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The Covid Crisis:

Occupational Impacts in EU Economies and Policy Suggestions

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Abstract

This policy note examines sectoral and occupational employment impacts of the Covid-19 crisis. The crisis hit EU economies (and advanced economies in general) as they were already undergoing important structural changes due to technological change (digitisation), a factor affecting most organisations now and in the future. Some of these changes accelerated during the pandemic, along with at times dramatic changes in sectoral demand patterns (due to lock-downs) and shifts in work organisation, all of which had strongly differential impacts on various occupational groups. The policy note studies in-depth occupational employment patterns before and during the pandemic using detailed Labour Force Statistics, including analysis of the differentiated impacts on women and men. The major policy challenge is to avoid lasting gaps in overall employment as economies recover and as temporary support schemes are phased out. Further, policy makers need to focus attention on how to accompany the continuing changes in structural employment patterns. These changes can have significant and lasting impacts on the employment prospects of different segments of the labour force (in terms of age, gender and educational/skill levels). The policy note postulates a number of policy actions which should be embarked upon, both at the national and the EU level.

Keywords: Covid-19 crisis, employment impact, occupational and sectoral impacts; gender impacts

JEL classification: J01, J08, J23, J24, O52, O57

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The Covid crisis: occupational impacts in EU economies and policy suggestions

1. EMPLOYMENT IMPACTS OF THE CORONA-CRISIS: A COMPARATIVE ASSESSMENT

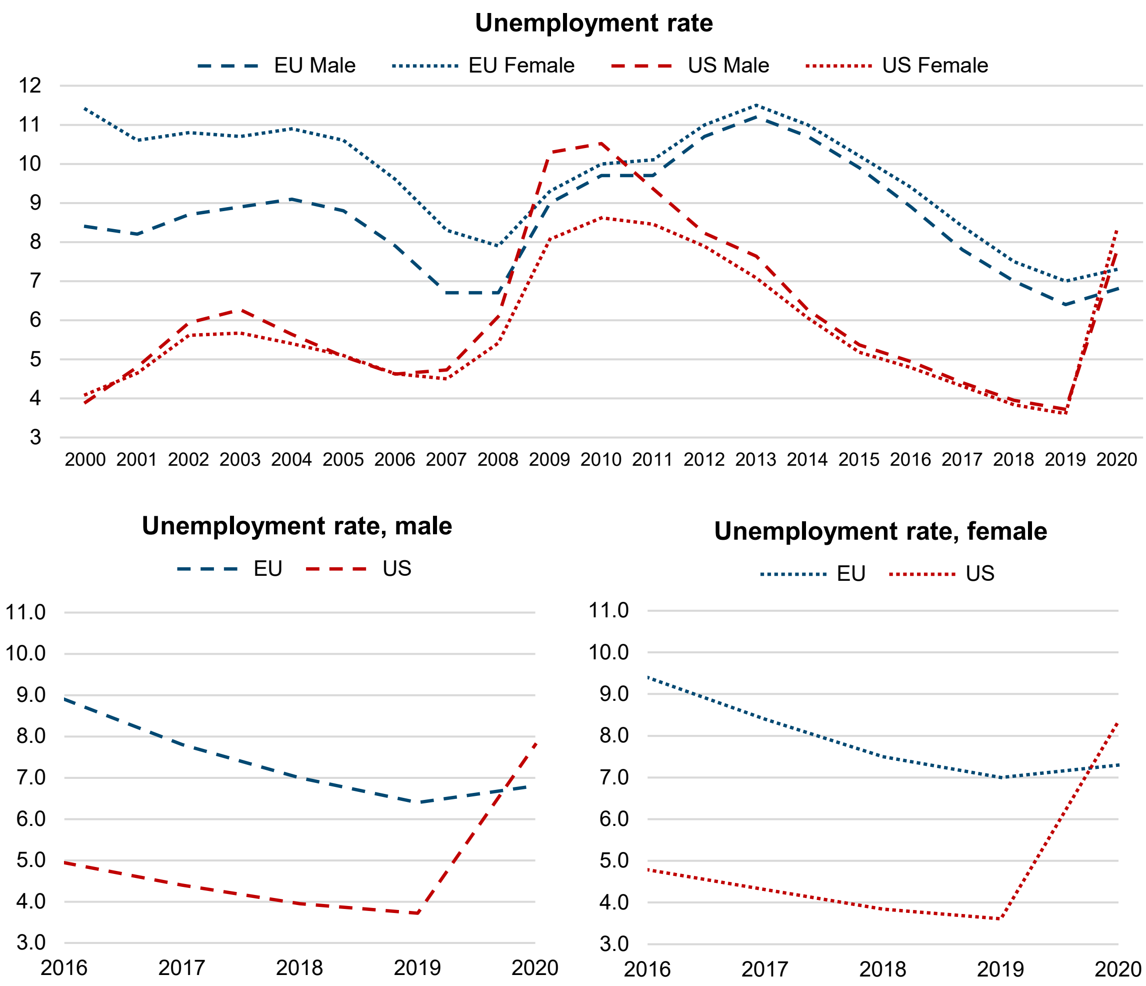
There is a lot of uncertainty with regard to the longer-term impact of the Corona-crisis on the labour markets of advanced (and, of course, other) economies. First, there is uncertainty about the pattern and sustainability of the recovery as a whole and there are different reasons to be cautious regarding any confident predictions: as current developments (further lockdown in Austria, conflicts regarding vaccination) show populations (especially younger age groups) are still far from a level of ‘herd immunity’ and there is a danger of virus mutations requiring further policy reactions, which can take a toll on economic recovery. Further, the medium-term scenario with respect to the conduct of fiscal policy (in the major global economies and especially the EU) is far from settled, and with an unclear forecast of inflation trends this is also the case of monetary policy. All of which is important for a sustained recovery of employment. There is also the question of how broader geo-economic and geo-political changes (in particular, evolving developments in China and the geo-strategic China-US relationship) will affect the global economic situation, even in the medium-term.

Second, there are important ongoing structural changes in the labour market, some of which might have received a ‘jolt’ (and/or a ‘new twist’) during the crisis, and from which it will take time to recover. The Covid-crisis showed features of acceleration and – in parts – of ruptures of change in work organisation (‘work-from-home’) as well as changes in demand (e.g. a strong negative impact on hospitality and a strong shift towards home deliveries or for electronic equipment for home use) which had highly differential impacts on different sectors of the economy and on different occupations within these sectors. It sped up certain technological trends (particularly in the area of digitalisation) revealing the vulnerability of certain groups of employees (pushing them into short-term furlough schemes or into unemployment or inactivity) the longer-term consequences of which are still hard to predict. In other cases, certain occupations have experienced a positive impetus that was favoured by the crisis (such as professionals in health services) which may or may not be of a long-term nature.

In this section of the paper we shall give a short overview of the macro-economic indicators of the labour market, and in the following section we will go into the details of how the pandemic affected employment in particular sectors and particular occupations in those sectors.

Going over the macro-indicators first, we can see in Figures 1 and 2 an interesting comparison of the aggregate trajectories of unemployment rates (Figure 1) and activity rates (Figure 2) in the EU and the USA. What we observe is what appears to be a systemic difference in the volatility of unemployment rates between the EU and the US, in that the latter experiences much stronger increases in unemployment rates during crises (both during the financial crisis of 2009/10 and the recent epidemic crisis) and a stronger recovery following the crisis (so far we have only early indicators for the more recent Corona crisis). There is a further interesting feature regarding gender differentiation: during the financial crisis the unemployment rate for males increased much more strongly in the US than for females, while this difference is no longer visible in the more recent epidemic-induced crisis.

Figure 1 / Unemployment rates in the EU and the US, 2000-2020



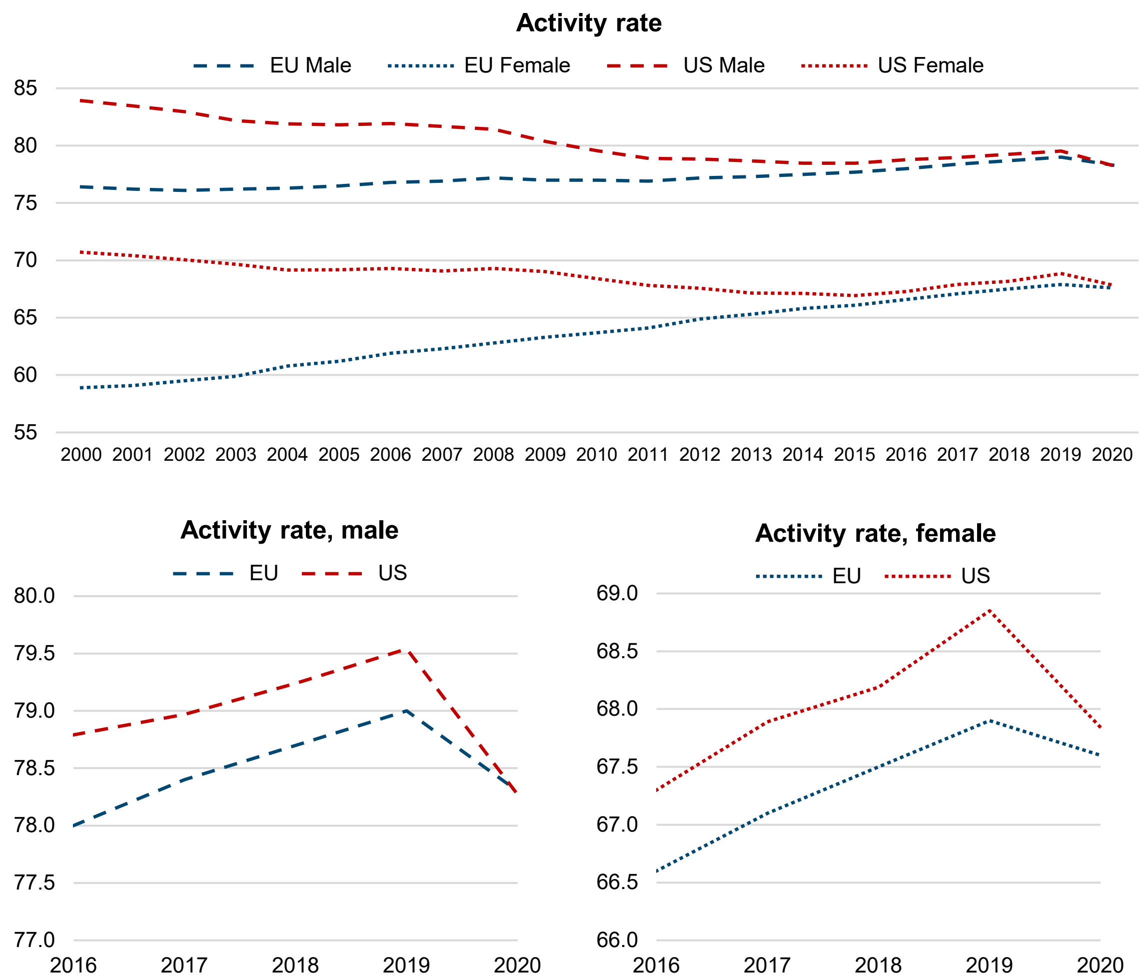
Source: Eurostat.

A comparison of activity rates (Figure 2) reveals a number of interesting aspects: one is the worrying trend decline in activity rates for both males and females in the US from 2000 onwards until about 2014/15. While activity rates had started out at significantly higher levels in the US than in the EU, by 2014/15 they had converged. The EU as a whole did not experience these downward trends but, on the contrary, experienced a significant upward trend in female activity rates. Further, looking at the impact of the recent epidemic, we observe a stronger decline in activity rates in the US during the crisis than in the EU and - common to both regions but somewhat more pronounced in the EU – there is a stronger decline in male activity rates compared to that of females (-1.2% vs. -1.0% in the US, and -.7% vs. -.3% in the EU).

Moving now to intra-EU differences, we decided to group EU member countries into 5 different groups: the group of Western European countries (AT, BE, DE, IE, FR, NL), Southern Europe (EL, ES, IT, PT), Central-Eastern Europe (CZ, EE, HU, LV, LT, PL, SK), South-Eastern Europe (BG, HR, RO, SL) and

Northern Europe (DK, FI, SE). There is of course differentiation within these groups, but it is nonetheless useful to point to some distinct differences across these groups of EU member countries.

