential, teleworkability and forceful closure), we have classified all the economic sectors shown in table 2 in five categories as indicated in the columns "Notes" and "Classif.". In the rest of the paper, we will use this classification in order to assess the likely labour market outcomes of the COVID confinement decrees, and to speculate on mid-term developments and broad socio-economic implications.

**Table 2. A summary of the COVID sector lockdowns in three European countries as of early April 2020**

	DE	ES	IT	Index	Notes	Classif.
1 Crop and Animal Production, Hunting and	1	1	1	1.00	Fully active	1
3 Fishing and Aquaculture	1	1	1	1.00	Fully active	1
6 Extraction of Crude Petroleum and Natura	1	1	1	1.00	Fully active	1
10 Manufacture of Food Products	1	1	1	1.00	Fully active	1
11 Manufacture of Beverages	1	1	1	1.00	Fully active	1
18 Printing and Reproduction of Recorded Me	1	1	1	1.00	Fully active	1
21 Manufacture of Basic Pharmaceutical Prod	1	1	1	1.00	Fully active	1
36 Water Collection, Treatment and Supply	1	1	1	1.00	Fully active	1
37 Sewerage	1	1	1	1.00	Fully active	1
38 Waste Collection, Treatment and Disposal	1	1	1	1.00	Fully active	1

<sup>(6)</sup> In a forthcoming paper, we analyse in detail teleworkability by occupations in Europe, using a tasks approach.

39	Remediation Activities and Other Waste M	1	1	1	1.00	Fully active	1
49	Land Transport and Transport Via Pipelin	1	1	1	1.00	Fully active	1
50	Water Transport	1	1	1	1.00	Fully active	1
52	Warehousing and Support Activities for T	1	1	1	1.00	Fully active	1
53	Postal and Courier Activities	1	1	1	1.00	Fully active	1
60	Programming and Broadcasting Activities	1	1	1	1.00	Fully active	1
61	Telecommunications	1	1	1	1.00	Fully active	1
75	Veterinary Activities	1	1	1	1.00	Fully active	1
86	Human Health Activities	1	1	1	1.00	Fully active	1
87	Residential Care Activities	1	1	1	1.00	Fully active	1
88	Social Work Activities Without Accommoda	1	1	1	1.00	Fully active	1
63	Information Service Activities	1	1	1	1.00	Teleworkable	2
64	Financial Service Activities, Except Ins	1	1	1	1.00	Teleworkable	2
65	Insurance and Pension Funding, Except Co	1	1	1	1.00	Teleworkable	2
66	Activities Auxiliary to Financial Servic	1	1	1	1.00	Teleworkable	2
84	Public Administration and Defence; Compu	1	1	1	1.00	Teleworkable	2
35	Electricity, Gas, Steam and Air Conditio	1	0.9	1	0.97	Fully active	1
19	Manufacture of Coke and Refined Petroleu	1	0.9	1	0.97	Fully active	1
58	Publishing Activities	1	0.75	1	0.92	Fully active	1
51	Air Transport	1	0.66	1	0.89	Partly active (restr.)	3
59	Motion Picture, Video and Television Pro	1	0.5	1	0.83	Partly active	3
85	Education	1	0	1	0.67	Teleworkable	2
69	Legal and Accounting Activities	0	1	1	0.67	Teleworkable	2
80	Security and Investigation Activities	1	0.33	0.67	0.67	Teleworkable	2
45	Wholesale and Retail Trade and Repair of	0.67	0.5	0.75	0.64	Partly active	3
17	Manufacture of Paper and Paper Products	0.5	1	0.29	0.60	Partly active	3
20	Manufacture of Chemicals and Chemical Pr	0.7	0.17	0.87	0.58	Partly active	3
46	Wholesale Trade, Except of Motor Vehicle	1	0.4	0.33	0.58	Partly active	3
47	Retail Trade, Except of Motor Vehicles a	0.51	0.49	0.5	0.50	Partly active	3
81	Services to Buildings and Landscape Acti	0.5	0.33	0.67	0.50	Partly active	3
62	Computer Programming, Consultancy and Re	0.5	0	1	0.50	Teleworkable	2
9	Mining Support Service Activities	0.5	0.5	0.5	0.50	Mostly non-essent.	4
5	Mining of Coal and Lignite	0	0	1	0.33	Mostly non-essent.	4
12	Manufacture of Tobacco Products	1	0	0	0.33	Mostly non-essent.	4
97	Activities of Households As Employers of	0	0	1	0.33	Mostly non-essent.	4
94	Activities of Membership Organisations	0	0	1	0.33	Teleworkable	2
70	Activities of Head Offices; Management C	0	0	1	0.33	Teleworkable	2
71	Architectural and Engineering Activities	0	0	1	0.33	Teleworkable	2
72	Scientific Research and Development	0	0	1	0.33	Teleworkable	2
74	Other Professional, Scientific and Techn	0	0	1	0.33	Teleworkable	2

22	Manufacture of Rubber and Plastic Produc	0.5	0	0.33	0.28	Mostly non-essent.	4
78	Employment Activities	0.5	0	0.33	0.28	Mostly non-essent.	4
42	Civil Engineering	0	0	0.67	0.22	Mostly non-essent.	4
33	Repair and Installation of Machinery and	0	0	0.44	0.15	Mostly non-essent.	4
32	Other Manufacturing	0	0.17	0.22	0.13	Mostly non-essent.	4
95	Repair of Computers and Personal and Hou	0	0	0.37	0.12	Mostly non-essent.	4
43	Specialised Construction Activities	0	0	0.25	0.08	Mostly non-essent.	4
77	Rental and Leasing Activities	0	0.25	0	0.08	Mostly non-essent.	4
28	Manufacture of Machinery and Equipment N	0	0	0.24	0.08	Mostly non-essent.	4
13	Manufacture of Textiles	0	0	0.2	0.07	Mostly non-essent.	4
14	Manufacture of Wearing Apparel	0	0	0.2	0.07	Mostly non-essent.	4
27	Manufacture of Electrical Equipment	0	0	0.2	0.07	Mostly non-essent.	4
16	Manufacture of Wood and of Products of W	0	0	0.17	0.06	Mostly non-essent.	4
26	Manufacture of Computer, Electronic and	0	0	0.1	0.03	Mostly non-essent.	4
23	Manufacture of Other Non-Metallic Minera	0	0	0.04	0.01	Mostly non-essent.	4
2	Forestry and Logging	0	0	0	0.00	Mostly non-essent.	4
7	Mining of Metal Ores	0	0	0	0.00	Mostly non-essent.	4
8	Other Mining and Quarrying	0	0	0	0.00	Mostly non-essent.	4
15	Manufacture of Leather and Related Produ	0	0	0	0.00	Mostly non-essent.	4
24	Manufacture of Basic Metals	0	0	0	0.00	Mostly non-essent.	4
25	Manufacture of Fabricated Metal Products	0	0	0	0.00	Mostly non-essent.	4
29	Manufacture of Motor Vehicles, Trailers	0	0	0	0.00	Mostly non-essent.	4
30	Manufacture of Other Transport Equipment	0	0	0	0.00	Mostly non-essent.	4
31	Manufacture of Furniture	0	0	0	0.00	Mostly non-essent.	4
41	Construction of Buildings	0	0	0	0.00	Mostly non-essent.	4
99	Activities of Extraterritorial Organisat	0	0	0	0.00	Mostly non-essent.	4
73	Advertising and Market Research	0	0	0	0.00	Teleworkable	2
96	Other Personal Service Activities	0	0.6	0	0.20	Closed	5
82	Office Administrative, Office Support an	0	0	0.43	0.14	Closed	5
55	Accommodation	0	0	0.25	0.08	Closed	5
68	Real Estate Activities	0	0	0	0.00	Closed	5
79	Travel Agency, Tour Operator and Other R	0	0	0	0.00	Closed	5
98	Undifferentiated Goods- and Services-Pro	0	0	0	0.00	Closed	5
56	Food and Beverage Service Activities	0	0	0	0.00	Closed	5
90	Creative, Arts and Entertainment Activit	0	0	0	0.00	Closed	5
91	Libraries, Archives, Museums and Other C	0	0	0	0.00	Closed	5
92	Gambling and Betting Activities	0	0	0	0.00	Closed	5
93	Sports Activities and Amusement and Recr	0	0	0	0.00	Closed	5

