

THE IMPACT OF THE COVID-19 PANDEMIC IN BOSNIA AND HERZEGOVINA



EMPLOYMENT AND SOCIAL AFFAIRS PLATFORM 2

LABOUR AND EMPLOYMENT AGENCY OF BOSNIA AND HERZEGOVINA

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1. Introduction





Prior to the pandemic in 2020, the labour market in Bosnia and Herzegovina had shown signs of improvement with the unemployment rate, based on Labour Force Survey (LFS) data, reaching a historic low. As in the rest of the globe, COVID-19 outbreaks and the containment measures introduced by authorities in Bosnia and Herzegovina have had an adverse impact on the labour market with a corresponding reduction in the number of employed. These measures hit certain sectors, such as accommodation and food services and arts and recreation, particularly hard, while other sectors, such as information services and the health sector, saw an increase in the number of workers in the period after the outbreak of the pandemic.

Running business operations under the conditions imposed by the COVID-19 pandemic involved a high level of uncertainty, which was not solely dependent on the situation locally but also on the regional and global situation. This incentivised policymakers and private companies not to just assess the current situation but also to estimate the potential impact of the pandemic in both the short and long term. This was particularly important when developing an appropriate and effective policy response in the form of sound government interventions. The importance of this was underlined by the unpredicted evolution of the virus. The development of different scenarios seems a good way forward considering the way the virus mutated into new variants.

A review of the current situation and an estimation of future developments is the focus of this report, which contains six sections. After we review the macroeconomic situation, we will review the main labour market indicators focusing in particular on the period during the pandemic. The section that follows analyses in detail the labour market survey that was conducted at the end of 2020 by the employment agencies at the entity level and in Brcko District. In the final section, before the concluding remarks and recommendations, different scenarios are presented based on analysis of the changes in the number of unemployed under different assumptions regarding the spread of the pandemic, the government response and the vaccination rate.

2. The COVID-19 pandemic and review of the socioeconomic measures taken in Bosnia and Herzegovina





2.1. How the COVID-19 pandemic developed

The first local case of COVID-19 came to light on 5 March 2020. In order to contain the virus, the governments in Bosnia and Herzegovina passed resolutions to declare a state of natural disaster and on 16 March a state of emergency at the entity level and only a day later at the level of Bosnia and Herzegovina. This entailed implementation of socioeconomic and health responses to the COVID-19 crisis at all levels of governments.

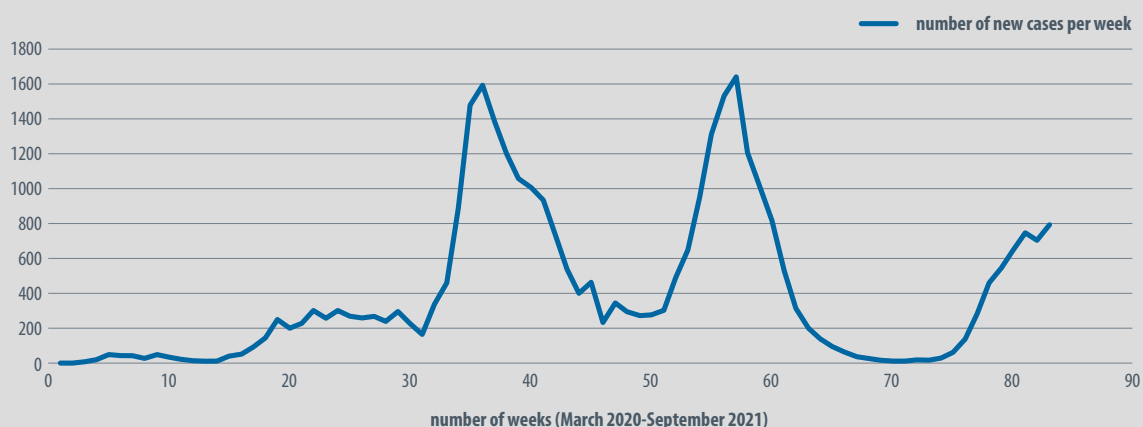
With the exception of the total lockdown at the beginning of the pandemic and the partial lockdowns that occurred in certain administrative units, the response measures related mainly to the obligation to wear a mask and to limiting the number of persons in an enclosed space.

During the early stages of the pandemic, the governments in Bosnia and Herzegovina in Bosnia and Herzegovina reacted quickly and followed global recommendations on prevention and control of the spread of the virus. Governments also increased the capacity of the public health sector and redirected health workers to the departments that specialised in treatment for COVID-19. Despite the success in containing the virus at the beginning of the pandemic, easing of the containment measures resulted in an increase in the number of cases and the epidemic curve reached its peak in the autumn.

As measures were relaxed, the epidemiological situation worsened. The first peak of the infection rates was recorded in the autumn of 2020. Namely, the average number of new weekly cases was almost 1,500 in the first half of November 2020. The second half of November and particularly December 2020 and January 2021 were characterised by an improved epidemiological situation and reduction in the number of active cases. Yet the situation worsened at the beginning of the February 2021. The second wave began in early spring 2021 and peaked by the end of March, when the average number of new infections even surpassed 1,600 per week. The number of new infections reduced over the summer but an upward trend began in the second half of August 2021. The lack of vaccines combined with the slow vaccination rate meant that each time the restrictive measures were withdrawn the number of new infections rose.

