

Review of the geographically unequal impact of the Covid-19 pandemic on employment for 2021. Analysis for the regions in Cyprus, France, Spain, Greece, Italy, Italy, Malta, Croatia, Portugal and Spain

Report of the research team [e-Aegean ResLab](#), University of the Aegean

Introduction

The Covid-19 pandemic has had a significant impact on socio-economic life on a local and global scale, with the strategies to mitigate the pandemic in Europe, such as curfews and the suspension of economic activity, having exacerbated the severe economic impact. The pandemic-driven crisis has considerable implications for employment and income, is likely to widen socio-economic inequalities. In particular, workers in hospitality, tourism, culture and entertainment have been disproportionately affected especially in 2020 and the first quarters of 2021, as previous reports by the [e-Aegean ResLab](#) research team¹ have highlighted. The significantly heterogeneous footprint in the productive structure also differentiates the Covid-19 impacts across space, both at the health (Covid-19 cases and deaths) and socio-economic level (employment, business suspension).

The mass vaccination campaigns and shorter curfews in 2021 around the world lessened the pandemic impact. However, variants of the virus were still circulating and led to temporary mitigation measures, creating a highly volatile economic environment that came on top of the 2008 global economic crisis, whose impacts have not been completely addressed, and Brexit, which changed the trade map of Europe. Finally, the fluctuations in supply and demand reinforced deflation in the initial phase of the pandemic, but then provided the grounds for the reverse trends.

This report attempts to examine the geography of the Covid-19 pandemic in 2021, the second pandemic year, focusing on employment in the regions and sectors of the Mediterranean countries of the European Union (EU). It seeks to analyse the socio-economic implications of the pandemic, aiming to contribute to the dynamic debate on measures to support employment that are essential in the socio-economically challenging environment. This report focuses on the regions of the following countries, which form the core of the [e-Aegean ResLab](#) research efforts: Portugal, Spain, France, Italy, Malta, Croatia, Greece, and Cyprus.

The geographically uneven evolution of the pandemic in 2021

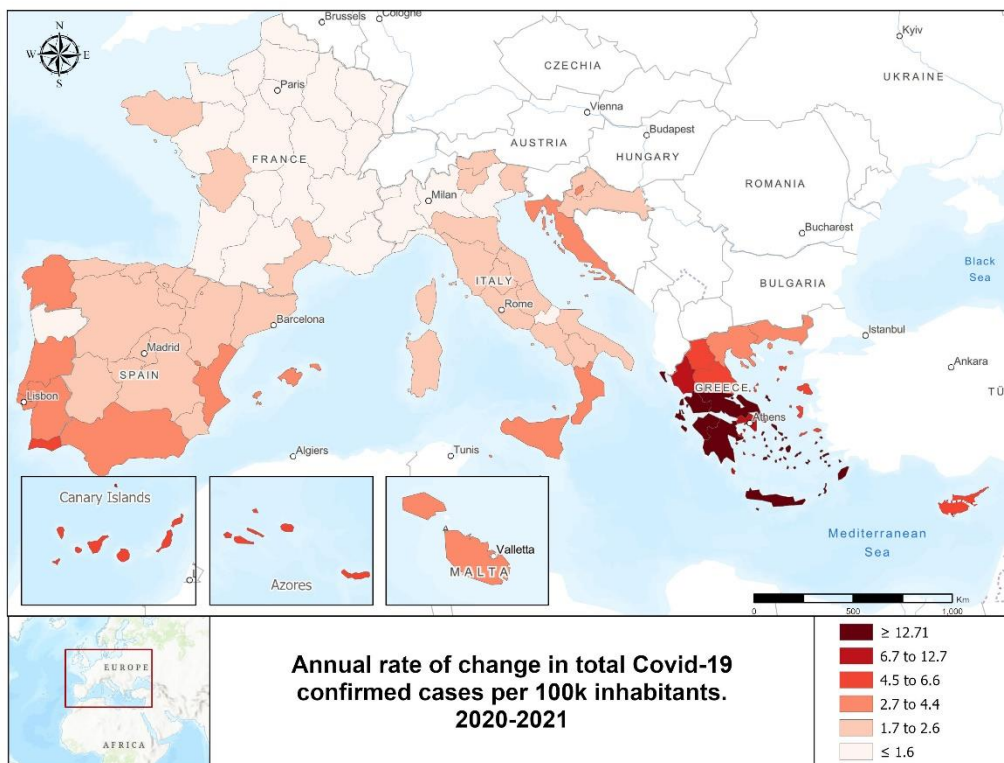
The spread of the pandemic is a multidimensional issue. EU Mediterranean countries have sought to address the pandemic, before the beginning of mass vaccination, by imposing curfews and minimising social contacts. However, their response was largely inefficient, implementing these measures always belatedly, ignoring epidemiological surveillance and prioritising lockdowns.