Key: 1 means essential in the respective national decree; 0 non-essential, and fractions the share considered essential in each sector. The index is a simple average of the three values by country

*Box 2: The direct employment impact of the confinement measures in three countries*

By looking at the share of employment in the essential and non-essential sectors identified in the three analysed countries, we can get an idea of the overall impact of the different confinement decrees in the respective labour markets. This is shown in Table 3. Although there is a broad consistency in the classification of sectors as essential or not, the small differences previously discussed do generate significant differences in terms of the share of employment affected according to our analysis. The lowest share of employment in sectors considered essential in the respective decree is in Spain, with 44% of employment; conversely, this means that 56% of all employment in Spain is in sectors considered non-essential. Both in Germany and Italy the share of employment in non-essential sectors is below 50%: 45% in the case of Germany and 38% in the case of Italy. Therefore, in terms of employment, the strictest confinement measures are those of Spain. However, it is important to note that this analysis only takes into account a simple binary distinction between essential and non-essential sectors, which does not necessarily reflect the actual employment effects of the COVID crisis and policy measures: for a full account of those effects, we need to also take into account other issues such as the teleworkability of the different sectors and the extent of the forceful lockdowns. This more detailed discussion is included in the following section.

**Table 3. an estimation of the direct effect of the COVID sector lockdown in three countries, as of early April 2020**

	Absolute number of workers (thousands)		Percentage of employment	
	In essential sectors	Total employment	In essential sectors	In non-essential
DE	23150.17	41914.52	55.23%	44.77%
ES	8490.226	19327.74	43.93%	56.07%
IT	14412.55	23214.95	62.08%	37.92%

### 3 Classifying sectors by the impact of COVID, and a first assessment of employment impact

To recap, the five categories in which we are classified economic sectors according to the impact of the COVID confinement measures are:

1. **Essential and fully active** sectors (1): this would mostly include food production, utilities, health and all the other sectors identified as essential in all countries and labelled as “fully active” in the “notes” column. In these sectors, most employment continues operating with normality.
2. **Active but via telework** (2): this would include education, most of public administration, finance, insurance and telecommunications. Most employment in this sector is also maintained even in strict confinement, but with telework. We also include here professional, scientific and technical activities, even though they are explicitly considered as non-essential in the three countries.
3. **Mostly essential and partly active, not teleworkable** (3): this includes a significant part of retail and manufacturing of chemicals and paper, which remain to some extent active even in the strict confinement situation.
4. **Mostly non-essential and partly active, not teleworkable** (4): this includes the majority of manufacturing not previously mentioned, as well as some machine and computer repair activities and construction. These activities are not essential nor teleworkable; but since they generally do not involve direct interaction with clients, in regular confinement situations they are normally allowed to function (under strict conditions).
5. **Closed** (5): this includes hotels, restaurants and accommodation, estate and travel agencies, plus leisure and recreation services. These are not essential and explicitly closed by all the confinement decrees analysed, and they cannot continue to function via telework.<sup>7</sup>

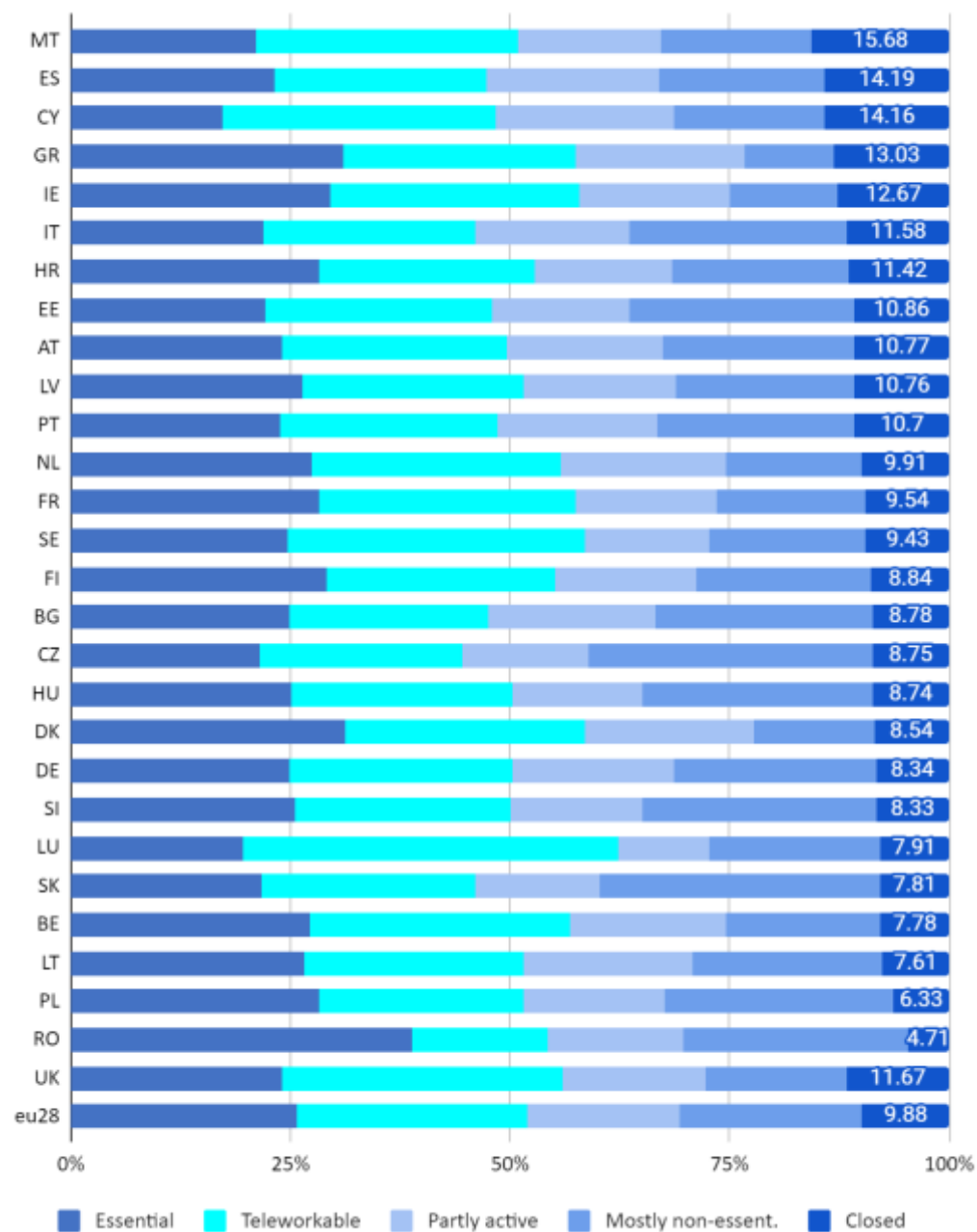
Figure 1 shows the distribution of employment across all European countries according to this classification. For the EU (27 plus UK) as a whole, around 25% of employment is in sectors considered essential and operating more or less as normal even in a strict confinement regime, while roughly another 25% is in sectors which are partly or entirely operating via telework (as education). Put together, this would imply that around 50% of employment is active in strict confinement, half physically present and half teleworking. To this, we would need to add around half of employment in the third category (mostly essential and partly active), which accounts for another 20%. In other words, between 50 and 60% of employment would be active in strict confinement according to this analysis, a number that roughly coincides with the estimation previously made for Germany, Spain and Italy using directly the list of sectors of their respective decrees. Although there is some variation around these percentages (for instance, Romania has a larger share of essential and active sectors because of the high weight of agriculture; whereas Luxembourg has a much larger share of essential teleworkable employment because of the weight of finance), most countries are relatively close to these European values.