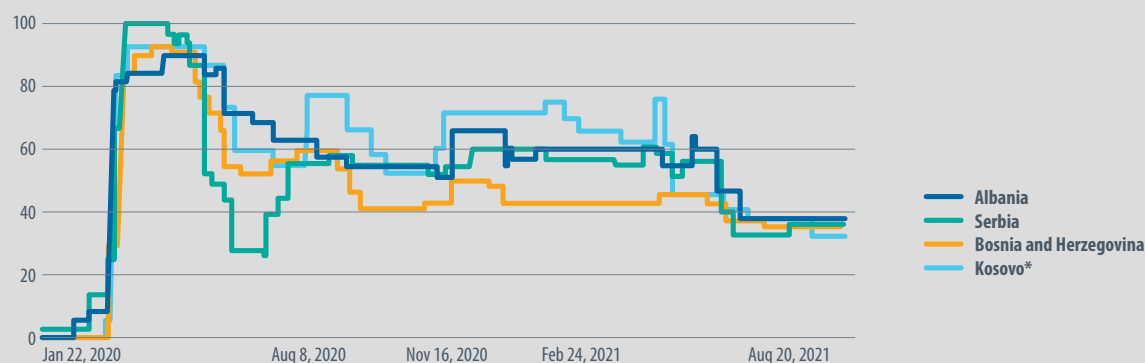


Figure 1. Weekly data on the new infection rate for COVID-19



Throughout most of 2021, Bosnia and Herzegovina had the lowest stringency index rate among the economies of the Western Balkans. It is important to note that this relates

Figure 2. COVID-19 stringency index in Bosnia and Herzegovina and the economies in the region



Source: Our World in Data.

to aggregate data for Bosnia and Herzegovina and therefore the situation for certain regions varied significantly.

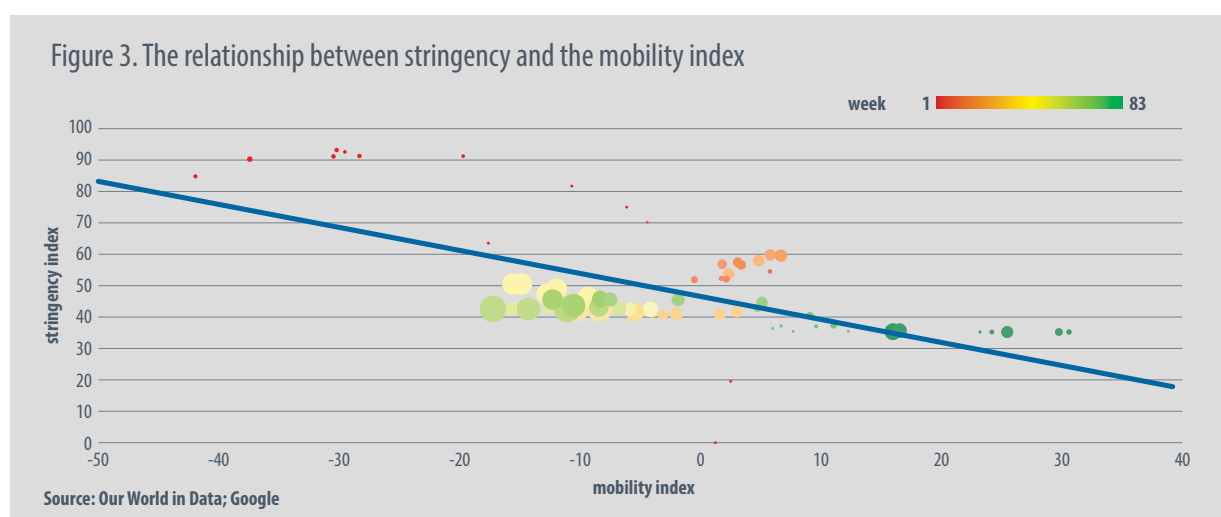
The consequences of the pandemic can be assessed by the data contained in the Google Mobility Report for Bosnia and Herzegovina from the beginning of March 2020 up until end of September 2021. Using the average weekly values of six indices we observed the changes in number of visits to and time spent in places such as work, grocery shopping, pharmacies, restaurants and parks in relation to the stringency of the government measures. At the beginning stage of the pandemic, the mobility index reduced significantly in comparison to the period prior to the pandemic. Places

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.



such as restaurants, bars, shopping centres, parks and cinemas, for example, showed a decline in activity in excess of 60 per cent from the end of March until early May. During the last week of May, visits to parks/nature and grocery shops were more than the baseline, which was to be expected as the weather improved. The data shows that by June work mobility had returned back to the baseline and as of the second week in July (around the tenth week from the beginning of the pandemic) all mobility trends, with the exception of public transport, were upward.

At the same time, when the number of newly infected was at its peak the stringency index was between 40 and 50 and at the peak of the first wave the average drop in mobility was around 10 percentage points and 17 percentage points at the peak of the second wave (Figure 3).