The failure of these mitigation strategies is partly reflected on the increase in cases in 2021 compared to 2020 (Map 1), with the study regions recording almost 11.5 million more cases (16.774 million cases in 2021 compared to 5.125 million cases in 2020). This is also associated with the increase in Covid-19 testing. However, the geography of the Covid-19 cases' growth has been highly uneven, both at the international and interregional level. At the national level, Portugal, Cyprus and Malta have been largely affected.² The noticeable growth of cases in

¹ <https://reslab.aegean.gr/index.php/an-overview-of-the-covid-19-effects-on-employment-during-2020-evidence-from-cyprus-france-spain-greece-italy-malta-croatia-and-portugal/> and <https://reslab.aegean.gr/index.php/final-report/>

² In 2020, Cyprus recorded 22,650 Covid-19 cases, Greece 131,303, Spain 1,949,395, France 2,660,676, Croatia 210,837, Italy 2,107,166, Malta 12,774, and Portugal 413,678. In 2021, Cyprus reported 166,827 Covid-19 cases, Greece 1,152,920, Spain 6,568,721, France 10,018,021, Croatia

Greece is a result of limited pressure in the 1st pandemic wave, inadequate control overall during 2020, and the subsequent explosion in subsequent pandemic waves. Spain and Italy, which were significantly affected in the 1st wave, saw a smaller growth in Covid-19 cases in 2021.



Map 1: Rate of change in confirmed Covid-19 cases per 100 000 inhabitants, 2020-2021

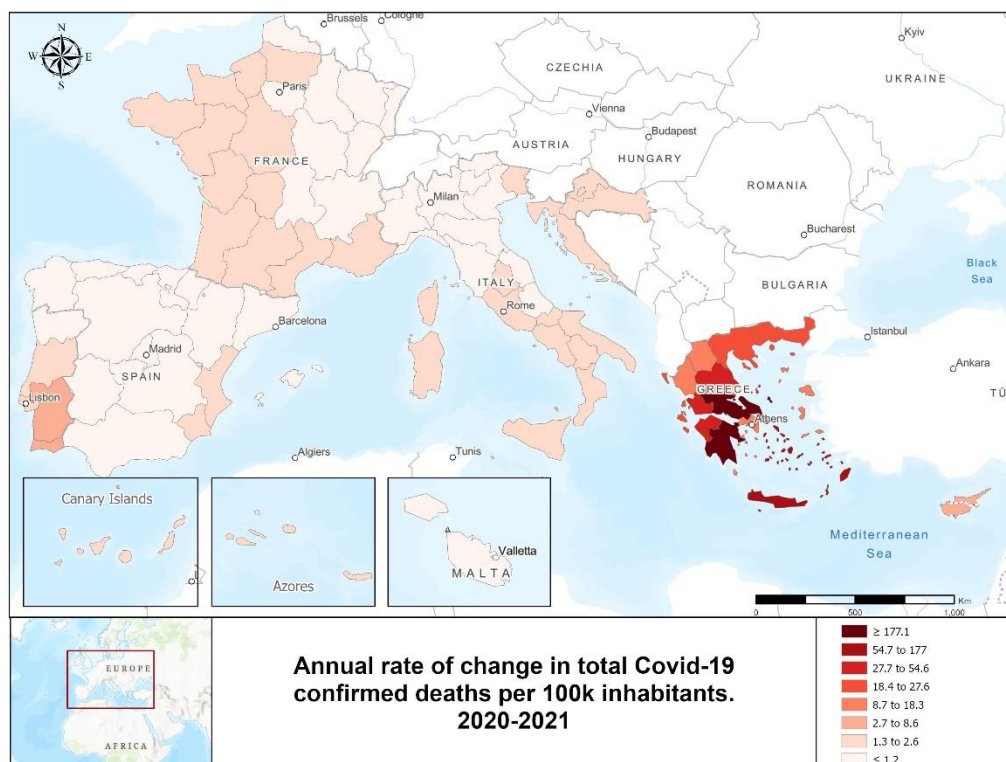
The cross-regional comparison indicates a highly uneven growth of the pandemic, often within the same country. Island and coastal regions recorded the largest increase in Covid-19 cases in the year to 2021 (South Aegean, Crete, Jadranska Hrvatska, Sicilia, Calabria, Illes Balears, Canarias, Algarve, Languedoc-Roussillon), possibly due to their specialisation in tourism. In contrast, the growth of cases in metropolitan regions was moderate. Particularly, metropolitan regions of Northern Italy and Spain that were strongly affected in the 1st wave (Lombardy, Comunidad de Madrid) have seen a small increase in Covid-19 cases in 2021.