Figure 2 / Activity rates in the EU and the USA, 2000 to 2020

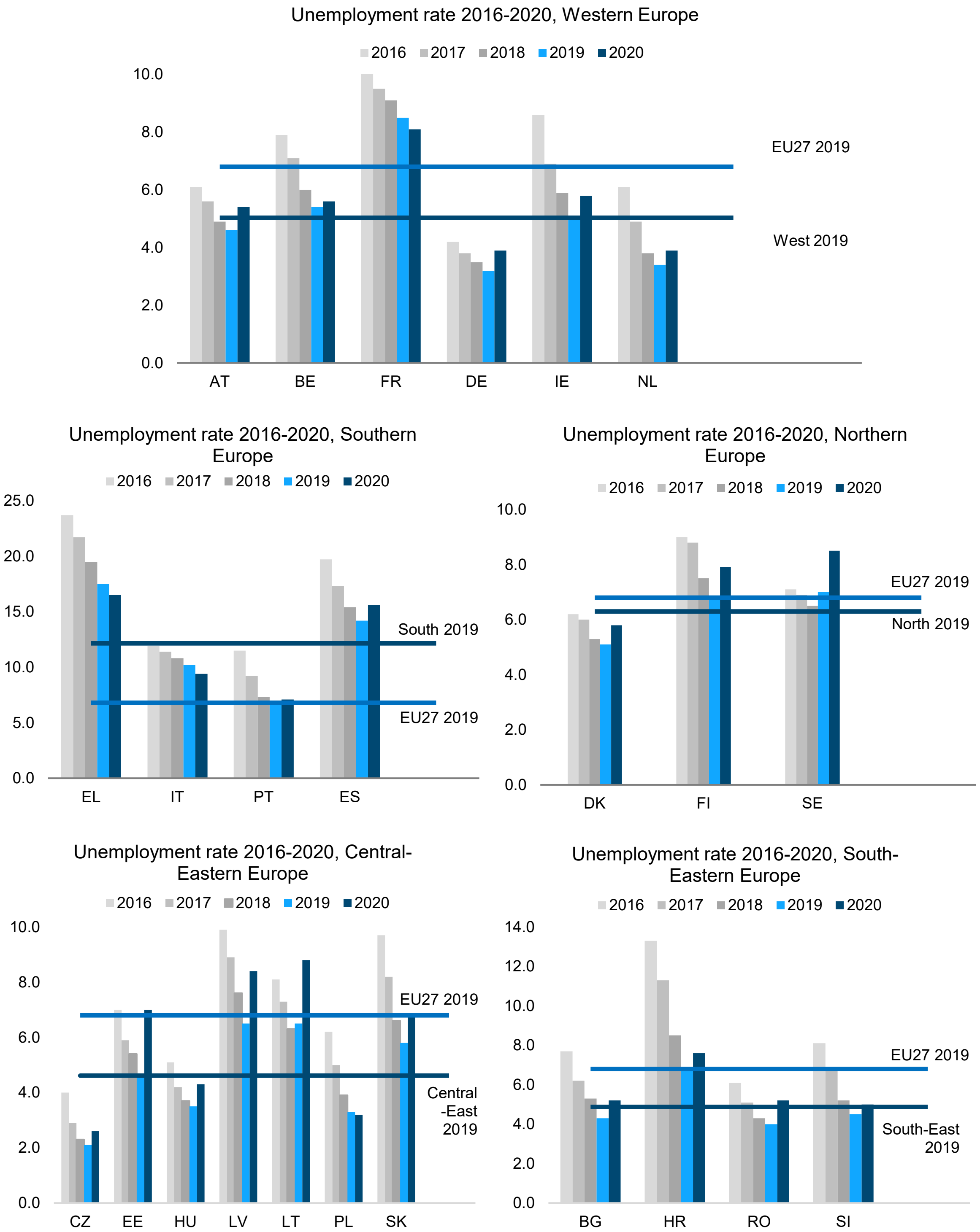


Source: Eurostat.

We shall concentrate again on the above two indicators, the unemployment rate (UR) and the activity rate (AR), over the period 2016 to 2020, i.e. covering the period immediately prior to the pandemic and then the first full year of the pandemic that is available in the statistics (Figures 3 and 4).

Let us start with the unemployment rate, going over the 5 groups and also pointing out intra-group differences (see Figure 3): the first thing to say is that in almost all countries the pandemic has had an impact on the unemployment rate. However, as will be discussed further on, the full impact is still difficult to discern as there was heavy government support provided during the pandemic, both to keep businesses afloat through a variety of measures (provision of cheap credits and grants, tax relief and postponement of tax and social security payments) and - especially significant for employment/unemployment - the massive support of short-time work schemes (governments or social security taking over up to 80% of the wage bill). The latter will be phased out in some countries as late as over the summer and autumn 2021, while in others short time work schemes had already been substantially reduced earlier.

Figure 3 / Labour market indicators 2016-2020, total population 15-64 years old, unemployment rates



Source: Eurostat.

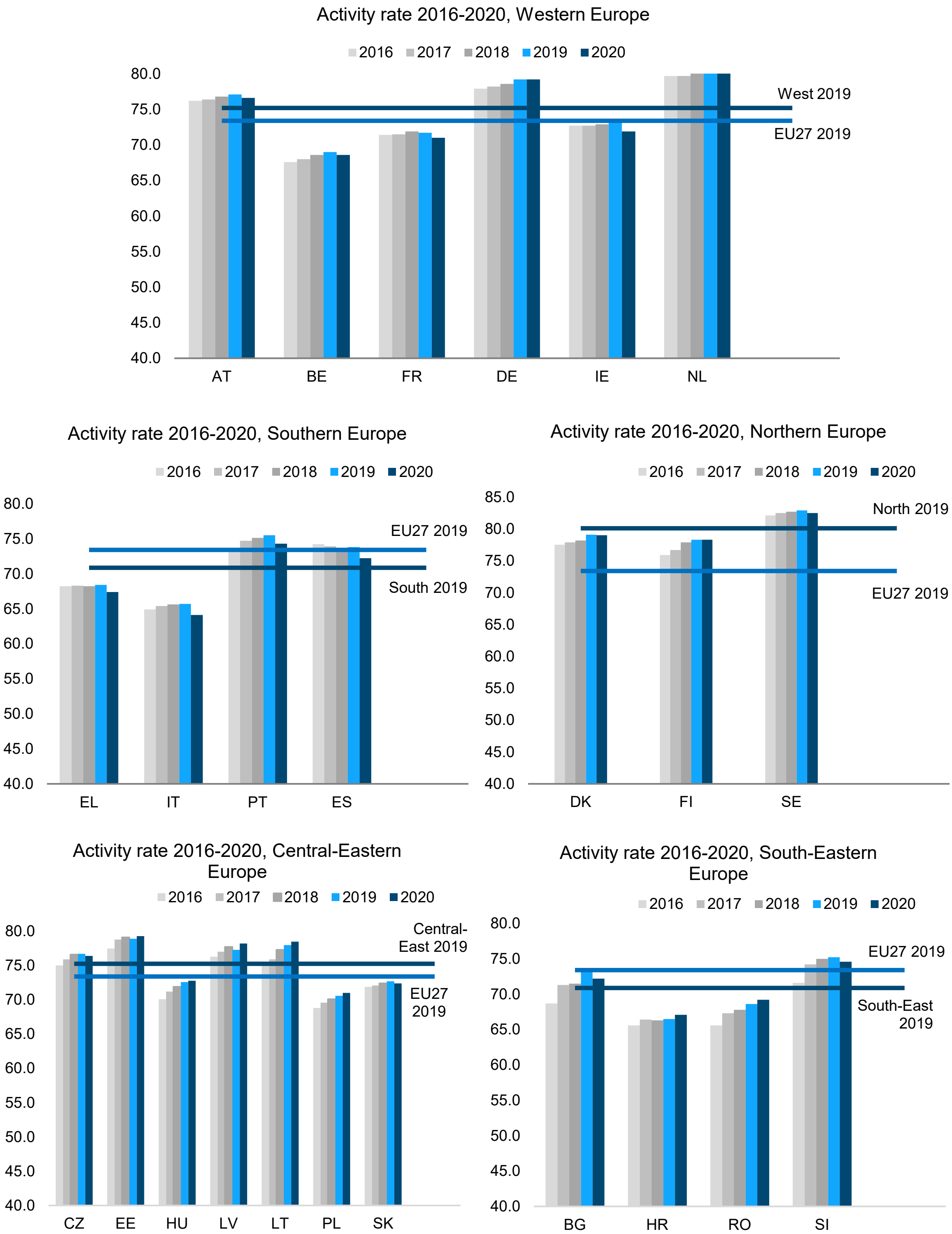
Given this *caveat*, let us report on some of the country and group differentiations: looking at the *Western European (WE) group* we can see that Germany and the Netherlands show unemployment rates far below the EU average, while France has an unemployment rate (UR) significantly higher than the EU average; the other countries in this group are around the EU average. As regards changes in the UR during the pandemic, these are in mere decimals. Regarding the *Southern European (SE) group* we can see that all countries remained above average EU levels, with Greece and Spain significantly above that average, and only Portugal around the EU average. Amongst the *Central and Eastern European (CEE) group*, a group of three (Czechia, Poland and Hungary) showed URs significantly below the EU average, whereby Hungary is a special case as compulsory work schemes are prevalent there as well as strict unemployment benefit regulations[1]; Slovakia and Estonia show URs around the EU average, and the other two Baltic states (Latvia and Lithuania) significantly above the EU average. What is also noticeable here are the very strong increases in unemployment rates in the three Baltic states during the pandemic, exceeding those in all the other countries. The *Southeastern (SE)* countries, with the exception of Croatia, also show URs below the EU average and Croatia – while above the EU average – experienced strong declines in the UR prior to the pandemic. Finally, amongst the *Northern group (North)* Denmark was significantly below, while Sweden and Finland were at the EU average prior to the pandemic and they both experienced significant increases during the pandemic.

We shall cut short our discussion of activity rates (Figure 4), as the picture is mostly very consistent – i.e. a mirror image – of what we have seen with unemployment rates: in those countries that showed high unemployment rates (compared to the EU average), we also find low activity rates (see countries such as France, Belgium, Greece, Croatia, etc.) and those that showed relatively low unemployment rates also showed above EU average activity rates (Germany, Netherlands, Czechia, etc.). But there are also some exceptions to this relationship, such as countries with relatively high activity rates which also had relatively high or medium-high unemployment rates (examples are Sweden, Ireland, plus notice the strikingly high activity rates in the Baltics). Italy, Greece, Croatia, France and Belgium stick out with particularly low activity rates and high unemployment rates, while Hungary is again an exceptional case, showing an unemployment rate around the EU average together with a very low activity rate which seems to reflect to some extent the particular labour market policy in place in this country (i.e. enforced public work schemes bringing down the unemployment rate, but people escaping into inactivity or non-registered employment).

The age group that suffered the most in the Great Recession was young people, so it is important to examine what happened to them in the Covid-19 recession. Figure 5 provides relevant information on those young people who were not in employment, education or training (NEET) – a measure often used as it better characterises the situation of the young than the unemployment rate because of the structural shifts regarding participation in higher education and training. Trends are worrying, albeit to different degrees. Almost all countries and particularly those that came out of the Great Recession with high NEET levels (Southern Europe and some CEE) saw substantial improvements in the years up to 2019. In 2020 the situation deteriorated in many countries and in some quite markedly, including in Spain, Italy, the Baltic countries, Bulgaria, Hungary, but also in France and Ireland. Fortunately, they are still far away from the levels of 2013. But these increases signal a serious risk and need for action.