The fourth category (mostly non-essential and inactive) includes most of manufacturing, and thus varies according to the relative weight of manufacturing in the different countries, being highest (above 20%) in Eastern Member States, Germany and Italy. As previously mentioned, this is the category where there is more variation across the economic lockdown measures taken in different countries, but in general these sectors are only entirely closed in very strict confinement situations.

Finally, the sectors that are marked as non-essential and even explicitly closed because of the high contagion risk they involve account for less than 10% of overall EU employment, but here the variation is much more significant: whereas in Spain, Greece or Ireland it accounts for more than 13%, in Romania, Poland, Belgium or even Germany it is around or below 8%. These are mostly hospitality and leisure services which strongly depend on the importance of tourism in the national economy; these sectors are the worst hit by the COVID-19 lockdown decrees, and they are likely to continue suffering until there is a return to full normality, since they will continue to be either forcefully closed or suffer from very weak demand because of continuing consumers' concern.

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<sup>7</sup> In the countries analysed, some restaurants are still partly functioning through home delivery or take away. However, the extent of activity and employment involved is orders of magnitude smaller than in normal times.



**Figure 1:** The distribution of employment across the 5 categories of sectors, defined by likely impact of COVID crisis. Employment figures from 2018 annual LFS data.

An important thing to note is that some employment in the *mostly essential and partly active* sectors (category 3 in our classification) could in fact be added to the forcefully closed sector if we want to estimate what percentage of employment is explicitly or implicitly suspended by the lockdown decrees. This is because the segments of retail which are not considered essential are in fact forcefully closed in many countries, as restaurants and bars. In practice, this could add another 4-5% of employment to the forcefully closed category. But unfortunately, the level of granularity of the employment data that we have been provided by Eurostat allows no further differentiation than the one shown in table 1 and figure 2. Thus, category 3 of our analysis combines in fact activities which are essential and thus operating as normal (supermarkets) with activities which are forcefully closed (most other shops). However, the characteristics of employment in both types of retail should be very similar, so this does not invalidate the analysis we will make in the following sections.



In the rest of this paper, we will use this classification to discuss the potential socio-economic effects of the current confinement measures and to speculate on the medium-term prospects (from the end of the confinement to the return to full normality). First, we will discuss the age and gender profiles of workers in the sectors classified by the impact of the COVID crisis. Then, we will discuss the differences in terms of employment characteristics, focusing on employment status and duration of contracts. Then, we will briefly discuss the skill profiles and average wage levels across the different categories of sectors. We will also discuss the evidence on pre-COVID patterns of telework for the categories we have constructed, both to validate our classification and to assess the difficulties of a potential transition into a more generalised telework regime. We will end with a summary and some final conclusions, and a discussion of the outlook for European labour markets after the confinement.

## 4 The employment impact of COVID across socio-demographic groups

### 4.1 Differences by age and gender

This section explores the extent to which the suspension of economic activities can have a differential impact on different segments of the population; in other words, if the categories of sectors previously defined have different demographic profiles, the impact of the COVID lockdown decrees can vary across population groups. We focus on the two basic demographic variables, gender and age.

Table 4 shows the proportion of women in the different categories of sectors. To help the interpretation of the table, we have color-coded the cells: the red gradient indicates higher shares of women and the blue lower than average in each cell. We can immediately see that the two categories that are more gender-segregated (dominated by one gender) are the *closed* sectors and the *mostly non-essential* sectors. In the closed sectors, the proportion of women for the EU28 as a whole is 56%, with even higher values in Eastern Member States. On the other hand, the mostly non-essential sectors are very heavily dominated by men, with less than 25% of women for the EU28 as a whole. As previously discussed, this category includes most of manufacturing and construction, which are very male-dominated sectors. The other categories (essential, teleworkable and partly active) are relatively even by gender for the EU as a whole, but there is a lot of variation by country. For instance, in Germany and France, women are significantly more prevalent in the essential and teleworkable sectors; whereas in Italy and Spain it is the other way around.

Does this suggest an uneven impact of the COVID lockdowns by gender? It does, but not to a very large extent. Most importantly, the closure of non-essential manufacturing and construction activity would hit men much harder than women, but those sectors are likely to be only fully closed when the strictest confinement is decreed, only in exceptional circumstances. The forcefully closed sectors (which are likely to remain closed or severely limited for some time) have a slightly higher concentration of women than men, but this can be compensated by the fact that in many countries the essential and even teleworkable sectors also have a slightly higher concentration of women. Overall, gender does not seem a particularly important factor in our assessment of the potential socio-economic implications of the COVID crisis. However, this can vary significantly by country: for instance, in Italy, Spain, Greece and to some extent Poland the significantly higher prevalence of women in the forcefully closed sector is not compensated by higher values in the essential and teleworkable sectors, suggesting a significant gender imbalance in the impact of the COVID decrees by gender in those countries.

**Table 4. Percentage of women in each of the categories**

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	55.97%	53.96%	49.40%	22.33%	57.63%	46.57%
FR	56.00%	53.70%	47.17%	25.14%	54.09%	48.42%
IT	42.15%	49.97%	42.32%	28.91%	54.01%	42.08%
ES	44.21%	49.86%	49.98%	29.60%	55.16%	45.52%
PL	44.24%	58.61%	55.50%	21.95%	65.92%	44.97%
NL	60.42%	44.42%	45.22%	20.93%	54.04%	46.27%
RO	42.41%	51.35%	52.75%	29.94%	62.50%	43.13%
CZ	48.26%	55.40%	51.93%	26.14%	60.66%	44.34%
SE	58.46%	55.24%	43.34%	19.39%	53.82%	47.64%
BE	56.19%	51.84%	46.67%	21.24%	53.46%	46.77%
HU	42.77%	58.04%	53.08%	25.94%	60.48%	45.27%
AT	53.85%	52.27%	54.28%	20.37%	59.49%	46.85%
GR	40.95%	47.37%	41.64%	19.14%	48.57%	41.53%
PT	53.94%	56.92%	49.21%	32.80%	63.02%	50.02%
BG	40.53%	55.60%	53.99%	33.03%	62.23%	46.54%
FI	60.83%	51.97%	49.46%	17.90%	62.01%	48.18%
SK	48.37%	58.18%	54.98%	24.53%	59.96%	44.93%
DK	61.55%	49.58%	44.02%	11.40%	54.45%	47.35%
IE	48.26%	52.20%	49.55%	13.39%	56.44%	46.33%
HR	42.97%	57.22%	57.00%	21.54%	57.45%	45.99%
LT	47.28%	62.96%	56.06%	29.48%	68.75%	50.60%

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
SI	47.21%	57.58%	53.26%	26.17%	57.81%	45.90%
LV	47.73%	64.22%	58.01%	21.95%	69.01%	50.65%
EE	47.99%	60.47%	55.69%	24.56%	67.55%	48.49%
CY	42.80%	55.88%	50.82%	30.23%	51.58%	47.57%
LU	53.61%	46.86%	49.24%	35.31%	51.61%	46.57%
MT	41.16%	49.63%	40.01%	23.66%	41.69%	40.55%
UK	55.83%	52.48%	45.95%	18.82%	54.65%	47.02%
EU28	51.05%	52.90%	48.45%	24.44%	56.29%	46.00%

The differences by age are perhaps more significant, because the forcefully closed sectors are much more likely to employ young workers (15 to 29 years) than the rest, as shown in table 5. In the EU28 as a whole, almost one third (28%) of all the people employed in the closed sectors are less than 30 years old, compared to 15-16% for the essential sectors. This implies that the closure of those sectors is likely to have a particularly negative impact on the employment situation and prospects of younger workers. However, it is important to note that the closed sectors only account for 10% of all employment in the EU, as previously discussed.