Regarding mortality, Spain and Malta (Map 2) saw a lower number of Covid-19 deaths than the other study countries in 2021, while Greece and Cyprus reported the largest amount of deaths per capita.³ Metropolitan regions recorded lower mortality rates, particularly in stronger economies, which could be partly explained by the concentration of large hospital units. Following the respective trends in Covid-19 incidence rate, island and coastal regions recorded an important increase in Covid-19 mortality (Crete, South Aegean, Sicilia, Calabria, Corse, Algarve). Overall, the regions with the highest number of Covid-19 deaths per 100,000 inhabitants in 2020 include Valle d’ Aosta with 305.4 deaths, followed by Lombardy with

715,245, Italy 6,125,683, Malta 52,470, and Portugal 1,389,646. It should be noted that the methodology for recording cases by region differs in France, as only cases in hospital units are recorded.

³ In 2020, Cyprus recorded 128 Covid-19 deaths, Greece 766, Spain 54,562, France 64,644, Croatia 3,920, Italy 74,159, Malta 219, and Portugal 6,906. In 2021, Cyprus 696, Greece 20,726, Spain 91,349, Spain 91,349, France 123,805, Croatia 12,538, Italy 137,402, Malta 477, and Portugal 18,955. Note that in France, similarly to cases, the deaths recorded refer to deaths recorded in hospital units.

251.6, and in 2021, Grad Zagreb with 478.8 deaths, followed again by Valle d' Aosta with 393.2 deaths.



Map 2: Rate of change in confirmed deaths due to Covid-19 per 100 000 inhabitants, 2020-2021

The growth of Covid-19 deaths in all the Greek regions is much greater than the increase in cases in the year to 2021. This could be partly explained by the hugely ineffective epidemiological surveillance system in Greece. The Greek health authorities used to publish regional data on Covid-19 deaths during the 1st and up to the middle of the 2nd wave in 2020, when the country managed to cope relatively well with the pandemic, although with long curfews. However, the Greek health authorities stopped publishing mortality data for the first three quarters of 2021, possibly for political reasons, as the government lost control of the pandemic. This also highlights the incapacity to build an effective epidemiological surveillance system. The authorities started publishing data again at the end of 2021.