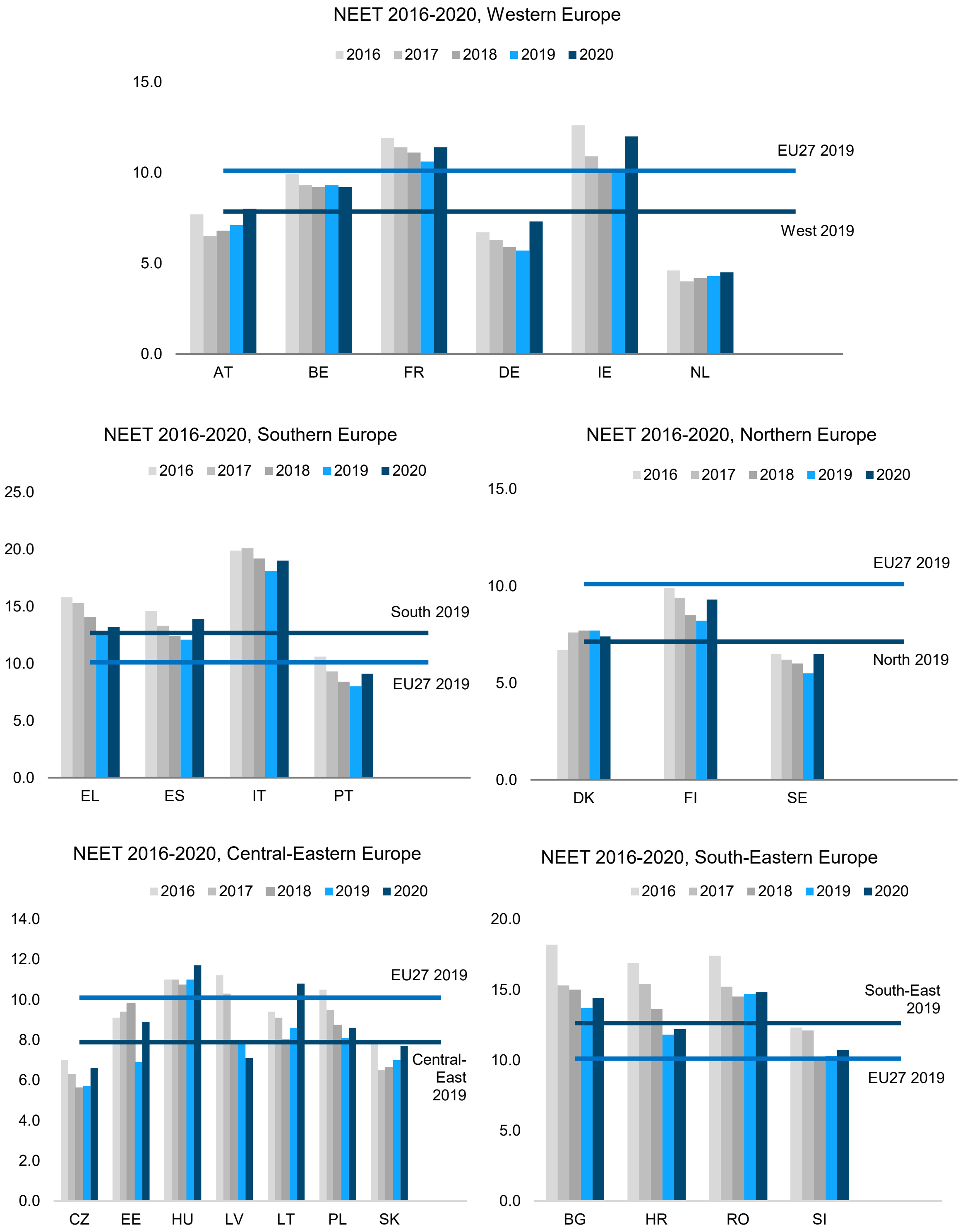
1 See e.g. https://www.tarki.hu/sites/default/files/2020-10/115_145_Hars_web.pdf

Figure 4 / Labour market indicators 2016-2020, total population 15-64 years old, activity rates



Source: Eurostat.

Figure 5 / Not in Employment, Education or Training (NEET) rate, 15-24 years old



Source: Eurostat.

To summarise: we have seen interesting differences in how the EU as a whole shows much shallower responses in labour market variables than the US, both in the previous financial crisis as well as during the pandemic. The changes in unemployment rates and activity rates during the pandemic in the EU have not been dramatic (more in the decimals or around 1 percentage points), but developments so far reflect the importance of massive government support measures (including support at the EU level) which are going to be phased out during the latter half of 2021 and in 2022 with the recovery setting in. So, in pure aggregate terms, it is too early to assess the longer-term labour market impact of the pandemic on EU economies. There are potentially worrying signs that due to longer-term structural developments which have become more apparent during the pandemic, reabsorption into full employment might not be straightforward. Particular emphasis needs to be put on the labour market prospects of the younger age cohorts, whose educational and training processes were interrupted and whose job prospects remain insecure. The same goes for those groups which work(ed) in occupations that might be strongly impacted by longer-run shifts in technology (digitisation, robotisation, artificial intelligence), changes in work organisation and shifts in demand patterns. It is these interesting structural features which we turn to with a more detailed examination of labour force statistics (LFS) in the next section.

2. CHANGES IN THE EMPLOYMENT STRUCTURE POSE LABOUR MARKET CHALLENGES

The overall impact of the pandemic on labour markets in the EU as reported in the previous section has not uniformly affected occupations and sectors. Employment in some sectors has actually increased, in others there was little change and in a considerable number employment fell. This resulted in a net aggregate decline that was moderated by the massive use of job retention measures in most EU countries.

In the following we look at how jobs in major occupations in the major economic sectors have fared during the pandemic against their performance in previous years (Tables 1). We shall exploit here the detailed information contained in the LFS provided by Eurostat[2]. The focus is on those sectors and occupations employing a large number of people and where the impact of the pandemic crisis therefore might have significantly affected particular groups of employees and thus overall employment. So the emphasis is on the impact of the pandemic both at the sectoral and occupational levels, and then looking at the intersection between the two. The impact of the pandemic has to be seen against the background of longer-term (absolute and relative) patterns of sectoral and occupational employment growth and decline. Employment structures do change on a continuous basis due to changes in technology, work organisation and the associated changes in skills demanded, as well as changing patterns of demand for the goods and services supplied by the different sectors of the economy. A shock such as the current epidemic interrupts these trends in an ‘unusual’ manner – due to lock-downs, sudden changes in demand, heavy policy interventions to support jobs and to keep essential activities going or even expanding certain activities due to special needs caused by the pandemic (such as in the health or IT sectors).

2 https://ec.europa.eu/eurostat/web/lfs/data/database

Table 1 / Share in total employment, %

Selected occupations and activities	European Union			Western Europe			Northern Europe			Southern Europe			Central and South-Eastern Europe			Austria		
	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020
Services and Sales Workers	16.7	16.5	15.7	17.1	16.4	15.8	20.1	18.4	17.6	18.5	19.8	18.9	14.9	15.0	14.6	17.8	17.6	16.9
Wholesale, retail trade, and repair.	6.4	6.1	5.8	5.2	5.0	4.9	5.5	4.7	4.4	7.4	7.2	7.1	7.2	6.8	6.8	7.0	6.2	6.3
Accommodation and food service activities	2.5	2.8	2.4	2.0	2.2	2.0	1.6	1.7	1.5	4.0	4.9	4.2	1.9	2.1	1.8	3.5	3.5	2.8
Health and Human Services	2.5	2.3	2.3	4.3	3.6	3.5	7.6	6.5	6.5	1.7	2.0	2.0	0.9	1.1	1.1	2.2	2.6	2.7
Craft and Trade related workers	12.7	11.8	11.3	9.2	9.2	8.9	10.5	8.9	8.8	14.0	11.8	11.9	15.4	15.1	14.9	13.7	12.9	12.6
Manufacturing	5.4	5.0	4.8	2.8	2.8	2.7	3.7	2.6	2.6	5.8	5.2	5.1	7.5	7.4	7.0	5.4	5.1	4.8
Construction	4.2	3.8	3.6	3.6	3.4	3.3	4.2	4.0	3.9	5.0	3.9	4.0	4.6	4.5	4.6	4.8	4.3	4.4
Wholesale, retail trade, and repair.	1.3	1.4	1.3	1.3	1.4	1.3	1.2	1.1	1.1	1.7	1.4	1.5	1.2	1.3	1.3	1.6	1.5	1.5
Professionals	16.8	19.3	20.9	18.2	21.6	22.8	24.2	28.3	29.7	14.9	17.2	18.0	15.5	18.1	18.8	14.2	20.1	20.5
Manufacturing	1.4	1.6	1.8	1.3	1.4	1.5	1.6	1.8	2.0	0.8	1.0	1.1	1.2	1.6	1.7	1.0	1.6	1.5
Information and Communication	1.3	1.7	1.9	1.5	2.0	2.1	2.3	3.1	3.3	0.8	1.2	1.3	1.0	1.7	1.8	1.1	1.6	1.7
Professional, scientific, technical activities	2.3	2.8	3.0	2.1	3.1	3.3	3.3	4.0	4.2	2.6	3.2	3.3	1.6	2.0	2.2	1.9	2.7	2.8
Public administration	1.3	1.3	1.5	1.4	1.3	1.5	1.7	2.4	2.5	1.0	1.1	1.1	1.4	1.5	1.5	1.0	1.3	1.5
Education	4.8	4.8	5.3	5.0	4.9	5.2	6.3	6.5	6.6	5.1	5.4	5.6	4.6	4.6	4.7	4.6	4.7	4.8
Health and human services	2.8	3.2	3.4	3.4	3.8	4.0	5.1	5.6	5.6	2.5	2.9	3.1	2.3	2.5	2.5	1.9	4.6	4.5
Technicians and Associated Professionals	15.8	16.7	16.2	18.4	18.0	18.1	16.6	18.5	18.8	13.5	13.8	14.1	11.8	12.3	12.6	18.6	17.2	18.0
Manufacturing	2.6	2.6	2.8	2.9	2.4	2.4	2.3	2.4	2.5	2.4	2.7	2.8	2.1	2.4	2.5	3.1	3.1	3.0
Wholesale, retail trade, and repair	1.7	1.6	1.7	2.0	1.6	1.5	2.2	2.6	2.6	1.7	1.7	1.7	1.6	1.5	1.5	1.8	1.9	1.9
Professional, scientific, technical activities	1.3	1.3	1.3	1.5	1.4	1.4	1.9	2.1	2.2	1.5	1.4	1.4	0.8	0.9	0.9	1.7	1.9	1.8
Public administration	1.9	1.8	1.7	2.0	2.0	2.1	1.6	1.5	1.6	1.1	0.9	1.0	1.6	1.5	1.5	2.0	1.9	2.1
Education	0.5	0.7	0.4	0.4	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5
Health and human services	3.0	3.3	3.0	3.4	3.5	3.6	2.4	2.6	2.7	1.9	2.0	2.1	1.5	1.6	1.7	3.7	2.1	2.3
Clerical Support Workers	9.9	9.4	9.5	10.2	8.7	8.7	7.0	6.0	5.9	11.1	10.9	11.1	6.6	6.6	6.6	11.0	9.7	9.5
Elementary Occupations	9.3	8.9	8.4	9.5	9.1	8.7	6.7	6.6	6.3	11.1	11.1	10.7	8.2	7.8	7.4	8.6	8.2	8.0
Managers	5.4	5.2	5.1	7.2	7.0	7.1	4.6	4.7	4.5	4.6	3.9	3.9	5.3	5.1	5.1	5.0	4.7	5.1

Source: Eurostat; Labour Force Statistics; own calculations.