**Table 5.** Percentage of aged 15-29 in each of the categories

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	18.33%	18.31%	19.88%	18.78%	23.97%	19.20%
FR	17.49%	15.28%	23.32%	17.13%	25.80%	18.61%
IT	10.71%	6.55%	14.07%	11.65%	23.42%	12.06%
ES	12.58%	10.48%	15.88%	10.53%	22.62%	13.77%
PL	14.97%	13.74%	23.82%	20.80%	29.29%	18.57%
NL	20.03%	17.16%	35.41%	21.78%	41.98%	24.71%
RO	15.30%	13.12%	18.99%	16.14%	27.09%	16.33%
CZ	14.00%	12.45%	16.88%	16.77%	17.51%	15.27%
SE	19.35%	16.43%	26.10%	21.87%	36.77%	21.55%
BE	17.30%	16.09%	21.69%	17.76%	25.79%	18.51%
HU	13.62%	13.40%	18.60%	20.12%	27.70%	17.25%
AT	17.83%	19.27%	25.31%	24.90%	27.46%	22.17%
GR	9.86%	8.51%	14.52%	10.45%	26.30%	12.64%
PT	10.18%	8.43%	18.00%	10.87%	22.97%	12.71%
BG	10.56%	12.07%	16.16%	12.71%	24.84%	13.77%
FI	18.12%	15.08%	26.64%	21.32%	33.14%	20.88%
SK	12.72%	15.04%	19.68%	19.17%	27.00%	17.46%
DK	17.88%	17.57%	35.79%	14.72%	46.30%	23.51%
IE	14.39%	14.98%	27.97%	14.90%	41.82%	20.54%
HR	12.26%	15.06%	20.09%	19.04%	28.39%	17.41%
LT	14.74%	14.87%	19.01%	17.92%	26.43%	17.22%
SI	14.67%	10.33%	20.14%	17.53%	27.89%	16.33%
LV	13.29%	16.35%	18.60%	16.37%	26.87%	17.07%
EE	16.49%	17.84%	21.07%	16.41%	31.18%	19.14%
CY	17.76%	17.87%	23.04%	19.35%	32.66%	21.28%
LU	24.12%	17.20%	21.67%	13.32%	26.66%	19.05%
MT	27.51%	29.84%	24.15%	22.13%	30.65%	27.20%
UK	18.54%	18.49%	28.35%	20.59%	38.82%	22.92%
EU28	16.02%	14.93%	21.61%	17.30%	28.34%	18.24%

However, the age differences mostly concern younger workers. If we analyse the concentration of older workers instead (aged 50 and more), we see that the values are much more similar across the different categories of sectors defined by the impact of the COVID crisis, as can be seen in table 6. In all the categories there is between 26 and 36% of older workers (for the EU as a whole), a comparatively narrow range. However, there are some differences which are perhaps informative in a different way: the highest concentration of older workers is in fact in the essential and fully active sectors (36%), whereas the lowest is in the forcefully closed (26%). Considering that the risks of exposure to the virus are in fact much higher for older people (lethality rates become much larger after 50), it is unfortunate that precisely the sectors which are open to the public are those employing a higher proportion of older workers, and that those which are forcefully closed employ them the least.

**Table 6.** Percentage of aged 50+ in each of the categories

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	38.97%	37.39%	37.87%	37.78%	34.09%	37.69%
FR	32.50%	31.67%	27.33%	31.75%	27.08%	30.73%
IT	39.94%	43.58%	32.99%	33.67%	26.18%	36.36%
ES	33.34%	32.69%	28.40%	30.38%	23.85%	30.30%
PL	34.47%	28.04%	19.94%	24.75%	23.85%	27.40%
NL	36.74%	34.54%	28.05%	33.60%	25.33%	32.81%
RO	36.00%	22.37%	19.45%	26.21%	16.78%	27.92%
CZ	34.39%	33.30%	27.62%	28.62%	31.02%	31.00%
SE	37.64%	33.02%	30.15%	34.71%	25.99%	33.35%
BE	32.39%	30.12%	29.54%	28.66%	27.63%	30.18%
HU	34.48%	29.94%	24.46%	25.99%	23.56%	28.66%
AT	35.29%	32.18%	27.82%	25.95%	27.88%	30.28%
GR	37.96%	30.94%	26.22%	30.43%	21.34%	30.87%
PT	41.71%	36.54%	27.58%	30.98%	25.76%	33.71%
BG	39.77%	35.89%	25.26%	32.24%	26.30%	33.05%
FI	37.88%	34.34%	31.89%	33.03%	28.60%	34.16%
SK	34.73%	30.54%	25.40%	24.89%	22.31%	28.26%
DK	36.27%	33.68%	26.46%	36.69%	21.74%	32.39%
IE	34.19%	23.98%	26.31%	20.30%	10.73%	25.29%
HR	36.93%	29.21%	23.11%	27.85%	21.57%	29.26%
LT	43.34%	37.35%	31.44%	32.79%	31.69%	36.33%
SI	38.71%	30.46%	23.41%	25.76%	22.56%	29.57%
LV	42.33%	33.72%	31.11%	30.46%	32.38%	34.73%
EE	43.41%	31.35%	32.94%	29.17%	31.69%	33.77%
CY	34.36%	25.29%	29.90%	29.98%	25.53%	28.65%
LU	25.85%	23.03%	23.05%	29.30%	18.71%	24.46%
MT	25.58%	21.31%	26.24%	24.51%	19.64%	23.33%
UK	35.76%	30.84%	31.11%	34.01%	24.06%	31.79%
EU28	36.27%	33.48%	29.99%	32.00%	26.48%	32.57%

## 4.2 Differences in employment conditions: self-employment and temporary contracts

If we look at the conditions of employment (proxied by the percentage of self-employment with or without employees, and temporary contracts of employees) across the five categories of sectors according to the impact of the COVID crisis, our analysis suggests that the forcefully closed sectors tend to have worse conditions than the rest. However, in this case (compared to the results presented in the previous section) there are more significant differences across countries because of the different regulatory systems and institutional frameworks, and the country differences in several cases can obscure the differences across the sector categories defined by the COVID impact.