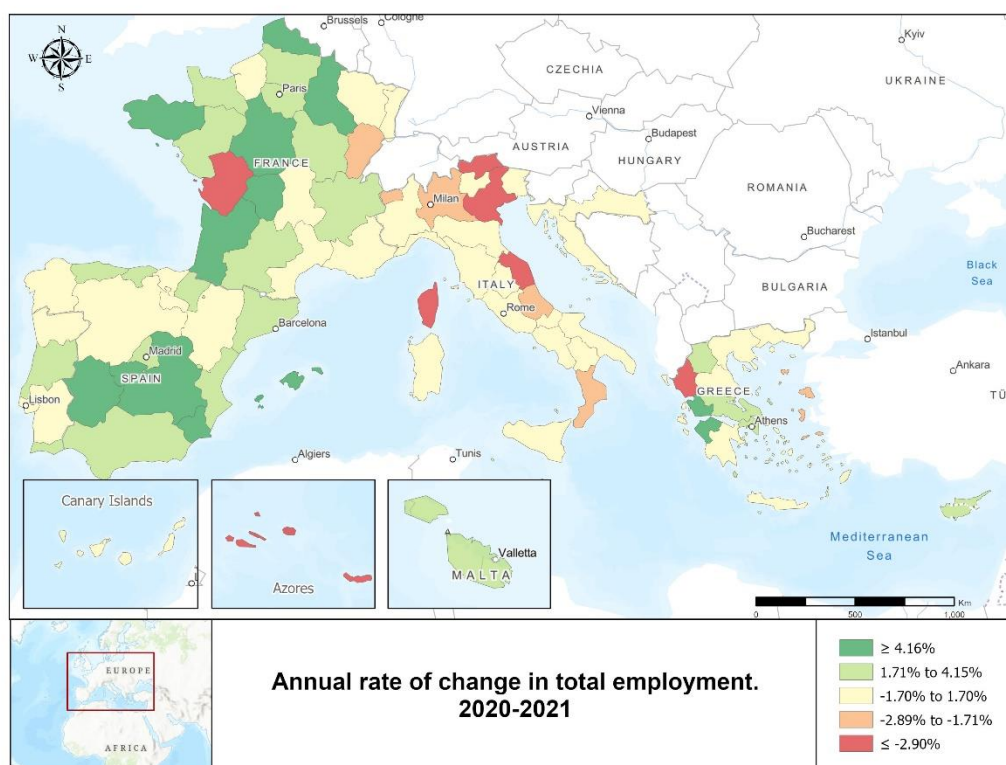
Change in total employment between 2019 and 2021

Total employment has been significantly affected by the pandemic. At the national level, employment seems to have recovered in 2021, following its sharp decline in 2020, as highlighted in the annual report of [the e-Aegean Lab](https://reslab.aegean.gr/index.php/an-overview-of-the-covid-19-effects-on-employment-during-2020-evidence-from-cyprus-france-spain-greece-italy-malta-croatia-and-portugal/).⁴ In particular, total employment increased by more than 2% in the year to 2021 in Spain (decreased by 3% in 2020), France (decreased by 0.5% in 2020), Cyprus (increased by 0.2% in 2020) and Malta (increased by 2.5% in 2020). Total employment growth ranged between 1% and 2% in Greece (-1% in 2020), Croatia (-1.5% in 2020) and Portugal (-2% in 2020), except from Italy, where employment fell by -1.7%, following an equally significant decrease in 2020 (-2%). However, the change in employment between 2019 and 2021 shows a completely different picture, as the only countries with positive growth are France, Cyprus and Malta.

⁴ <https://reslab.aegean.gr/index.php/an-overview-of-the-covid-19-effects-on-employment-during-2020-evidence-from-cyprus-france-spain-greece-italy-malta-croatia-and-portugal/>

Changes are greater at regional level (*Map 3*), due to the impact of the regional production structure and specialization. In particular, island and coastal regions have negative or marginal positive values in the change of total employment between 2020 and 2021 (South Aegean -0.6%, Crete 0%, Basque Community 0.8%, Canarias 4.7%, Poitou-Charentes -4.4%, Corse -3.8%, Jadranska Hrvatska 0.7%, Campania -1.3%, Sicilia -2.9%, Algarve 2%). However, in the wider pandemic period, from 2019 to 2021, the trends of total employment for the abovementioned regions are very negative (South Aegean -12.6%, Crete -9.5%, Basque Community -1.5%, Canarias -5%, Poitou-Charentes -4.8%, Corse -2.4%, Jadranska Hrvatska -0.7%, Campania -3.3%, Sicilia -4.1%, Algarve -3.4%).