Table 1(a) / Changes in employment, thousand persons

Selected occupations and activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Services and Sales Workers	1863.2	-2161.4	222.7	-340.3	-13.1	-111.9	1063.3	-649.8	529.1	-261.5	43.5	-40.2
Wholesale, retail trade, and repair.	206.9	-761.1	53.9	-65.1	-44.6	-32.0	68.8	-141.6	51.8	-63.5	-14.2	3.3
Accommodation and food service activities	787.4	-737.5	160.2	-132.4	26.6	-26.8	526.3	-382.2	109.3	-135.0	6.8	-28.6
Health and Human Services	16.8	-158.0	-177.9	-75.4	-46.9	-13.7	186.3	-22.2	132.2	-8.2	25.3	1.6
Craft and Trade related workers	-15.5	-1358.4	258.3	-149.3	-78.2	-26.4	-835.0	-124.2	361.8	-155.9	7.5	-23.0
Manufacturing	-16.7	-510.7	72.5	-57.2	-77.3	-7.6	-163.5	-103.1	186.0	-180.4	3.7	-17.7
Construction	-296.6	-455.0	23.6	-43.6	9.4	-12.9	-480.0	-12.9	124.8	28.9	-6.1	-0.4
Wholesale, retail trade, and repair.	236.1	-264.4	88.2	-41.8	2.1	-3.1	-89.2	7.5	98.9	-11.4	3.2	-2.7
Professionals	7057.5	2670.9	2187.9	526.0	635.1	106.9	1539.5	202.6	1699.1	195.8	299.2	7.6
Manufacturing	620.4	409.8	83.2	58.2	35.2	16.8	137.6	25.8	224.4	11.7	28.8	-1.6
Information and Communication	1015.5	322.9	258.6	58.0	102.1	22.7	194.7	29.1	345.2	71.0	27.6	2.5
Professional, scientific, technical activities	1398.0	169.9	539.6	72.4	95.2	21.1	334.2	28.5	266.1	72.3	40.7	3.2
Public administration	298.8	278.2	18.9	58.2	83.2	10.9	51.5	4.5	98.0	9.5	19.5	4.5
Education	695.6	878.2	131.7	118.7	72.7	9.4	277.4	4.5	181.6	2.8	20.9	-1.2
Health and human services	1091.1	343.1	326.6	71.5	96.0	-1.3	251.0	73.6	176.6	-10.2	122.5	-7.8
Technicians and Associated Professionals	3747.1	-1452.0	417.3	-4.3	338.1	13.2	489.6	-17.8	610.7	58.5	-5.8	25.4
Manufacturing	413.5	171.8	-123.6	-34.3	35.7	6.9	180.7	21.5	199.3	22.0	9.7	-4.9
Wholesale, retail trade, and repair	47.9	-30.8	-120.8	-22.3	56.2	-3.5	5.0	-26.1	17.7	-17.7	8.1	-2.2
Professional, scientific, technical activities	313.9	-129.9	14.3	-12.6	45.4	2.1	0.1	-13.3	63.8	0.8	14.0	-4.1
Public administration	138.4	-326.5	67.6	38.7	7.2	5.1	-86.1	7.8	41.8	-2.7	0.9	5.0
Education	575.5	-628.9	155.4	-5.6	6.3	0.0	19.2	7.4	1.5	6.3	3.7	-1.0
Health and human services	1008.9	-575.2	183.8	2.7	44.1	2.2	120.6	2.7	86.4	37.9	-58.6	7.8
Clerical Support Workers	427.2	-29.5	-379.4	-29.4	-50.4	-18.1	138.9	-20.2	190.1	-8.9	-23.5	-15.1
Elementary Occupations	486.9	-1202.0	118.0	-200.9	38.4	-38.1	246.7	-334.2	58.8	-198.7	12.2	-16.0
Managers	189.5	-360.2	124.7	75.6	43.8	-25.0	-247.3	-37.5	69.2	-0.3	2.1	11.3

Source: Eurostat; Labour Force Statistics; own calculations.

Table 1(b) / Changes in employment, annual growth rate in %

Selected occupations and activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Services and Sales Workers	0.7	-6.5	0.4	-4.3	-0.1	-5.7	1.4	-6.3	1.0	-3.7	0.7	-5.2
Wholesale, retail trade, and repair.	0.2	-6.2	0.3	-2.7	-1.1	-6.5	0.2	-3.8	0.2	-2.0	-0.6	1.2
Accommodation and food service activities	1.9	-13.3	2.1	-12.4	2.0	-14.8	3.0	-15.1	1.5	-14.2	0.6	-19.0
Health and Human Services	0.0	-3.4	-1.2	-4.3	-0.8	-2.0	2.5	-2.1	3.8	-1.6	3.2	1.4
Craft and Trade related workers	0.0	-5.7	0.8	-3.4	-1.0	-2.8	-1.6	-2.0	0.7	-2.2	0.2	-4.1
Manufacturing	0.0	-5.1	0.7	-4.3	-3.0	-2.7	-0.7	-3.8	0.7	-5.3	0.2	-7.9
Construction	-0.5	-6.0	0.2	-2.7	0.3	-3.0	-2.6	-0.6	0.8	1.4	-0.4	-0.2
Wholesale, retail trade, and repair.	1.1	-9.7	1.8	-6.5	0.2	-2.7	-1.4	1.0	2.3	-1.9	0.6	-4.0
Professionals	2.6	6.9	3.0	5.1	3.0	3.6	2.4	2.3	2.9	2.3	5.4	0.9
Manufacturing	2.8	12.9	1.7	8.7	2.6	8.9	3.9	4.9	4.5	1.6	7.2	-2.4
Information and Communication	4.6	9.6	4.1	6.2	4.8	7.0	4.9	4.8	7.7	9.2	6.3	3.5
Professional, scientific, technical activities	3.6	3.0	5.8	4.9	3.3	5.0	2.9	1.7	4.2	7.6	5.4	2.7
Public administration	1.5	10.5	0.4	9.0	5.1	4.3	1.2	0.8	1.9	1.4	5.2	7.7
Education	0.9	9.2	0.7	5.0	1.4	1.4	1.3	0.2	1.1	0.1	1.3	-0.6
Health and human services	2.4	5.4	2.5	3.9	2.2	-0.2	2.3	4.9	2.1	-0.9	12.6	-3.9
Technicians and Associated Professionals	1.5	-4.4	0.6	0.0	2.4	0.7	0.9	-0.2	1.4	1.0	-0.1	3.4
Manufacturing	1.0	3.3	-1.3	-3.0	1.9	2.7	1.8	1.6	2.5	2.0	0.9	-3.6
Wholesale, retail trade, and repair	0.2	-0.9	-1.8	-3.0	2.9	-1.3	0.1	-3.0	0.3	-2.6	1.3	-2.7
Professional, scientific, technical activities	1.6	-4.8	0.3	-1.9	2.8	0.9	0.0	-1.8	2.1	0.2	2.4	-5.0
Public administration	0.5	-9.0	0.9	4.1	0.6	3.1	-2.0	1.6	0.8	-0.4	0.1	6.0
Education	6.5	-43.3	8.2	-1.7	1.6	0.0	1.7	4.8	0.2	5.1	2.1	-4.2
Health and human services	2.1	-8.8	1.4	0.2	2.2	0.8	1.5	0.3	1.6	5.1	-6.1	8.7
Clerical Support Workers	0.3	-0.2	-1.1	-0.7	-1.0	-2.9	0.3	-0.4	0.8	-0.3	-0.7	-3.6
Elementary Occupations	0.3	-6.7	0.3	-4.6	0.7	-5.5	0.5	-5.8	0.2	-5.5	0.4	-4.5
Managers	0.2	-3.5	0.5	2.3	1.2	-5.1	-1.4	-1.9	0.4	0.0	0.1	5.5

Source: Eurostat; Labour Force Statistics; own calculations.

There is the interesting question which, given the limitations of the data series so far, cannot be answered yet, namely whether the pandemic will have a longer-term ‘shift effect’ on employment patterns. Such an impact can be the result of an ‘irreversible’ or only ‘partially reversible’ change in work organisation (e.g. due to an epidemic-induced jump in digitisation, affecting work-from-home) which will differentially impact various occupational groups in different sectors of the economy. Hence, there can be two types of ‘hysteretic’ effects: on the one hand, the medium- to longer-term impact of a ‘labour market shock’ of a more traditional type, which makes a return to employment for workers who have either been made redundant (or were ‘under-utilised’) during a crisis or have become inactive, return to active labour market participation and employment after a period of absence. On the other hand, there are the epidemic-induced changes in technology, work organisation and even international supply lines, which can change longer-term demand for particular occupations in particular sectors – both upwards and downwards.

In the following, we shall continue to look at the different groups of countries (or regions) in the European economy – introduced in section 1 - in order to point to distinct and differentiated patterns regarding the structural impact of the pandemic on employment. As before, we distinguish Southern (SE), Central-Eastern European and Southeastern (CEE and SEE), Northern (North) and Western European (WE) groups of economies in the EU. Unfortunately, Germany cannot be included in the following analysis, as Eurostat reported a break in the time series during the Covid crisis due to discontinuity in sample coverage during the pandemic.

We shall expect to find occupations in dynamic sectors that seem to see continued employment growth over the whole period including the pandemic. Conversely, there might be some jobs that show continuous decline in sectors of shrinking activity. And there will be those sectors in which employment might have displayed growth up to 2019 but then declined sharply during the pandemic year. If these declines are strong and when even a reversal of the trend is unlikely to restore previous levels, then labour market policy has a particularly marked challenge, as this was almost impossible to anticipate. In the following we refer to employment patterns as depicted in Tables 1, 1a and 1b. Table 1 gives the shares of the different occupation-sector combinations in total employment (of the respective country group), Table 1a shows the changes in employment in absolute numbers (in 000’s) for the periods 2011-2019 and for 2019-to-2020. Table 1b allows us to compare per annum growth rates over the period 2011-2019 and 2019-to-2020.

Growing numbers of professionals, technicians and similar occupations

The employment of professionals, technicians and associated professionals continued to grow during the pandemic period in most sectors, in particular in Health and Human Services, Education, Professional, Scientific and Technical Activities as well as Information and Communication. Technicians and associated professionals saw in some regions and sectors increases but in others the reverse happened, in particular in wholesale and retail trade. Manufacturing saw an overall decline in employment in all regions except CEE, where the employment of professionals, associated professionals and technicians in manufacturing grew relatively strongly. It is interesting to note that the number of professionals in Education increased in the West and North but hardly so in the South and the CEE region, while Health and Human Services saw moderate increases in Western and Southern Europe and small declines in CEE and Northern Europe. Associated professionals and technicians, on the other hand, increased somewhat more strongly in the latter two. Employment growth in these two occupational groups continued on a positive trend from previous years.

Employment declines in several occupations

The occupations that suffered greatly in the pandemic recession are Services and Sales Workers, Elementary Occupations, Craft and Trade related Workers and Plant and Machine Operators with differences by sector and region. The most dramatic development was observed for *Services and Sales Workers* in Accommodation and Food services, with declines between 2019 and 2020 of over 10% in all four regions, following relatively strong employment expansion in earlier years in all but the North. The employment of Services and Sales Workers in Wholesale and Retail Trade declined at rates of 2% to 6% in all regions, continuing an earlier decline, except in the South where employment had increased in earlier years. The employment of services and sales workers in Health and Human Services declined during the pandemic, reversing a positive trend in most regions except the North. So overall, Services and Sales Workers, the majority of which are women (see Annex Table 2a), faced a considerable decline in jobs, in some cases even following recent increases.

The employment of *Craft and Trade related Workers* and *Plant and Machine Operators* in Manufacturing declined between 3 – 7 % in 2019/2020 in the four regions following increases in CEE, the West and the South and following a continuing decline in the North in previous years. Trends in the transport sector are similar. In construction, employment in the CEE region continued to increase in 2019-2020, declining everywhere else. The declines in employment for these workers appear more moderate than for Services and Sales Workers. Needless to say, the vast majority of the workers in these occupations are men (See Annex Table 2b).

Elementary occupations (spread across many sectors), another significant group in European labour markets, also saw strong declines in employment, affecting women somewhat more strongly than men. In the West about 1.8m male workers were counted in this group in 2020 and the decline amounted to about 20,000, while in these occupations there were 2.5m women employed and the decline was more marked at about 160,000. In the CEE region 3.6m men and 1.8m women were in this group and the decline was about 200,000 for men and 120,000 for women. In the South there were 2.6m men and 2.9m women and the decline was about 130,000 for men and 200,000 for women. In the North this group is declining as well but proportionally to a smaller extent.