**Table 7.** Percentage of self-employed in each of the categories

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	8.09%	9.91%	8.77%	7.91%	19.50%	9.57%
FR	12.47%	7.05%	11.61%	11.65%	19.97%	11.38%
IT	17.92%	21.12%	28.77%	15.98%	31.30%	21.71%
ES	14.35%	10.75%	19.73%	14.54%	21.43%	15.59%
PL	28.80%	11.39%	15.66%	12.84%	19.59%	17.91%
NL	13.44%	19.00%	13.67%	16.89%	27.89%	16.99%
RO	32.52%	2.26%	6.10%	11.38%	9.58%	17.31%
CZ	8.67%	15.46%	17.68%	16.26%	36.92%	16.45%
SE	6.35%	7.31%	10.31%	13.00%	17.63%	9.53%
BE	11.30%	10.62%	13.73%	13.88%	26.33%	13.18%
HU	10.38%	7.69%	12.05%	8.55%	18.38%	10.19%
AT	13.84%	9.59%	8.93%	6.47%	18.54%	10.77%
GR	41.61%	16.50%	30.63%	31.18%	26.11%	29.82%
PT	21.82%	1.49%	17.92%	7.86%	20.61%	12.62%
BG	13.67%	5.01%	16.34%	7.69%	14.89%	10.90%
FI	12.80%	9.68%	10.08%	14.36%	23.05%	12.78%
SK	11.39%	9.41%	16.29%	18.98%	19.97%	14.72%
DK	3.66%	1.62%	2.71%	7.45%	4.75%	3.53%
IE	16.29%	3.15%	6.35%	20.48%	3.38%	9.76%
HR	14.71%	6.51%	8.85%	9.50%	15.23%	10.81%
LT	13.38%	5.26%	10.35%	11.81%	19.01%	10.92%
SI	13.77%	9.95%	13.07%	10.26%	21.75%	12.47%
LV	13.32%	5.75%	8.80%	12.58%	17.81%	10.98%
EE	9.44%	8.28%	10.46%	11.31%	16.17%	10.53%
CY	14.79%	8.75%	13.76%	10.93%	18.62%	12.61%
LU	9.69%	6.87%	6.94%	3.38%	16.30%	7.49%
MT	9.52%	7.54%	19.02%	21.86%	19.82%	14.27%
UK	11.57%	11.26%	13.34%	25.01%	18.96%	14.79%
EU28	15.19%	11.07%	14.51%	13.64%	21.66%	14.34%

Table 7 shows the percentage of self-employed workers in each of the categories of sectors defined by the COVID crisis impact. The forcefully closed sectors are the ones that clearly stand out from the rest, with a prevalence of self-employment close to 22%, compared to 11% in the teleworkable sectors or 15% in the

essential and active sectors. In most countries, the highest prevalence of self-employment is in the forcefully closed sectors, with a few exceptions (in Romania, Poland and Greece the highest prevalence of self-employment is in the essential and active sectors).

**Table 8.** Percentage of temporary employment in each of the categories

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	13.00%	14.01%	12.35%	10.14%	14.20%	12.53%
FR	16.30%	14.59%	15.58%	17.68%	22.38%	16.43%
IT	19.18%	11.29%	17.36%	14.08%	33.09%	17.02%
ES	30.32%	20.17%	22.95%	28.46%	36.54%	26.81%
PL	22.61%	16.94%	30.40%	26.22%	36.25%	24.39%
NL	17.62%	13.96%	25.43%	19.98%	37.77%	20.31%
RO	1.67%	0.33%	0.54%	1.37%	1.87%	1.11%
CZ	7.21%	10.27%	10.01%	7.73%	14.02%	8.93%
SE	17.80%	14.06%	17.26%	11.42%	33.11%	16.69%
BE	8.81%	10.53%	12.49%	8.54%	21.47%	10.78%
HU	5.22%	13.37%	4.97%	4.73%	7.36%	7.31%
AT	7.51%	11.06%	7.19%	8.12%	13.44%	9.07%
GR	11.06%	8.22%	6.86%	10.75%	26.00%	11.29%
PT	10.78%	14.14%	18.51%	14.45%	33.39%	16.06%
BG	6.13%	1.56%	3.17%	4.04%	7.71%	4.10%
FI	18.81%	16.44%	16.43%	11.01%	20.36%	16.37%
SK	4.68%	11.59%	9.27%	6.61%	13.14%	8.29%
DK	8.60%	7.21%	9.10%	3.15%	7.78%	7.57%
IE	4.05%	4.80%	6.81%	1.25%	12.00%	5.54%
HR	16.59%	12.22%	26.29%	21.14%	34.57%	20.01%
LT	1.78%	0.88%	1.17%	2.01%	3.37%	1.58%
SI	12.80%	13.48%	18.51%	14.52%	31.33%	15.75%
LV	3.12%	2.09%	2.31%	3.07%	2.94%	2.67%
EE	2.76%	2.38%	3.48%	4.05%	6.29%	3.47%
CY	10.47%	11.82%	5.23%	24.56%	20.88%	13.66%
LU	9.50%	8.13%	12.27%	11.54%	14.61%	10.01%
MT	9.34%	9.28%	4.29%	6.37%	8.52%	7.93%
UK	5.27%	5.84%	4.57%	4.38%	8.27%	5.54%
EU28	14.07%	12.09%	14.02%	13.29%	21.58%	14.05%

Something similar happens if we look at the prevalence of temporary contracts. As previously mentioned, the country differences in this case are really important, which is illustrated in table 8 by the fact that the colors tend to cluster as much by rows as by columns, suggesting that the differences across countries are larger than across categories of sectors. But still, the prevalence of temporary contracts for the EU as a whole is nearly 22% in the forcefully closed sectors, which almost doubles the prevalence in all the other categories (which range from 12 to 14%). Although in this case there are more exceptions, the highest prevalence of temporary contracts in most countries is observed in the forcefully closed sectors.

Put together, tables 7 and 8 suggest that workers in sectors forcefully closed as a result of the COVID crisis throughout most of Europe are particularly vulnerable in terms of employment conditions. We should note that the vulnerability implied by both self-employment and temporary employment are in fact compounded: in the closed sectors there is 22% of self-employment, but of the remaining 78% of dependent employees,

another 22% has a temporary contract. So the proportion of workers with permanent and stable employment contracts in the closed sectors is in fact only 60% overall, much lower than in the rest of the economy.

### 4.3 Differences in socio-economic position: skill and wage levels

Finally, we will analyse the socio-economic position of workers in the different categories of sectors according to the impact of the COVID crisis, looking at the share of low and high-skilled workers, and the average wage levels.

Table 9 shows the percentage of workers with primary education or lower in each of the categories of sectors we are analysing. As happened with type of contract and self-employment status, this is a variable strongly affected by national idiosyncrasies and thus the differences are often stronger by country than by sector categories. Still, we can observe that the teleworkable sectors are the ones that stand out from the rest because of a lower share of low-skilled workers, both for the EU28 as a whole and for all countries. The other four categories have in fact very similar values, marginally larger in the closed sectors but not significantly enough.

**Table 9.** Percentage of low-skilled workers in each of the categories

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	13.49%	4.49%	16.39%	13.37%	20.00%	12.41%
FR	15.88%	8.21%	16.39%	20.87%	17.27%	14.80%
IT	31.74%	7.77%	36.36%	44.29%	34.95%	30.49%
ES	35.15%	9.86%	42.08%	46.31%	39.15%	33.12%
PL	6.90%	1.31%	3.85%	6.45%	4.40%	4.84%
NL	17.22%	6.33%	32.43%	29.00%	26.62%	19.97%
RO	33.73%	3.39%	7.68%	14.85%	7.58%	18.99%
CZ	4.36%	1.45%	5.29%	5.27%	6.28%	4.29%
SE	14.46%	5.12%	16.11%	16.20%	23.47%	12.84%
BE	14.96%	6.03%	19.73%	20.26%	19.47%	14.58%
HU	12.61%	9.00%	8.58%	14.99%	9.48%	11.45%
AT	14.09%	5.37%	15.90%	13.63%	18.30%	12.64%
GR	34.23%	3.44%	18.77%	35.83%	21.33%	21.64%
PT	59.65%	18.06%	53.79%	86.14%	64.21%	52.99%
BG	15.87%	2.42%	7.93%	18.33%	7.32%	11.20%
FI	10.30%	2.33%	12.90%	14.09%	15.90%	10.10%
SK	3.67%	5.36%	3.63%	4.89%	4.25%	4.51%
DK	14.84%	3.84%	28.49%	18.00%	34.53%	16.58%
IE	14.06%	0.44%	14.72%	15.15%	8.19%	9.50%
HR	14.42%	1.99%	4.77%	11.67%	6.62%	8.44%
LT	4.92%	1.06%	3.62%	5.54%	3.53%	3.77%
SI	12.94%	1.96%	5.65%	13.21%	9.17%	8.94%
LV	7.96%	1.74%	6.63%	14.67%	7.01%	7.45%
EE	11.58%	2.04%	9.54%	16.49%	11.96%	10.15%
CY	17.54%	2.61%	16.20%	31.27%	16.60%	14.91%
LU	17.85%	8.49%	28.11%	26.82%	28.63%	17.71%
MT	40.99%	14.78%	55.16%	48.89%	33.84%	35.95%
UK	16.10%	8.21%	24.76%	20.31%	18.37%	16.10%
EU28	19.12%	6.42%	21.51%	22.40%	22.46%	17.34%