Total employment in metropolitan areas slightly increased (Comunidad de Madrid 0.8%, Île de France 2.2%, Attiki 4%) or slightly declined between 2019 and 2021 (Cataluña -0.3%). The great employment increase in the year to 2021 could be determinant for the abovementioned trend (Cataluña 3%, Île de France 2.9%). The Italian metropolitan regions constituted an exception, as they presented employment losses in both periods. Positive changes in total employment were also recorded in the small EU Mediterranean countries (Cyprus and Malta). Finally, the inter-regional comparison in Croatia for 2021 was challenging, due to the restructuring of administrative geography.⁵



Map1: Annual rate of change in total employment, 2020-2021

Change of employment by industry

The analysis of total employment shows that the industrial structure of the regions is one of the main reasons for the heterogeneous geographical dispersion of the pandemic effects.

Primary sector:

⁵ The Kontinentalna Hrvatska region was divided into four new regions.

Of particular interest is the change in employment in agriculture, forestry and fishing, with increasing trends in the majority of countries and in regions specialized in the primary sector. The primary sector was one of the main pillars of the EU integration through the Common Agricultural Policy. The pandemic and supply chain problems, combined with climate change, have placed the primary sector in a particularly complex environment. The EU had not anticipated the problems that agriculture would face in the first year of the pandemic. The highly seasonal workforce could not move across regions and countries, resulting in production losses.⁶ Consequently, regions with a developed primary sector experienced an annual decrease in industrial employment in 2020 (Western Greece -10.3%, Extremadura -16.7%). In 2021, the potential food insecurity stemming from the pandemic crisis became apparent and the European Commission took immediate support measures, which were generally effective in employment terms.⁷ Therefore, rural regions recorded an increase in employment in the primary sector between 2020 and 2021 (Western Greece 7%, Basilicata 7.1%).

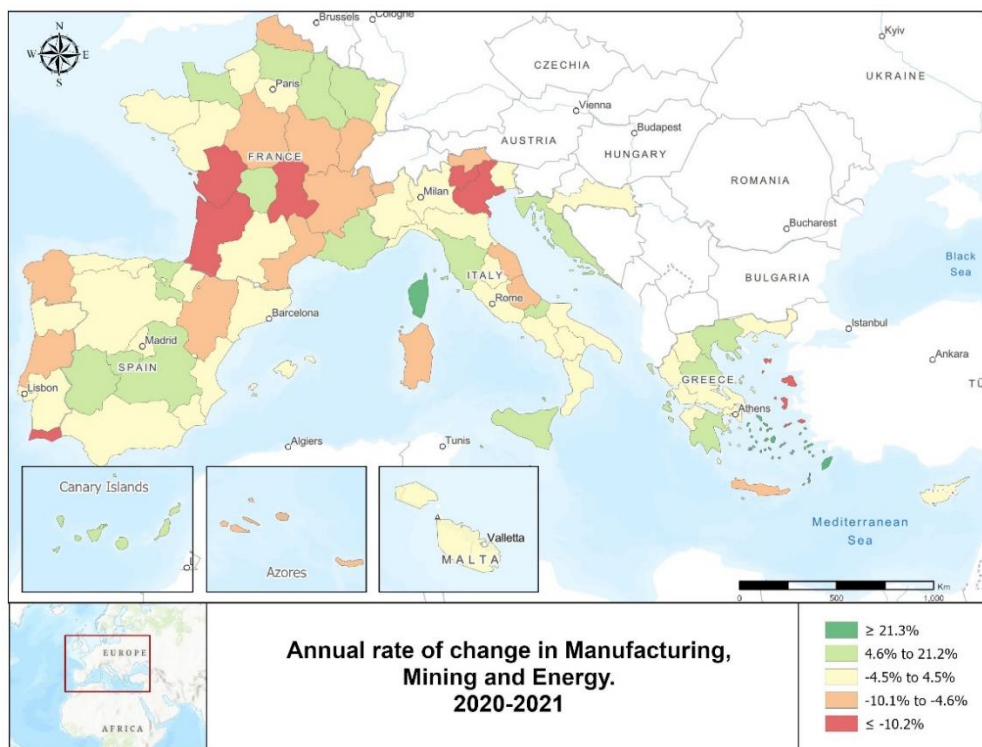
Mining, manufacturing and energy:

Secondary sector has faced two significant problems during the pandemic period. The first was to find a way to ensure continuity of production without workplaces becoming hotspots of virus transmission. The second was to absorb the sharp fluctuations in demand during the pandemic and the disruption in global supply chains. At the transnational level, employment demonstrated limited growth in some countries (Greece, Spain, Croatia, Malta) in the year to 2021. The remaining countries had limited job losses (France, Italy, Cyprus, Portugal).