Clerical Support Workers is an occupational group of a size comparable to workers in elementary occupations (about 4m in the West, 3m in CEE, 5.7m in the South and 0.6m in the North) with roughly 1/3 male and 2/3 female workers. Contrary to what one might expect given the acceleration in digitisation in the pandemic period, employment changed very little for women in CEE, the South and North while in the West men were somewhat more affected.

Impact on total regional employment depends on employment shares

The changes in employment in these groups of occupations and sectors appear fairly similar across the four regions in terms of employment growth or decline. However, their actual impact on total employment and labour market prospects is somewhat different due to the importance of those groupings in total employment (see Table 1). For example, the employment share in total employment of Services and Sales Workers in Accommodation and Food Services was 1.7% in the North and 4.9% in the South and in Wholesale and Retail Trade 4.7% in the North, 4.9% in the West but 6.9% in CEE and 7.2% in the South. Craft and Trade related Workers amount to 7.4% of total employment in CEE and 5.2% in the South, but 2.6% in the North and 3.3% in the West. Clearly, employment declines have different impacts under these circumstances. On the other hand, the employment share of Professionals in Health and Human Services varies between 2.5% (CEE) and 5.6% (North), in Education (4.7% and 6.5%) and in Professional, Scientific and Technical Activities between 2% and 4%. Hence, regions/countries where expanding occupations have higher shares will more easily recover from the employment shock of 2020 than those where shrinking occupations are more important.

The occupations that declined most strongly are in regions typically populated by workers classified as low- or mid-level educated (i.e. only completion of compulsory and secondary schooling) while those that increased (professionals and technicians of different sorts) are classified as higher educated. This will likely contribute to further labour market polarisation.

As mentioned earlier on, another question is how likely it is that declines in some of the occupations will be only temporary. For example, will the employment levels of service/sales workers in retail or of workers in manufacturing return to pre-pandemic levels when restrictions are removed? A recent study reports that in Southern Europe a considerable number of enterprises, in particular in the accommodation and food services sector, as well as the travel business and non-essential food retail, are unlikely to survive and their workforce will lose their jobs for good[3].

We would argue that in some sectors employment declines were so massive that a full recovery is unlikely, in part due to structural shifts in demand and production processes that will persist beyond the pandemic. Consequently, there is a risk of permanent job losses which would be particularly worrisome in those countries where employment in those occupations and sectors had increased in the recent past, so that workers and policy makers might have expected positive job prospects. For example, services and sales workers in Food and Accommodation Services increased in the South by half a million between 2011- 2019 but declined in 2020 by almost 400,000.

One should also not forget that the declines currently visible in employment are only an indication of what might develop over the coming period as job retention measures have kept many workers in employment. Eurostat reports that in mid-2020 in particular in Western and the Southern Europe, up to 30% of all jobs were financially supported by state programs[4]. Towards late spring 2020 a very high proportion (60-80%) of jobs in hotels and restaurants and construction were receiving support in countries like Belgium, Croatia, France and Italy, in Spain around 50% and in Germany around 30%; for manufacturing the shares of supported jobs reached up to 40%, which qualifies the numbers reported above. By autumn support had declined substantially and only a few countries saw an increase towards the end of the year but no longer to the levels of May or June 2020. Information from the same source available for early 2021 shows that in France supported employment was around 9% of the total compared to over 30% a year earlier, in Belgium 6% as compared to 26% and in Germany 7% compared to 18%. Clearly, these programs helped companies to retain their workforce when activity returned and helped workers, who would otherwise have been redundant, to keep their employment

3 A. Webster, S. Khorana, and F. Pastore, 2021, The Labour Market Impact of COVID, DP 14481; IZA.

4 All the following numbers come from Eurostat´s database on job retention measures Job_benefiting_from_Covid19_governmental_support_measures. The source is very interesting but based on reports by countries using administrative data and does not cover the same number of months for all the countries.

contracts and avoid open unemployment. Even for those who might not be able to continue working for their employer, these programs are extremely useful as it is far easier to find a new job while still in employment. This is also why the EU decided to sponsor such programs across the whole EU with the SURE program[5]. The first implementation report of SURE[6] estimates that in the beneficiary countries (CEE, Southern European countries as well as Belgium) 25-30m workers, or 25% of total employment, received support. A crucial question presented to policy-makers now is how these job retention programs should evolve in response to the emerging situation of economic recovery and rising employment. We will discuss this question in the next section on policy issues.

Summary

The pandemic period saw sharp declines in the employment of sales and services workers in retail trade and accommodation and food services as well as for plant and machine operators and craft and trade related workers in manufacturing, construction and transport across the whole EU. In the South and to some extent in the CEE region the share of workers in these occupations in total employment is often substantially higher than in the West and the North. The declines in 2019/2020 followed a positive employment trend in previous years in Southern and CEE countries, while in the North and the West these declines continued a previous trend. On the other hand, the employment of professionals, technicians and associated professionals continued to grow in Southern and CEE Europe from a smaller base, and in the North and West from a larger base.

3. POLICY MEASURES NEEDED

Let us first summarise some of the main features of labour market developments during the pandemic:

› While employment declined massively in the spring of 2020 and recovered somewhat thereafter, this recovery slowed in autumn 2020 (with a new bout of infections) and strengthened again in spring 2021 and thereafter following vaccination programs in EU countries. Unemployment rose during the pandemic but much less than expected given the massive decline in economic activity. This is much more reflected in hours worked, whereas employment levels held up largely due to job retention programmes subsidised by public schemes including the major EU loan facility SURE.

› Unemployment increases were substantially higher for lower educated workers, the young and those with previously precarious employment relations.

› Those working in lower-paying service and production occupations have suffered the greatest job losses. Professionals and technicians have continued to experience employment growth. They are better paid and have higher educational levels. This could lead to further labour market polarisation.

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5 European instrument for Temporary Support to mitigate Unemployment Risks in an Emergency (SURE) https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/financial-assistance-eu/funding-mechanisms-and-facilities/sure_en);

6 COM(2021) 148 final REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE ECONOMIC AND FINANCIAL COMMITTEE AND THE EMPLOYMENT COMMITTEE Report on the European instrument for Temporary Support to mitigate Unemployment Risks in an Emergency (SURE) following the COVID-19 outbreak pursuant to Article 14 of Council Regulation (EU) 2020/672 SURE: Taking Stock After Six Months https://ec.europa.eu/info/sites/default/files/economy-finance/com2021_148_en_act_part1_v6.pdf

- Women are over-proportionately represented in the heavily affected services occupations while men are heavily affected by the job declines in production occupations.
- While all EU states have endured substantial employment disruptions, those in Southern Europe saw stronger employment declines because occupations and sectors that suffered most from the pandemic and the related lockdowns are more strongly represented in total employment.
- While some of these services jobs in particular in southern Europe are already returning, it would be risky to assume that employment in these occupations and sectors will return to previous levels. Some shifts in sectoral and occupational composition are likely to be permanent and will lead to a wave of labour market transitions. Northern and to some extent Western Europe might be able to recover more quickly from the employment disruptions but they will also see permanent employment shifts.

Against these broad trends we would draw the following policy conclusions:

Firstly, policy needs to address the danger of a lasting gap in the overall level of employment which could be more apparent in some European country groups than in others, as the number of newly created jobs will be insufficient to replace job losses in declining sectors and occupations. And while we see a great potential for reskilling efforts, training is not the answer to all challenges. What some of the workers losing their jobs need most is new employment at their existing educational levels. It would be incorrect to say that such jobs cannot exist. Many of the areas where public investment is needed can create exactly such jobs – be it in green economic activities or in care services. Recovery programs (partly financed by national governments and partly coordinated through the EU recovery program) should tailor these programs to address these labour market needs, while also following the other aims enshrined in these programs (such as the European Green New Deal, the Digitisation agenda and European-wide infrastructure programs). Public funding of such activities should, however, require that the jobs created pay decent wages and allow workers to build on the skills they have rather than lock them into short term contracts offering low wages and little development potential. Whether one calls such an effort a public job guarantee or not is less relevant than the fact that public investment is combined with requirements concerning employment generation, decent pay and career development.

Secondly, policy needs to support workers to move from declining occupations and activities to more dynamic ones which policy measures can support in many ways. Placement services and reskilling in the broad sense should play an important role[7]. A specific challenge relates to transforming job retention into programs that help workers move into new jobs[8]. Training is an important ingredient for such a transformation and it can take a wide variety of forms. Some workers might want to go back to college to reach a higher educational level, others might want to acquire specific competences in a variety of training institutions related to the changing needs of our societies and a third group will prefer to acquire new skills in on-the-job training programmes. Policy should be as open as possible and respect largely the preferences of workers. As mentioned before, training is not the answer to all problems and

[7] The French Finance Ministry recently published an interesting analysis of shrinking and expanding occupations/sectors, identifying similar groupings as in this paper. It added that the skill composition of shrinking and growing occupations is of course different but there are also substantial overlaps (“skill proximity”) that could facilitate quicker job change. Unsurprisingly, this is less the case for lower skilled than for higher skilled professions. France is developing ambitious programmes to encourage occupational mobility guided by the Career Choice Act 2018. See “The Skills and Intersectoral Labour Reallocation in the aftermath of the COVID-19 Crisis” Rédigé par DG Trésor • 24 juin 2021

[8] For a discussion of short time work in the Pandemic see for example Fischer, Schmid (2021), Unemployment in Europe and the United States under COVID-19: Better constrained in the corset of an insurance logic or at the whim of a liberal presidential system? Social Science Center Berlin Discussion Paper EME 2021-20.

programs that accelerate employment growth for those hit hardest by the crisis and by accelerated structural and workplace changes, need direct support through job creation. Furthermore, employment subsidies should be considered. If such subsidies are well targeted, one needs to be less worried about substitution effects, as pushing the relative position of the more disadvantaged is a justified objective under the present circumstances.

Wage subsidies are often criticised because of high deadweight effects. In this respect marginal employment subsidies would be preferable even though deadweight will not be zero either. Such subsidies have the advantage that they will normally boost employment of the more successful rather than the declining ('zombie') firms. One option for supporting job transition is to complement or replace short time work schemes with what is called "wage insurance": a temporary supplemental benefit for a worker who accepts a job remunerated below his or her previous wage level. A central question is whether such a scheme aims at getting workers to adjust to a lower standard or whether there is a commitment that workers will reach the standard wage when the supplement expires, assuming workers will catch up with the job-related productivity level in the firm.

Thirdly, labour market integration of young people is a top priority, as demonstrated by the increase in the rates of young people not in employment, education or training (NEET). Two factors make this easier than in the aftermath of the Great Recession: demographic development and a (hopefully) more sustained recovery. Nevertheless, reversing the labour market exit of young people and ensuring rapid integration are important as even relatively short periods of inactivity can have a negative impact on their professional career. All EU countries have committed to reinforcing the Youth Guarantee – within four months of young people leaving education or becoming unemployed, offering them options of continued education, an apprenticeship, traineeship or an employment opportunity of good quality. The latter element is important as short-term jobs with no development potential can do more harm than good; hence assuring quality is essential. The latter years of the 2010s have also shown positive developments in countries that typically struggle with youth integration, and recent national policy efforts should help.

We listed above different instruments at the disposal of public policy to accelerate labour market adjustment and job creation for those who suffered greatly in the pandemic, i.e. the workers who will need to change jobs and the young. However, the impact depends largely on how these instruments will be used in practice. The focus should be to help "everyone ... to manage successfully transition in the labour market" (EPSR principle 1) rather than on getting somebody off the register or into any job. The transformation of the large number of job retention schemes into more forward-looking programs could then become a step towards an "employment" or "work life" insurance.

Fourthly, albeit outside of the scope of this analysis, there is a *substantial social protection challenge* resulting from higher levels of unemployment and inactivity. Regular Reviews carried out by the DG EMPL together with EMCO and SPC [9] have shown that income support for the unemployed and those in poverty is often inadequate and this has become particularly visible for low-income households[10].