The differences in the share of high-skilled workers (measured by educational attainment, as those with tertiary degrees) is much more consistent across countries, and significant. The teleworkable sectors have a share of highly educated workers that more than doubles any other category of table 10, and this differentiation is highly consistent across countries. The lowest proportion of highly educated workers, however, is not in the forcefully closed sectors but in the mostly non-essential sectors (which mainly includes manufacturing and construction), with all the other categories showing little differentiation.

**Table 10.** Percentage of high-skilled workers in each of the categories

	Essential	Teleworkable	Partly active	Mostly non-essent.	Closed	All sectors
DE	23.28%	50.86%	19.24%	25.86%	20.73%	29.49%
FR	36.71%	62.34%	34.19%	26.44%	34.59%	41.51%
IT	26.92%	47.20%	12.81%	9.69%	12.88%	23.16%
ES	41.68%	72.97%	29.62%	29.82%	30.12%	42.93%
PL	26.56%	71.22%	26.65%	18.91%	34.92%	35.37%
NL	36.19%	64.20%	20.21%	22.68%	24.27%	37.48%
RO	10.47%	60.67%	19.76%	13.12%	18.92%	20.51%
CZ	24.01%	51.98%	16.09%	12.57%	18.10%	25.02%
SE	40.71%	65.16%	26.51%	23.24%	29.19%	42.24%
BE	44.69%	71.03%	31.12%	31.90%	33.06%	46.55%
HU	21.40%	53.45%	18.38%	12.99%	23.28%	26.87%
AT	31.13%	56.20%	24.27%	27.99%	26.94%	34.86%
GR	26.98%	71.99%	25.98%	17.61%	20.03%	36.62%
PT	23.97%	54.80%	12.00%	1.60%	3.36%	23.64%
BG	27.80%	64.17%	24.50%	14.17%	25.29%	31.63%
FI	42.38%	72.87%	33.41%	29.20%	31.30%	44.51%
SK	22.64%	52.45%	18.95%	13.53%	18.83%	26.03%
DK	43.87%	69.69%	18.02%	14.66%	9.24%	39.25%
IE	48.29%	82.87%	28.88%	31.09%	32.10%	51.52%
HR	25.70%	60.14%	19.18%	13.44%	18.69%	29.60%
LT	36.44%	72.96%	40.73%	29.57%	42.93%	45.00%
SI	29.74%	65.98%	27.76%	19.95%	27.29%	35.34%
LV	31.14%	66.76%	30.88%	19.63%	28.57%	37.30%
EE	37.01%	69.71%	34.67%	23.27%	36.91%	41.30%
CY	44.92%	74.12%	34.35%	21.49%	34.00%	46.10%
LU	34.00%	62.27%	28.43%	42.70%	26.60%	46.27%
MT	30.85%	51.20%	12.86%	19.07%	25.56%	30.92%
UK	45.19%	63.01%	28.01%	29.67%	32.16%	43.71%
EU28	31.71%	60.56%	24.21%	21.73%	26.17%	35.05%

But where the differences are quite striking and consistent across countries is in the differences in average wage percentiles between the jobs in each of the categories. This indicator, which is taken from Eurofound's European Jobs Monitor<sup>8</sup> is constructed by calculating the average wages in each occupation and sector

<sup>8</sup> See Hurley, J., Fernandez-Macias, E., Bisello, M., Vacas, C., & Fana, M. (2019). European Jobs Monitor 2019: Shifts in the employment structure at regional level (No. JRC117824). Eurofound and Joint Research Centre (Seville site). <https://www.eurofound.europa.eu/publications/report/2019/european-jobs-monitor-2019-shifts-in-the-employment-structure-at-regional-level>



combination (jobs) **in each country**, and then assigning to each of those jobs the wage percentile it occupies in the overall wage distribution. In other words, a job such as clerical workers in the construction sector may have a wage percentile of 28, indicating that the wages of workers in that occupation and sector combination are above those of approximately 27% lower paid jobs but lower than approximately 71% of higher paid jobs. Another way to put it is that the job "clerical workers in the construction sector" occupies the position 28 in a normalised index of occupational wages that ranges from 1 for the lowest paid job to 100 for the highest paid. What we show in table 9 is the average wage percentile of all the jobs in each of the sector categories.

**Table 11.** Average wage percentile of jobs in each of the categories

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
DE	46.06438	67.59243	36.83015	55.28908	27.5003	50
FR	45.46786	64.14185	41.38475	51.10569	35.51654	50
IT	53.57211	72.46629	38.22584	45.80786	25.57691	50
ES	53.8399	71.66685	34.86617	47.3601	31.63756	50
PL	45.5942	69.75082	36.0394	50.35297	33.62595	50
NL	48.53844	69.18597	35.9147	51.62541	26.83052	50
RO	50.58382	66.65014	39.25825	50.30782	27.04205	50
CZ	53.47122	67.21559	36.54227	47.14601	29.42644	50
SE	42.69738	64.02884	43.6008	51.26559	29.03787	50
BE	46.3894	67.06236	36.38846	50.99075	30.07237	50
HU	49.8685	61.20995	40.5029	47.80458	41.58641	50
AT	48.21869	66.59504	37.98475	56.01996	24.95124	50
GR	44.38668	74.87216	40.86692	48.25776	29.00939	50
PT	44.32234	74.23695	48.51897	33.24522	36.67874	50
BG	48.90989	67.41521	43.81921	45.11603	36.53682	50
FI	41.35974	69.41541	40.46571	56.74532	29.67074	50
SK	50.55392	61.28941	37.76646	51.28851	31.07161	50
DK	46.62122	71.49453	37.88805	51.09152	23.94436	50
IE	51.17467	75.03648	28.40715	52.79047	21.34384	50
HR	53.4773	68.13158	36.48094	45.3184	31.02393	50
LT	46.62096	66.11602	42.99102	49.44545	32.06267	50
SI	48.66484	69.7922	42.84784	42.93864	33.37331	50
LV	48.91257	65.79773	42.14231	46.725	35.02494	50
EE	47.78036	61.67735	42.98209	52.92741	30.93999	50
CY	53.33669	72.26736	37.1515	42.94974	25.26929	50
LU	43.9794	61.85995	29.49704	53.10014	24.48638	50
MT	51.83311	67.3345	32.36376	44.52956	40.29264	50
UK	48.73478	64.91325	32.48529	57.82405	28.5398	50

In the majority of countries, workers in the forcefully closed sectors belong to the lowest average wage percentiles groups, in most cases ranging between 25 and 35. The second lowest category is the partly active sectors, with average wage percentiles between 35 and 45 in most cases. Then comes the essential and fully active sectors, with an average wage percentile around fifty that positions them around the middle of the wage distribution, and then the mostly non-essential sectors are between 50 and 60. Finally, the teleworkable sectors are clearly those with the highest wage levels in all countries, ranging from 65 to 75 (positioning jobs in those sectors close to the highest quartile of the wage distribution).