Employment in manufacturing and energy in the regions specialized in these sectors continues to show a downward trend or, at best, moderate positive trends, between 2020 and 2021, which, however, is below the job losses since the beginning of the pandemic (Map 4). Regions specialized in manufacturing in the strongest national economies that exhibited greater resilience in the first pandemic year, recorded great job losses in 2021 (Galicia, Alsace, Brittany, Lombardy, Marche). By contrast, employment in regions in the weaker economies seem to be recovering, albeit in a slow rate (Sterea Ellada, Norte) in 2021.

⁶ <https://www.fao.org/3/ne001en/ne001en.pdf>

⁷ https://ec.europa.eu/info/news/eu-agri-food-trade-maintains-stable-growth-during-january-october-2020-2021-jan-25_el



Χάρτης 2: Annual rate of change in employment in manufacturing, mining and energy, 2020-2021

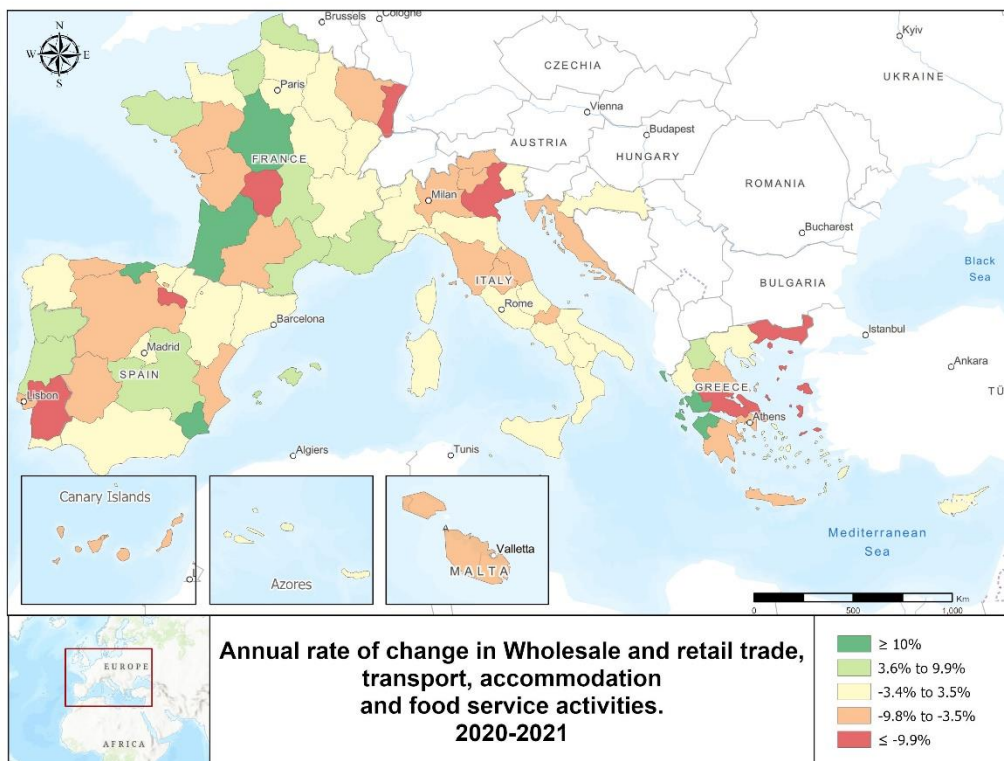
Trade, Transport and Tourism:

Tourism activities are highly important for employment in Mediterranean European countries, particularly in coastal and island regions. Due to the high social contact, trade, transport and tourism were under severe pressure during the pandemic. At the transnational level, most of the small economies (Greece, Malta, Portugal) recorded negative annual change in employment in these sectors in 2021. In contrast, the largest economies (France and Spain) show moderate annual employment recovery trends for 2021, which may be explained by their large domestic market.