9 See for the most recent analysis: pp 88, 89, 106 and 107 in "Joint Employment Report 2021 adopted by the Council 9 March 2021;

10 EUROSTAT has published first estimates on the monetary poverty of households of working age for 2020 compared to 2019. They show that public measures have reduced major employment income losses, in particular for lower income

While most of the policies and instruments are the responsibility of national authorities, we see an important role for the European Union in coordinating and supporting member states' efforts and we feel encouraged by the positive experience of EU support during the pandemic:

› In the social field, a number of instruments have been developed over time including the Youth Guarantee – a program that combines a fairly strict commitment by member states to act with financial aid, reinforced in 2020[11].

› The SURE (Support to mitigate Unemployment Risks in an Emergency) program broke with several traditional limits of cooperation in this area: the size of EUR 100bn for a relatively short period of 1½ -2 years equals roughly the total of the main stream program ESF+ for 7 years; it is funded in the global capital market and is used as an "EU backstop for people" in addition to the ones that offer a "backstop for banks" (Spanish Deputy Prime Minister Calvino). The SURE programme funded national job retention schemes in particular in those economies that were facing the greatest challenges and often also had the least fiscal space. This is achieved through low-cost loans that are more attractive to countries with limited fiscal space.

› Several policy makers (including the Italian Prime Minister Mario Draghi) have asked to continue and extend the SURE programme to help national unemployment schemes to provide income support, job subsidies and training[12]. We think that this paper has provided additional evidence to extend and further develop this scheme as the employment losses are heavily concentrated in countries where public finances have been overburdened by the impact of the pandemic. Ensuring that these countries can respond adequately to employment losses and the challenges of rapid structural changes would be in the interest of all EU economies, as they are deeply interconnected[13].

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households. Nevertheless, disposable income poverty has increased in Portugal, Greece, Spain, Italy, Ireland, Slovenia, Bulgaria, Austria and Sweden. This increase is particularly marked in Greece, Cyprus and Italy. (https://ec.europa.eu/eurostat/statistics-explained/index.php?).

11 https://ec.europa.eu/social/main.jsp?catId=1079&langId=en

12 Fabio Panetta, a member of the executive board of the ECB, advocates that programs such as SURE … "could be extended and adapted to support various policy objectives in the recovery phase, first and foremost boosting human capital through measures such as on-the-job training and active labour market policies. This would, in turn, stimulate employment growth as the recovery picks up speed" ('After the crisis: Economic lessons from the pandemic'. Politico, 27th July, 2021).

13 For a discussion of why an EU level program to support national labour market schemes is in the common interest of the Union and the member states see for example: The US unemployment insurance scheme - A model for the EU?; Luigjes C., Fischer G, Vandenbroucke F, (2019), in: *Intereconomics* 54 (5)

4. ANNEX

Annex Table 2 / Share in total employment, %

NACE activities	European Union			Western Europe			Northern Europe			Southern Europe			Central and South-Eastern Europe			Austria		
	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020
Agriculture, forestry and fishing	5.6	4.3	4.3	3.0	2.4	2.3	2.7	2.3	2.3	5.2	4.7	4.6	13.0	9.3	9.3	4.9	3.7	3.9
Mining and quarrying	0.4	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	1.0	0.8	0.8	0.2	0.1	0.1
Manufacturing	16.6	16.3	16.4	12.7	11.6	11.4	12.9	10.9	11.0	15.6	15.5	15.6	19.9	21.0	20.4	15.8	15.9	15.6
Electricity, gas, steam and air conditioning supply	0.8	0.7	0.8	0.7	0.7	0.6	0.5	0.6	0.6	0.5	0.5	0.5	1.2	1.0	1.0	0.8	0.6	0.7
Water supply; sewerage, waste management, etc.	0.8	0.8	0.8	0.6	0.6	0.6	0.4	0.5	0.5	0.8	0.9	0.9	1.0	1.2	1.2	0.4	0.5	0.5
Construction	7.3	6.7	6.5	7.0	6.4	6.3	6.6	6.9	6.9	7.8	5.9	6.0	8.0	7.9	8.1	8.7	8.2	8.1
Wholesale and retail trade; repair of motor vehicles.	14.0	13.8	13.4	13.0	13.0	12.9	12.8	12.2	12.0	15.4	14.9	14.9	14.1	13.8	13.7	15.2	14.4	14.4
Transportation and storage	5.1	5.3	5.1	5.1	5.1	4.9	5.2	4.9	4.7	4.7	5.0	5.0	5.9	6.4	6.4	5.0	5.1	5.1
Accommodation and food service activities	4.4	4.8	4.2	4.1	4.3	3.9	3.2	3.5	3.0	6.4	7.5	6.6	3.1	3.3	3.0	6.0	6.2	5.3
Information and communication	2.8	3.1	3.4	3.1	3.3	3.5	4.1	4.7	4.9	2.5	2.8	2.9	2.1	2.7	2.9	2.5	2.9	3.0
Financial and insurance activities	2.9	2.6	2.7	3.4	3.3	3.5	2.4	2.2	2.3	2.7	2.4	2.5	2.2	2.1	2.1	3.7	3.0	3.3
Real estate activities	0.8	0.8	0.9	1.0	1.0	1.0	1.2	1.4	1.4	0.5	0.7	0.7	0.7	0.7	0.7	1.0	0.9	1.0
Professional, scientific and technical activities	4.8	5.5	5.6	5.4	6.2	6.4	6.7	7.5	7.9	5.3	5.7	5.9	3.1	3.7	3.9	5.2	6.2	6.4
Administrative and support service activities	3.8	4.2	3.9	3.7	4.4	4.2	4.0	4.4	4.3	4.0	4.5	4.3	2.5	2.8	2.7	3.5	3.6	3.4
Public administration and defence; compulsory social security	7.2	6.8	7.2	8.6	7.9	8.2	5.6	5.9	6.2	7.1	6.2	6.3	6.5	6.5	6.6	6.7	6.5	6.8
Education	6.9	7.2	7.4	7.0	7.5	7.7	9.4	9.7	9.7	6.8	7.1	7.3	6.8	6.9	7.0	6.3	6.9	6.7
Human health and social work activities	10.0	10.7	10.7	13.5	14.2	14.3	16.6	16.1	16.1	7.5	8.3	8.7	5.7	6.2	6.4	9.4	10.8	10.9
Arts, entertainment and recreation	1.5	1.6	1.6	1.6	1.8	1.7	2.4	2.6	2.5	1.4	1.6	1.6	1.3	1.5	1.5	1.7	1.7	1.7
Other service activities	2.4	2.4	2.6	2.5	2.4	2.4	2.6	2.7	2.6	2.6	2.7	2.8	1.6	1.8	1.9	2.5	2.6	2.9
Activities of households as employers etc.	1.4	1.1	1.0	1.5	0.8	0.7	0.1	0.1	0.1	3.1	2.8	2.6	0.2	0.2	0.2	0.2	0.1	0.1
Activities of extraterritorial organisations and bodies	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2

Source: Eurostat; Labour Force Statistics; own calculations.

Annex Table 2(a) / Share of females, %

NACE activities	European Union			Western Europe			Northern Europe			Southern Europe			Central and South-Eastern Europe			Austria		
	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020
Agriculture, forestry and fishing	37.8	33.5	33.0	31.0	29.2	30.1	22.8	23.2	23.4	33.1	28.1	27.6	42.8	38.4	37.6	44.0	40.9	41.2
Mining and quarrying	12.0	13.0	13.7	0.0	0.0	3.5	8.7	0.0	0.0	7.8	8.8	11.8	11.5	11.1	12.0	0.0	0.0	0.0
Manufacturing	30.1	30.0	29.7	27.8	27.6	27.4	25.5	26.1	26.3	27.7	27.9	28.0	36.9	35.9	36.0	26.6	26.3	26.4
Electricity, gas, steam and air conditioning supply	22.3	25.1	25.5	24.1	24.0	22.4	26.6	32.5	28.1	19.8	27.1	29.9	20.0	21.1	23.3	25.3	21.3	20.6
Water supply; sewerage, waste management, etc.	20.0	21.6	21.0	19.7	22.4	21.7	14.2	19.2	22.0	14.4	18.6	18.2	23.7	24.5	22.6	27.8	24.9	24.4
Construction	8.9	9.7	9.9	10.3	10.4	11.1	7.6	8.5	9.7	6.9	7.5	7.7	7.5	7.1	6.8	14.5	13.2	13.3
Wholesale and retail trade; repair of motor vehicles.	49.6	48.8	49.6	47.5	47.2	47.0	45.7	44.1	43.2	45.2	45.2	45.7	54.8	55.3	55.5	55.0	54.5	56.1
Transportation and storage	22.2	22.3	22.0	24.4	24.5	24.1	21.7	21.3	21.5	18.6	20.3	20.3	21.6	20.7	20.3	23.7	24.1	23.2
Accommodation and food service activities	55.3	53.9	53.0	51.5	51.0	50.9	59.3	54.1	53.8	52.7	52.1	50.7	62.0	61.8	61.4	61.8	60.7	60.6
Information and communication	32.3	30.3	30.2	30.4	29.7	29.0	29.4	28.1	30.0	32.5	30.8	32.0	34.1	29.6	29.9	27.6	34.9	31.7
Financial and insurance activities	52.6	52.7	52.6	52.5	51.6	50.9	53.6	48.7	49.3	45.8	48.2	48.2	64.9	62.9	62.0	45.4	50.6	50.8
Real estate activities	50.8	51.2	50.8	53.4	55.2	53.6	39.7	44.1	41.6	46.9	50.9	52.6	55.3	51.9	49.5	60.8	58.5	55.3
Professional, scientific and technical activities	47.6	48.4	48.6	45.2	45.6	46.3	42.5	42.8	41.6	46.2	48.3	48.4	53.4	54.7	54.7	52.7	47.3	48.2
Administrative and support service activities	49.1	48.7	48.6	49.9	49.1	48.3	47.0	46.1	45.2	55.9	52.5	52.7	39.2	41.7	42.1	59.7	57.3	56.4
Public administration and defence; compulsory social security	45.5	47.9	48.7	48.3	50.8	51.5	54.3	57.0	57.4	37.9	39.3	39.1	47.5	48.7	48.5	44.0	48.1	50.1
Education	71.2	72.1	71.5	67.0	68.0	68.2	67.6	68.7	67.8	71.8	71.5	71.0	77.4	78.5	78.2	70.7	71.1	70.6
Human health and social work activities	78.0	78.1	77.8	79.4	79.7	79.0	83.1	81.0	80.8	73.0	73.8	73.8	80.8	81.4	81.6	77.5	76.3	75.6
Arts, entertainment and recreation	48.4	48.2	48.2	48.8	48.0	47.0	51.1	54.1	54.6	41.5	41.7	42.0	53.4	53.9	54.0	46.4	45.1	45.6
Other service activities	66.3	66.5	63.1	69.5	68.1	67.8	64.6	65.8	64.2	63.0	64.2	63.7	64.2	67.1	68.9	72.5	69.1	68.4
Activities of households as employers etc.	89.0	88.9	88.4	84.3	90.5	89.0	71.1	71.4	79.2	91.1	89.0	88.7	89.1	83.2	91.3	100.0	100.0	100.0
Activities of extraterritorial organisations and bodies	45.2	53.3	51.3	46.7	52.3	54.5	.	.	.	41.5	49.8	49.4	0.0	52.9	60.0	0.0	0.0	51.9