The comparison between skill and wage levels across the categories of sectors differently impacted by the COVID crisis is also quite instructive. The teleworkable sectors are those with the highest proportion of highly educated workers and also with the highest average wage levels. But whereas the forcefully closed sectors have clearly the lowest wage levels, they are not the sectors with lowest educational levels. In fact, the wage levels of the mostly non-essential sectors are nearly as high as those of the teleworkable sectors but their average educational levels are among the lowest.

**Box 3:** a job tercile approach to the differences across sectors

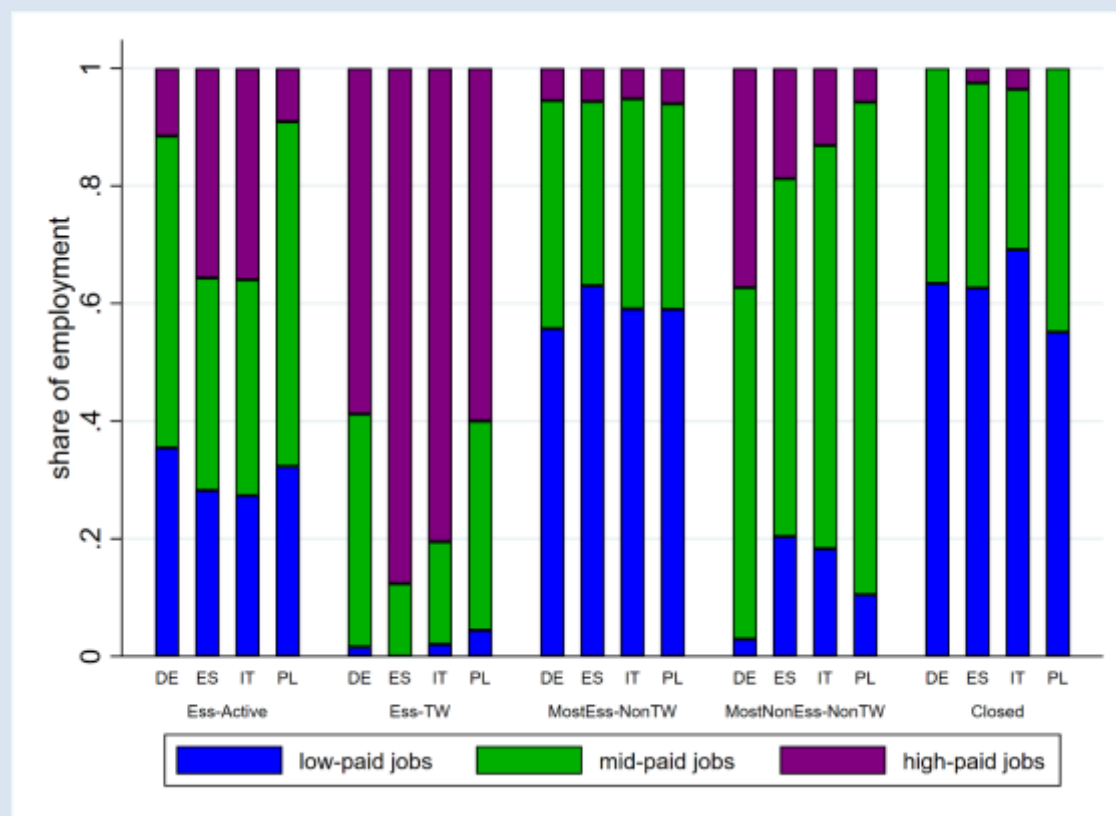


Figure 2: Employment shares by job-wage tercile and sector categories in Germany, Spain, Italy and Poland.

Using a jobs approach (see footnote 7), we can analyse the employment structure of the sector categories previously defined according to our assessment of the impact of the COVID crisis. In particular, after ranking jobs (occupation-sector pairs) by their average hourly wage based on the European Structure of Earnings Survey, all national employment is divided into three terciles defining low, mid and high paid jobs. Figure 2 shows how the employment structure of each category in each country distributes over those job-wage terciles.

These results largely confirm the analysis carried out using percentiles in table 9, but provide a bit more detail with respect to the differences across sector categories and countries. More than half of all workers in the closed sectors are in the lowest tercile of jobs, with very few in the highest. The employment structure of the partly active sectors is very similar to that of the closed sectors. Then, the mostly non-essential sectors have the highest share of mid-paid jobs (jobs in the middle tercile), with some significant differences by country (in Germany, this category of sectors actually has many high paid jobs too, not so much in the other countries). The essential and active sectors have perhaps the more balanced employment structures, although again with large country differences: whereas in Spain and Italy there is a large percentage of high paid jobs in these sectors, in Germany and Poland mid-paid jobs clearly dominate. Finally, the teleworkable sectors are strongly dominated by high paid jobs, especially in Italy and Spain.

## 5 Prevalence of telework before the COVID crisis

Finally, we will make a brief analysis of the most recent evidence available of the patterns of telework (defined as "frequency of work from home") according to the 2018 EULFS, using the same categories defined by the impact of the COVID lockdown measures as in previous pages.

Before the COVID crisis, the prevalence of telework in the EU was generally rather low. For the EU(28) as a whole, only 5% of the labour force usually works from home and an additional 10% sometimes. The remaining 85% of workers never work from home, according to the 2018 European Labour Force Survey. We have translated these percentages into an indicator that ranges from 0 for sectors with no telework to 100 for sectors where all workers usually telework. The value of this indicator for the EU as a whole is 10.24 as shown in table 12, a value that can serve as a benchmark for the comparison of sectors and countries.

As could be expected, the highest values of the telework indicator are in the sectors we are classified as teleworkable, but even in that case the estimated prevalence is rather low (17.5, not even reaching twice the value for all the economy). On the other extreme, the lowest prevalence of telework is in the mostly non-essential sectors that include most of manufacturing and construction, but the values for partly active and even the essential sectors are in fact similarly low, while (perhaps surprisingly) they are marginally higher in the forcefully closed sectors.

However, the main differences in the prevalence of telework is not by sectors but by country. The range of values even within the same category of sectors is really enormous. For instance, in NL and FI in the teleworkable sectors the indicator is around 40, whereas in Italy, Spain or Greece the values are lower than 10. Even in the less teleworkable sectors in the Netherlands or Finland the prevalence of telework is significantly higher than in the teleworkable sectors of Italy or Spain.

**Table 12.** Experience of telework pre-COVID crisis (index 0-100) in each of the categories

	Essential	Teleworkable	Partly active	Mostly non-essent.	Closed	All sectors
DE	6.45	15.26	6.03	5.75	9.51	8.58
FR	12.35	19.86	11.13	9.10	14.71	13.94
IT	2.87	8.56	3.85	2.05	4.05	4.31
ES	4.02	12.11	4.14	4.08	4.04	6.01
PL	11.64	15.41	5.94	4.06	9.11	9.44
NL	20.28	41.70	15.59	19.51	21.98	25.41
RO	0.47	1.02	0.57	0.46	0.60	0.57
CZ	3.68	12.96	6.08	3.29	14.89	6.96
SE	12.11	30.59	18.71	16.26	19.27	20.56
BE	10.35	24.25	10.47	10.91	17.49	14.88
HU	2.61	7.94	4.12	2.31	5.07	4.30
AT	18.04	25.97	10.58	8.08	16.23	16.21
GR	1.70	9.05	1.29	2.48	1.61	3.59
PT	2.65	17.03	1.86	0.00	0.00	5.14
BG	0.34	1.34	0.38	0.24	0.97	0.59
FI	16.32	37.23	17.55	16.03	23.20	22.25
SK	5.20	10.96	7.13	3.74	5.70	6.42
DK	8.13	23.38	6.92	4.03	0.61	10.53
IE	7.89	13.69	0.75	2.63	0.00	6.55
HR	3.18	7.80	2.88	2.76	3.31	4.16
LT	5.24	3.64	3.48	2.07	3.72	3.70
SI	9.05	24.71	10.09	5.99	12.34	12.43
LV	5.67	5.16	2.30	1.18	4.71	3.91