The regional impact of the pandemic on trade, transport and tourism employment shows a substantial geographical heterogeneity (Map 5). More specifically, the change in employment in island regions (South Aegean, Crete, Illes Balears, Sardegna, Algarve) shows positive or moderately negative trends in the year to 2021, a clear improvement compared to employment growth between 2019 and 2020.

However, the negative impact on employment in these sectors is persistent, as the majority of regions specializing in tourism recorded job losses of more than 10% from 2019 to 2021 (South Aegean -24.4%, Illes Balears -10.4%). In contrast, the metropolitan regions (Attica, Comunidad de Madrid, Cataluña, Île de France, Lombardy, Lazio, Centro) continue to be more resilient, losing less jobs in the trade, transport and tourism sectors between 2019 and 2020, while some of them seem to have recovered in 2021. The employment support policies in these sectors have been under criticism about whether they were sufficient enough to protect workers.⁸

⁸ <https://www.oecd.org/coronavirus/policy-responses/tourism-policy-responses-to-the-coronavirus-covid-19-6466aa20/>



Χάρτης 3: Annual rate of change in employment in trade, transport and accommodation, 2020-2021

Public Administration, Education and Health:

Public administration and health had a crucial role in managing the pandemic, as it was a vital tool for dealing with many urgent problems (supporting jobs, providing tests, reporting cases, treating patients). Therefore, employment in these sectors has increased at the national level, following a long period of policies of undermining and underfunding of the public health system.⁹ Croatia is the only country with a negative change in employment in the broader public sector in 2020 and 2021. However, the support of the health sector has been insufficient, with health systems remaining incapable of coping with the enormous pressure for two consecutive years (2020 and 2021). At the regional level, South Aegean (14.4%), Comunitat Valenciana (13.6%) and Algarve (12.8%) recorded the highest employment growth in the year to 2021.

Conclusions

The spread and implications of the pandemic have been highly geographically uneven. Addressing Covid-19 with authoritarian and punitive measures of lockdowns and curfews, as chosen by the European Mediterranean countries, has proved to be highly inefficient, lacking an effective control of the pandemic, and severely affecting employment and mental health. Meanwhile, massive vaccination, that was the basic tool of governments for a return to normality, does not seem to have the long-term effectiveness expected. Investment in health personnel and equipment is necessary, as confirmed by the increase in cases, and mostly mortality, in 2021.

The change in total employment between 2019 and 2021 highlights the real impact of the pandemic. Overall, 2021 was a year of employment recovery in most of the countries, partly

⁹ <https://www.skeeled.com/blog/industry-report-recruitment-in-the-healthcare-sector-in-europe>

due to the shorter periods of economic activity suspension.¹⁰ However, the recovery can be considered weak, as marginal positive growth cannot compensate for job losses since the beginning of the pandemic.

The weak employment recovery in 2021 has been uneven, both at geographical and industrial level. At geographical level, the recovery of lost jobs in coastal and island regions was smaller than in metropolitan regions. At industrial level, manufacturing has been in a particularly dire position, having to face severe problems in supply chains and inflationary trends. The primary sector appears to be recovering, after the first year of the pandemic, although the supply chain is expected to face important issues, particularly after the war in Ukraine.¹¹ Tourism, trade and transport have not recovered in employment trends in 2021. Although these sectors have been particularly supported during the pandemic period, these policies have not prevented job losses sufficiently. Employment support policies in the public sector have been also insufficient, as the largely affected health sector has not been supported adequately to address the pandemic.

Overall, the Covid-19 pandemic reveals the regional disparities, both in mortality and employment terms. However, the impacts of the health and economic crisis will be fully assessed when the risk of new variants and their accompanying measures is eliminated. The e-Aegean ResLab Research Team will monitor and analyze the geographical and industrial diversification of the Covid-19 implications.

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¹⁰ https://www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS_824092/lang-en/index.htm

¹¹ <https://graphics.reuters.com/UKRAINE-CRISIS/FOOD/zjvqkgomjvx/>