Source: Eurostat; Labour Force Statistics; own calculations

Annex Table 2(b) / Share of males, %

NACE activities	European Union			Western Europe			Northern Europe			Southern Europe			Central and South-Eastern Europe			Austria		
	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020	2011	2019	2020
Agriculture, forestry and fishing	54.6	54.1	54.1	53.1	52.3	52.2	52.4	52.5	52.7	57.0	55.8	55.9	54.9	55.1	55.3	53.4	53.1	53.0
Mining and quarrying	62.2	66.5	67.0	69.0	70.8	69.9	77.2	76.8	76.6	66.9	71.9	72.4	57.2	61.6	62.4	56.0	59.1	58.8
Manufacturing	88.0	87.0	86.3	100.0	100.0	96.5	91.3	100.0	100.0	92.2	91.2	88.2	88.5	88.9	88.0	100.0	100.0	100.0
Electricity, gas, steam and air conditioning supply	69.9	70.0	70.3	72.2	72.4	72.6	74.5	73.9	73.7	72.3	72.1	72.0	63.1	64.1	64.0	73.4	73.7	73.6
Water supply; sewerage, waste management, etc.	77.7	74.9	74.5	75.9	76.0	77.6	73.4	67.5	71.9	80.2	72.9	70.1	80.0	78.9	76.7	74.7	78.7	79.4
Construction	80.0	78.4	79.0	80.3	77.6	78.3	85.8	80.8	78.0	85.6	81.4	81.8	76.3	75.5	77.4	72.2	75.1	75.6
Wholesale and retail trade; repair of motor vehicles.	91.1	90.3	90.1	89.7	89.6	88.9	92.4	91.5	90.3	93.1	92.5	92.3	92.5	92.9	93.2	85.5	86.8	86.7
Transportation and storage	50.4	51.2	50.4	52.5	52.8	53.0	54.3	55.9	56.8	54.8	54.8	54.3	45.2	44.7	44.5	45.0	45.5	43.9
Accommodation and food service activities	77.8	77.7	78.0	75.6	75.5	75.9	78.3	78.7	78.5	81.4	79.7	79.7	78.4	79.3	79.7	76.3	75.9	76.8
Information and communication	44.7	46.1	47.0	48.5	49.0	49.1	40.7	45.9	46.2	47.3	47.9	49.3	38.0	38.2	38.6	38.2	39.3	39.4
Financial and insurance activities	67.7	69.7	69.8	69.6	70.3	71.0	70.6	71.9	70.0	67.5	69.2	68.0	65.9	70.4	70.1	72.4	65.1	68.3
Real estate activities	47.4	47.3	47.4	47.5	48.4	49.1	46.4	51.3	50.7	54.2	51.8	51.8	35.1	37.1	38.0	54.6	49.4	49.2
Professional, scientific and technical activities	49.2	48.8	49.2	46.6	44.8	46.4	60.3	55.9	58.4	53.1	49.1	47.4	44.7	48.1	50.5	39.2	41.5	44.7
Administrative and support service activities	52.4	51.6	51.4	54.8	54.4	53.7	57.5	57.2	58.4	53.8	51.7	51.6	46.6	45.3	45.3	47.3	52.7	51.8
Public administration and defence; compulsory social security	50.9	51.3	51.4	50.1	50.9	51.7	53.0	53.9	54.8	44.1	47.5	47.3	60.8	58.3	57.9	40.3	42.7	43.6
Education	54.5	52.1	51.3	51.7	49.2	48.5	45.7	43.0	42.6	62.1	60.7	60.9	52.5	51.3	51.5	56.0	51.9	49.9
Human health and social work activities	28.8	27.9	28.5	33.0	32.0	31.8	32.4	31.3	32.2	28.2	28.5	29.0	22.6	21.5	21.8	29.3	28.9	29.4
Arts, entertainment and recreation	22.0	21.9	22.2	20.6	20.3	21.0	16.9	19.0	19.2	27.0	26.2	26.2	19.2	18.6	18.4	22.5	23.7	24.4
Other service activities	51.6	51.8	51.8	51.2	52.0	53.0	48.9	45.9	45.4	58.5	58.3	58.0	46.6	46.1	46.0	53.6	54.9	54.4
Activities of households as employers etc.	33.7	33.5	36.9	30.5	31.9	32.2	35.4	34.2	35.8	37.0	35.8	36.3	35.8	32.9	31.1	27.5	30.9	31.6
Activities of extraterritorial organisations and bodies	11.0	11.1	11.6	15.7	9.5	11.0	28.9	28.6	20.8	8.9	11.0	11.3	10.9	16.8	8.7	0.0	0.0	0.0

Source: Eurostat; Labour Force Statistics; own calculations

Annex Table 3(a) / Changes in employment, thousand persons

NACE activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Agriculture, forestry and fishing	-1786.5	-158.2	-173.2	-39.1	-12.8	-7.4	-142.0	-81.5	-1326.6	-61.7	-40.9	8.6
Mining and quarrying	-128.3	5.1	-3.4	0.1	0.4	-1.1	-26.3	10.8	-72.0	-2.0	-3.7	0.7
Manufacturing	1486.7	-307.1	-105.0	-118.6	-96.7	-6.5	261.5	-119.8	1106.5	-363.9	51.7	-22.6
Electricity, gas, steam and air conditioning supply	-44.7	79.0	29.3	-27.7	7.9	4.3	4.8	6.0	-47.3	28.1	-4.5	3.8
Water supply; sewerage, waste management, etc.	218.0	-5.4	23.5	-11.0	10.1	1.0	67.4	-8.0	91.5	7.1	2.8	0.0
Construction	-268.7	-600.7	-38.4	-53.8	85.7	-11.6	-794.5	-29.6	195.3	76.3	3.6	-9.5
Wholesale and retail trade; repair of motor vehicles.	1392.0	-1119.3	388.9	-52.5	46.9	-37.1	98.6	-200.3	298.5	-102.3	9.1	-6.5
Transportation and storage	1146.9	-550.0	125.2	-78.4	6.1	-23.4	260.6	-55.8	441.3	-33.5	20.2	-3.4
Accommodation and food service activities	1360.4	-1249.8	213.5	-169.0	62.9	-56.8	725.8	-527.3	227.4	-185.8	25.0	-41.3
Information and communication	1038.9	545.5	230.8	86.8	93.9	21.4	223.3	28.5	354.4	75.3	28.4	-0.2
Financial and insurance activities	-46.1	133.4	59.1	75.3	-6.2	11.0	-83.1	1.9	23.3	4.9	-16.8	10.3
Real estate activities	132.4	125.9	28.0	14.3	35.0	2.0	104.5	-20.2	17.5	-19.7	-0.7	4.9
Professional, scientific and technical activities	1936.2	64.7	580.5	78.2	140.4	23.3	354.1	31.3	381.2	60.3	59.0	2.9
Administrative and support service activities	1161.6	-716.5	445.5	-94.8	71.8	-12.1	338.3	-114.4	190.6	-40.8	12.2	-8.0
Public administration etc.	75.4	593.2	-49.7	116.8	78.9	17.6	-309.4	-15.3	187.0	9.7	11.8	9.3
Education	1601.9	220.4	466.6	109.4	110.0	-12.4	289.2	1.4	266.8	-11.6	43.9	-9.4
Human health and social work activities	2741.4	-265.1	794.3	-1.2	88.3	-21.1	580.5	84.5	415.7	23.7	86.7	-2.4
Arts, entertainment and recreation	559.9	-165.9	141.3	-46.7	46.4	-15.8	157.8	-38.7	142.6	-19.6	5.1	-4.2
Other service activities	342.7	366.1	6.1	15.1	33.2	-12.2	94.7	12.0	131.1	29.8	11.6	8.7
Activities of households as employers etc.	-362.0	-265.6	-313.2	-47.1	0.5	-1.3	-48.3	-137.2	20.1	-30.8	-2.4	-0.7
Activities of extraterritorial organisations	6.6	-15.4	15.3	-7.1	0.0	0.0	1.5	3.4	0.7	-0.2	0.1	4.2

Source: Eurostat; Labour Force Statistics; own calculations.

Annex Table 3(b) / Changes in employment, annual growth in %

NACE activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Agriculture, forestry and fishing	-2.3	-1.8	-1.7	-3.4	-0.6	-3.0	-0.7	-3.4	-3.3	-1.4	-2.8	5.4
Mining and quarrying	-2.4	0.8	-0.9	0.2	0.3	-5.9	-3.5	13.4	-2.2	-0.5	-6.4	13.2
Manufacturing	0.6	-0.9	-0.2	-2.1	-1.0	-0.6	0.4	-1.5	1.5	-3.7	1.0	-3.3
Electricity, gas, steam and air conditioning supply	-0.4	5.6	1.2	-8.6	1.7	7.0	0.2	2.4	-1.2	6.2	-2.0	14.4
Water supply; sewerage, waste management, etc.	1.8	-0.3	1.0	-3.5	2.7	1.9	2.0	-1.7	2.3	1.3	1.9	0.0
Construction	-0.2	-4.5	-0.2	-1.7	1.6	-1.6	-2.8	-1.0	0.7	2.1	0.1	-2.7
Wholesale and retail trade; repair of motor vehicles.	0.7	-4.1	0.8	-0.8	0.5	-2.9	0.2	-2.6	0.6	-1.6	0.2	-1.0
Transportation and storage	1.4	-5.1	0.7	-3.2	0.1	-4.5	1.3	-2.1	2.0	-1.1	1.2	-1.5
Accommodation and food service activities	1.9	-13.1	1.4	-8.2	2.3	-15.2	2.6	-13.5	2.0	-12.0	1.2	-15.4
Information and communication	2.3	8.8	2.0	5.4	2.7	4.3	2.1	2.0	4.2	5.9	3.2	-0.2
Financial and insurance activities	-0.1	2.5	0.5	4.8	-0.3	4.8	-0.8	0.2	0.3	0.5	-1.5	7.8
Real estate activities	1.1	8.1	0.8	3.0	3.4	1.3	4.2	-5.4	0.7	-6.0	-0.2	12.9
Professional, scientific and technical activities	2.4	0.6	2.7	2.6	2.5	2.9	1.6	1.1	3.2	3.5	3.1	1.1
Administrative and support service activities	1.9	-8.6	3.0	-4.5	2.1	-2.6	2.0	-4.9	2.0	-3.2	1.0	-5.2
Public administration etc.	0.1	4.4	-0.2	3.1	1.7	2.8	-1.1	-0.5	0.8	0.3	0.5	3.3
Education	1.5	1.5	1.8	3.1	1.4	-1.2	1.0	0.0	1.1	-0.4	2.0	-3.1
Human health and social work activities	1.7	-1.2	1.6	0.0	0.7	-1.2	1.8	2.0	2.0	0.8	2.6	-0.5
Arts, entertainment and recreation	2.4	-5.0	2.2	-5.4	2.3	-5.7	2.6	-4.6	3.0	-2.9	0.9	-5.6
Other service activities	0.9	7.6	0.1	1.3	1.6	-4.3	0.9	0.9	2.2	3.6	1.3	7.6
Activities of households as employers etc.	-1.9	-12.0	-7.4	-12.8	0.5	-10.9	-0.4	-9.3	2.5	-27.6	-4.2	-12.1
Activities of extraterritorial organisations	0.5	-9.6	2.1	-7.1	.	:	0.9	15.8	6.9	-11.8	0.3	113.5

Source: Eurostat; Labour Force Statistics; own calculations.