	Essential	Teleworkable	Partly active	Mostly non- essent.	Closed	All sectors
EE	9.50	23.23	12.41	8.95	14.87	13.86
CY	1.41	2.82	0.73	0.69	2.83	1.78
LU	16.52	23.62	18.41	21.06	18.65	20.74
MT	3.45	13.42	4.71	5.27	9.59	7.85
UK	11.58	20.94	10.03	13.05	12.35	14.52
EU28	8.36	17.49	7.40	6.40	9.78	10.23

This is very important for any assessment of the difficulties of the fast transition towards a forced telework regime for a significant percentage of workers across European countries, triggered by the COVID crisis. The previous experience and actual use of telework across countries varied enormously, even for the sectors that are most susceptible to telework. This necessarily means that the same expansion of telework practices is likely to impact very differently European labour markets: in Northern and Continental European countries this transition has most probably been much smoother than in Southern Europe.

Therefore, the available data on the prevalence of telework before the COVID crisis also contributes to the general impression of very asymmetric outcomes of the lockdown measures for European labour markets, which is to be added to the already very asymmetric impact of the pandemic itself. Whereas in previous pages we discussed the asymmetries in the outcomes with respect to different categories of workers (the lockdowns affect disproportionately workers with precarious employment conditions and low wages, although not low skills), in this section we could see that the fast and largely forced transition to a much more generalised telework regime is likely to have been much more difficult in some countries than others. We will discuss these asymmetries and their policy implications with more details in the concluding section.

## 6 Summary and conclusions. What lies ahead for European labour markets?

In this paper, we have done a preliminary assessment of the potential impact of the COVID crisis on European labour markets, which can also be used for speculating about possible mid-term developments and broader socio-economic implications. We have used the recent confinement decrees of three countries (Germany, Italy and Spain) as a guide for classifying economic sectors into different categories according to the likely impact of the COVID crisis. These categories were then applied to recent data on European labour markets (obtained from the 2018 European Labour Force Survey, provided by Eurostat) in order to estimate the categories of workers that would be more or less affected by the economic lockdown measures contained in the decrees, and by extension, by the probable continuation of an abnormally functioning economy until a vaccine is found in a year or more.

As we expected, our simple analysis reveals very asymmetric effects of the COVID lockdown measures across different groups of workers. Furthermore, it reveals that the most negative effects tend to concentrate on the most vulnerable and disadvantaged workers, whereas the better off are likely to suffer considerably less. The reason is that the sectors forcefully and explicitly closed by the COVID lockdown decrees because they involve the highest contagion risk (hospitality, personal services, leisure activities) are, in most European countries, characterised by low wages and precarious conditions of employment. Thus, we can assume that the workers more likely to lose their jobs because of the lockdown in the short run, and face a very high uncertainty (because those sectors will remain very problematic until a vaccine is available) in the mid-term, are among the most economically vulnerable. For the EU as a whole, this category represents around 10% of employment, but as we will discuss later there are very significant differences by country. This category of sectors is also the one with a larger proportion of women and young workers in our analysis.

By contrast, there is a category of sectors which are also mostly closed to the public as a result of the COVID lockdown measures but where the impact to workers is likely to be significantly less dramatic. These are the sectors that, because of their nature, can be (with more or less difficulty) maintained operational by remote working. It is interesting to note that these are generally also service sectors that involve some degree of social interaction (education, professional services), but a type of social interaction that lends itself to remote service provision. In sharp contrast with the forcefully closed activities, these “teleworkable” sectors are characterised in most countries by higher than average employment conditions and very high wages. For the EU as a whole, this category of sectors represents around 25% of employment.

In between those most and least negative outcomes, we have the other three categories of sectors defined by the COVID lockdown measures. First, the sectors considered essential and thus remaining fully active (in some cases, even more active than usual because of their central role in the COVID response policies, such as health or pharmaceutical production) account on average for around another 25% of employment, with conditions and wage levels generally similar to those of the general working population. Second, we have a mixed category of sectors which are partly considered essential and thus partly active (such as retail), whose conditions are in fact similar to those of the forcefully closed sectors and in some cases may suffer similar problems in the short and medium term. For instance, non-essential retail are also likely to suffer forceful closures and intermittent activity in the near future, and their employment conditions tend to be similar to those of personal services. A third intermediate category includes activities not considered essential but in many cases allowed to continue functioning with additional precautionary measures, because they do not involve special risks to the general public (manufacturing and construction). These typically male-dominated sectors tend to have better employment and wage conditions than the average, even if their average education levels are in fact below those of the forcefully closed sectors. Although these sectors may also suffer a significant blow because of the forthcoming economic contraction, the lockdown measures themselves are unlikely to affect them in any significant way in the short and medium term, and thus are likely to be more resilient.

Our analysis also revealed important asymmetries in the likely outcomes of the COVID lockdown decrees across countries. First, regional economic specialisation leads to different shares of employment across the different sector categories, and the countries with a higher share of employment in the forcefully closed sectors are likely to suffer a much heavier blow. The highest shares of employment in hospitality and leisure activities are in Mediterranean economies, some of which have been particularly hard hit by the pandemic (Italy and Spain). Secondly, the scale of atypical and precarious employment also varies across countries, and these are factors of additional vulnerability that are likely to deepen the negative effects previously mentioned. Again, some of the countries likely to be hardest hit (Spain and Italy) have particularly high levels

of self-employment or temporary contracts, especially in the forcefully closed sectors, which can compound the negative effects of forceful closures. Finally, we also explored the previous patterns of telework for the same categories, sectors and countries, and found that some countries already had a much higher previous experience of telework and are thus likely to be much more prepared for the large-scale transition to telework triggered by the COVID crisis. Unfortunately, some of the countries with a lower previous prevalence of telework before the crisis are again those hardest hit by the pandemic (including Italy and Spain).

These findings have important policy implications. The impact of the COVID crisis is likely to concentrate on the most vulnerable segments of the working population, on the groups less well equipped to deal with unemployment and sudden income losses. Since the possibilities for economic recovery are very uncertain to say the least, it is imperative that European economies provide income support to those groups as soon as possible. The labour market impact of the COVID crisis is also likely to be much stronger in some member states, and thus it seems also imperative that pan-European emergency mechanisms provide some support for the countries in most need. At the time of writing this paper, the situation of Italy and Spain is particularly dramatic, but in the future other EU countries may find themselves in a similar position.

What about the mid-term labour market prospects? Although the current confinement of most European countries is an extraordinary and temporary situation, it seems more than likely that some elements of it will remain in the mid-term, at least until a vaccine or some other long-term solution is found for the COVID challenge to the human race. In particular, the now forcefully closed sectors will remain problematic until a vaccine is available, because they involve a degree of social interaction that pose high infection risks. It is thus likely that a very significant proportion (or the majority) of the workers now employed in those sectors will face very uncertain prospects in the medium term, in a context of protracted economic crisis that will provide very thin opportunities in any other way. The immediate policy needs mentioned above, therefore, will probably have to be extended or adapted for mid-term application at least. But beyond those palliative measures, the best way to prevent an economic nightmare could be to embark in bold industrial and investment policies that provide alternative opportunities at a properly large scale, such as an ambitious European Green Deal.

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