Annex Table 3(c) / Changes in female employment, thousand persons

NACE activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Agriculture, forestry and fishing	-1051.6	-94.2	-74.8	-1.6	-1.9	-1.2	-168.5	-35.3	-757.0	-60.1	-23.0	4.1
Mining and quarrying	-9.1	4.8	0.0	1.5	-1.6	0.0	-1.2	3.7	-9.9	3.2	0.0	0.0
Manufacturing	426.0	-206.5	-40.0	-42.5	-16.6	0.3	89.2	-22.4	309.6	-120.6	11.3	-5.2
Electricity, gas, steam and air conditioning supply	28.8	26.4	6.8	-11.3	5.7	-1.5	19.7	8.7	-4.2	16.4	-2.2	0.6
Water supply; sewerage, waste management, etc.	69.2	-10.7	13.0	-4.6	4.1	1.7	28.9	-3.2	25.8	-8.6	0.2	-0.1
Construction	71.8	-26.0	1.1	13.5	13.3	7.8	-34.4	3.1	-0.1	-4.3	-3.8	-1.0
Wholesale and retail trade; repair of motor vehicles.	464.2	-339.4	165.4	-36.9	0.4	-26.8	39.3	-49.1	196.3	-45.9	2.0	6.2
Transportation and storage	266.2	-149.1	33.4	-29.0	-0.7	-4.4	92.9	-11.2	69.2	-18.3	5.8	-2.9
Accommodation and food service activities	623.5	-744.9	99.0	-86.7	17.8	-31.6	361.8	-324.7	138.3	-120.0	12.3	-25.2
Information and communication	209.4	156.3	58.5	14.0	20.9	15.8	47.6	27.3	63.8	25.6	17.2	-4.2
Financial and insurance activities	-21.5	64.8	16.5	27.2	-14.7	6.8	-7.0	0.7	-4.1	-5.8	-0.8	5.6
Real estate activities	73.7	57.6	23.5	0.0	20.5	-2.9	64.1	-4.1	-1.7	-17.6	-1.3	1.5
Professional, scientific and technical activities	1015.5	46.7	273.7	56.9	62.4	0.2	226.9	17.5	225.4	32.9	16.4	3.7
Administrative and support service activities	541.2	-360.6	204.4	-62.8	29.5	-9.5	109.6	-55.5	107.0	-12.7	3.6	-5.9
Public administration etc.	365.2	402.1	73.1	83.6	59.3	12.9	-71.9	-11.5	125.1	-1.8	16.7	10.2
Education	1263.5	82.4	348.4	83.0	85.7	-18.4	196.3	-18.8	243.3	-18.6	32.2	-8.2
Human health and social work activities	2153.2	-252.1	646.6	-48.4	38.5	-20.3	458.0	65.3	353.4	24.1	61.4	-5.1
Arts, entertainment and recreation	264.9	-80.7	62.1	-30.7	32.0	-7.2	67.3	-13.6	79.7	-9.9	1.4	-1.5
Other service activities	236.5	64.2	-11.7	6.4	25.0	-12.6	77.3	-0.3	107.9	35.2	4.5	5.1
Activities of households as employers etc.	-323.8	-246.1	-241.6	-47.2	0.4	-0.1	-74.9	-126.0	11.3	-19.0	-2.4	-0.7
Activities of extraterritorial organisations	15.9	-11.0	12.7	-1.6	0.0	0.0	2.4	1.6	0.9	0.0	0.0	4.1

Source: Eurostat; Labour Force Statistics; own calculations.

Annex Table 3(d) / Changes in female employment, annual growth in %

NACE activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Agriculture, forestry and fishing	-3.8	-3.3	-2.5	-0.5	-0.4	-2.1	-2.7	-5.2	-4.6	-3.6	-3.7	6.3
Mining and quarrying	-1.4	6.1	.	:	-100.0	.	-1.9	52.1	-2.7	7.7	. :	
Manufacturing	0.6	-2.1	-0.3	-2.8	-0.7	0.1	0.5	-1.0	1.2	-3.5	0.8	-2.9
Electricity, gas, steam and air conditioning supply	1.1	7.4	1.2	-14.6	4.3	-7.5	4.3	12.6	-0.5	17.1	-4.1	10.7
Water supply; sewerage, waste management, etc.	2.8	-3.0	2.6	-6.6	6.6	16.7	5.3	-3.8	2.7	-6.5	0.5	-2.0
Construction	0.7	-2.0	0.0	4.2	3.1	12.5	-1.7	1.3	0.0	-1.7	-1.0	-2.1
Wholesale and retail trade; repair of motor vehicles.	0.4	-2.5	0.7	-1.3	0.0	-4.7	0.1	-1.4	0.7	-1.3	0.1	1.8
Transportation and storage	1.5	-6.3	0.7	-4.9	-0.1	-4.0	2.4	-2.1	1.5	-3.0	1.4	-5.4
Accommodation and food service activities	1.6	-14.5	1.3	-8.3	1.2	-15.6	2.5	-16.0	2.0	-12.5	1.0	-15.5
Information and communication	1.5	8.3	1.7	2.9	2.1	11.4	1.4	6.1	2.3	6.8	6.2	-9.4
Financial and insurance activities	-0.1	2.3	0.3	3.4	-1.5	6.1	-0.1	0.1	-0.1	-1.0	-0.1	8.4
Real estate activities	1.2	7.2	1.2	0.0	4.8	-4.4	5.2	-2.1	-0.1	-10.3	-0.7	6.7
Professional, scientific and technical activities	2.7	0.9	2.8	4.2	2.6	0.1	2.2	1.2	3.5	3.5	1.7	2.9
Administrative and support service activities	1.8	-8.9	2.8	-6.1	1.9	-4.4	1.2	-4.6	2.8	-2.4	0.5	-6.7
Public administration etc.	0.7	6.2	0.5	4.3	2.3	3.6	-0.7	-0.9	1.1	-0.1	1.7	7.5
Education	1.6	0.8	2.0	3.4	1.6	-2.6	1.0	-0.7	1.3	-0.7	2.1	-3.9
Human health and social work activities	1.7	-1.5	1.6	-0.9	0.4	-1.5	2.0	2.0	2.1	1.0	2.4	-1.4
Arts, entertainment and recreation	2.3	-5.1	2.0	-7.3	3.1	-4.8	2.7	-3.9	3.1	-2.7	0.5	-4.4
Other service activities	1.0	2.0	-0.2	0.8	1.8	-6.7	1.1	0.0	2.8	6.4	0.7	6.4
Activities of households as employers etc.	-1.9	-12.6	-6.6	-14.2	0.6	-1.2	-0.7	-9.6	1.6	-20.5	-4.2	-12.1
Activities of extraterritorial organisations	2.6	-12.9	3.6	-3.1	.	.	3.2	15.0	.	0.0	.	:

Source: Eurostat; Labour Force Statistics; own calculations.

Annex Table 3(e) / Changes in male employment, thousand persons

NACE activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Agriculture, forestry and fishing	-734.9	-64.0	-98.4	-37.5	-10.9	-6.2	26.5	-46.2	-569.6	-1.6	-17.9	4.5
Mining and quarrying	-119.2	0.3	-3.4	-1.4	2.0	-1.1	-25.1	7.1	-62.1	-5.2	-3.7	0.7
Manufacturing	1060.7	-100.6	-65.0	-76.1	-80.1	-6.8	172.3	-97.4	796.9	-243.3	40.4	-17.4
Electricity, gas, steam and air conditioning supply	-73.5	52.6	22.5	-16.4	2.2	5.8	-14.9	-2.7	-43.1	11.7	-2.3	3.2
Water supply; sewerage, waste management, etc.	148.8	5.3	10.5	-6.4	6.0	-0.7	38.5	-4.8	65.7	15.7	2.6	0.1
Construction	-340.5	-574.7	-39.5	-67.3	72.4	-19.4	-760.1	-32.7	195.4	80.6	7.4	-8.5
Wholesale and retail trade; repair of motor vehicles.	927.8	-779.9	223.5	-15.6	46.5	-10.3	59.3	-151.2	102.2	-56.4	7.1	-12.7
Transportation and storage	880.7	-400.9	91.8	-49.4	6.8	-19.0	167.7	-44.6	372.1	-15.2	14.4	-0.5
Accommodation and food service activities	736.9	-504.9	114.5	-82.3	45.1	-25.2	364.0	-202.6	89.1	-65.8	12.7	-16.1
Information and communication	829.5	389.2	172.3	72.8	73.0	5.6	175.7	1.2	290.6	49.7	11.2	4.0
Financial and insurance activities	-24.6	68.6	42.6	48.1	8.5	4.2	-76.1	1.2	27.4	10.7	-16.0	4.7
Real estate activities	58.7	68.3	4.5	14.3	14.5	4.9	40.4	-16.1	19.2	-2.1	0.6	3.4
Professional, scientific and technical activities	920.7	18.0	306.8	21.3	78.0	23.1	127.2	13.8	155.8	27.4	42.6	-0.8
Administrative and support service activities	620.4	-355.9	241.1	-32.0	42.3	-2.6	228.7	-58.9	83.6	-28.1	8.6	-2.1
Public administration etc.	-289.8	191.1	-122.8	33.2	19.6	4.7	-237.5	-3.8	61.9	11.5	-4.9	-0.9
Education	338.4	138.0	118.2	26.4	24.3	6.0	92.9	20.2	23.5	7.0	11.7	-1.2
Human health and social work activities	588.2	-13.0	147.7	47.2	49.8	-0.8	122.5	19.2	62.3	-0.4	25.3	2.7
Arts, entertainment and recreation	295.0	-85.2	79.2	-16.0	14.4	-8.6	90.5	-25.1	62.9	-9.7	3.7	-2.7
Other service activities	106.2	301.9	17.8	8.7	8.2	0.4	17.4	12.3	23.2	-5.4	7.1	3.6
Activities of households as employers etc.	-38.2	-19.5	-71.6	0.1	0.1	-1.2	26.6	-11.2	8.8	-11.8	0.0	0.0
Activities of extraterritorial organisations	-9.3	-4.4	2.6	-5.5	0.0	0.0	-0.9	1.8	-0.2	-0.2	0.1	0.1

Source: Eurostat; Labour Force Statistics; own calculations.

Annex Table 3(f) / Changes in male employment, annual growth in %

NACE activities	European Union		Western Europe		Northern Europe		Southern Europe		Central and South-Eastern Europe		Austria	
	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020	2011 to 2019	2019 to 2020
Agriculture, forestry and fishing	-1.5	-1.1	-1.4	-4.6	-0.7	-3.3	0.2	-2.6	-2.4	-0.1	-2.2	4.8
Mining and quarrying	-2.5	0.1	-0.9	-3.3	1.4	-5.9	-3.6	9.7	-2.1	-1.6	-6.4	13.2
Manufacturing	0.6	-0.4	-0.2	-1.9	-1.1	-0.8	0.4	-1.7	1.7	-3.9	1.0	-3.4
Electricity, gas, steam and air conditioning supply	-0.8	4.9	1.2	-6.7	0.7	14.0	-1.0	-1.5	-1.4	3.3	-1.3	15.5
Water supply; sewerage, waste management, etc.	1.6	0.4	0.6	-2.6	1.9	-1.6	1.4	-1.3	2.2	3.8	2.4	0.7
Construction	-0.3	-4.7	-0.2	-2.4	1.4	-2.9	-2.9	-1.2	0.7	2.4	0.3	-2.7
Wholesale and retail trade; repair of motor vehicles.	0.9	-5.5	0.9	-0.5	0.8	-1.4	0.2	-3.6	0.5	-2.0	0.3	-4.5
Transportation and storage	1.4	-4.8	0.6	-2.7	0.2	-4.7	1.1	-2.2	2.2	-0.6	1.1	-0.3
Accommodation and food service activities	2.3	-11.5	1.5	-8.2	3.9	-14.7	2.7	-10.9	2.1	-11.1	1.6	-15.2
Information and communication	2.7	9.0	2.1	6.5	2.9	1.6	2.4	0.1	5.0	5.5	1.8	4.8
Financial and insurance activities	-0.1	2.7	0.7	6.3	0.9	3.6	-1.4	0.2	1.0	3.0	-2.7	7.2
Real estate activities	1.0	9.0	0.3	6.7	2.4	5.9	3.1	-8.7	1.6	-1.3	0.5	21.5
Professional, scientific and technical activities	2.2	0.3	2.6	1.3	2.4	5.1	1.1	0.9	2.8	3.5	4.5	-0.6
Administrative and support service activities	2.0	-8.3	3.2	-3.0	2.3	-1.0	2.9	-5.3	1.5	-3.8	1.8	-3.2
Public administration etc.	-0.5	2.7	-0.8	1.8	0.9	1.7	-1.4	-0.2	0.5	0.7	-0.4	-0.6
Education	1.1	3.4	1.4	2.3	1.0	1.9	1.2	1.9	0.4	1.0	1.8	-1.4
Human health and social work activities	1.7	-0.3	1.4	3.4	2.1	-0.2	1.4	1.7	1.6	-0.1	3.3	2.4
Arts, entertainment and recreation	2.4	-5.0	2.4	-3.5	1.5	-6.8	2.6	-5.1	2.8	-3.1	1.2	-6.5
Other service activities	0.8	18.6	0.6	2.4	1.1	0.4	0.4	2.5	1.1	-2.0	2.8	10.1
Activities of households as employers etc.	-1.8	-8.0	-13.0	0.3	0.4	-35.3	2.3	-6.9	8.2	-62.8	.	.
Activities of extraterritorial organisations	-1.5	-5.9	0.7	-11.6	.	.	-1.0	16.7	-2.8	-25.0	0.3	2.7

Source: Eurostat; Labour Force Statistics; own calculations.

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