2.2. Government socioeconomic and public employment office measures

The Council of Minister of Bosnia and Herzegovina established the Socio-Economic Response Group in June 2020, which was responsible for the design and implementation of socioeconomic measures adopted in response to the crisis caused by the pandemic.

Prior to this, governments at the entity level and in Brcko District adopted a set of legal acts with proposed measures to help the economy recover from the crisis. The Federation Bosnia and Herzegovina adopted the Law on Measures for Mitigation



of Negative Economic Consequences. In addition, some cantonal governments also introduced a set of measures to help the economy recover. The Assembly of Canton Sarajevo, for example, adopted the Law on Mitigation of Negative Economic Consequences and Savings in Canton Sarajevo as well as the Programme of Short-term and Medium-term Measures of Importance for Mitigation of Negative Economic Consequences caused by COVID-19 in Canton Sarajevo. In Republika Srpska the Decree-Law on Tax Measures for Mitigation of Economic Consequences of COVID-19 was adopted, while the Assembly of Brčko District adopted the Law on Mitigation of Negative Economic Consequences caused by the State of Natural Accident due to COVID-19.

To support the economy, government introduced, among others, coverage of wage and social security contributions in certain sectors, accommodation vouchers, price controls and other measures as well as preferential treatment of domestic companies within public procurement (Deloitte, 2020).

As in most of the economies of the Western Balkans, governments at the entity level in Bosnia and Herzegovina adopted the temporary measure of wage subsidies. The Federation of Bosnia and Herzegovina subsidised social security contributions for each employed person up to BAM 244.85.¹ The Government of Republika Srpska covered all contributions for March and April 2020 for wages paid in those sectors banned from operating. Workers in those sectors also received the minimum wage for March.² However, subsidies were not conditional on the retainment of all workers.

The banking agencies regulated that banks and non-depositary financial institutions in both entities could approve special measures for clients: a moratorium or grace period of up to six months.

Governments at the entity level introduced measures such as abolishment of the obligation to make advance payment for corporate income tax, a reduction in rent for business premises managed by public authorities and the easing of loan repayments. The Government of Republika Srpska implemented a project of touristic vouchers which could be used to co-finance accommodation anywhere in Republika Srpska providing that the minimum stay was two nights.

In addition to government measures, the public employment services (PES) were one of the main actors in the labour market. The Agency of Labour and Employment of Bosnia and Herzegovina in collaboration with the public employment offices at the entity level and in Brčko District prepared the document 'Plan and Directions of Active Labour Market Policies and Employment Measures in Bosnia and Herzegovina for 2020 and 2021'.

The main activities of PES in Bosnia and Herzegovina in 2020 were directed at ensuring active labour market measures for vulnerable target groups in the labour market, improving the content and efficiency of service provision to employers and jobseekers, monitoring the situation in the labour market and improving the exchange

¹ 'Official Gazzete of the Federation of Bosnia and Herzegovina', 2020, No. 28, p.7.

² 'Official Gazzete of Republika Srpska', 2020, p. 35.



of information on the labour market situation between labour market participants. All of these measures were important in order to preserve employment levels, especially in the activities most affected by the crisis.

PES programmes and measures adopted for 2021 took into consideration the consequences of the pandemic and the complex situation in the labour market. Having in mind that the plan was to increase funds for unemployment insurance and the further development of active labour market policies in line with labour market needs, special emphasises was given to intermediation, advisory work and programmes of employment and self-employment subsidies.



3. Review of the macroeconomic indicators

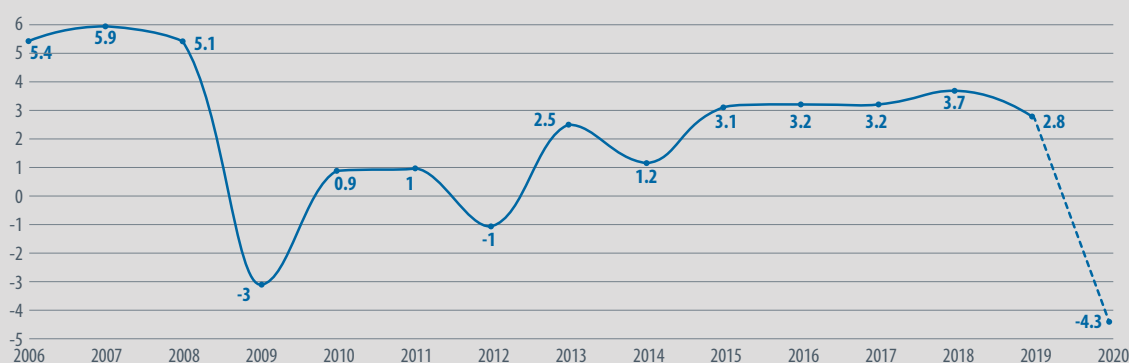


Even sectors that were unaffected by the measures faced difficulties as many employees could not work because of illness and/or self-isolation.

The economic crisis caused by the pandemic was a result of the simultaneous contraction of supply and demand. Supply was reduced by the lockdown and this resulted in a decrease in traffic in many sectors, while the decrease in demand was the result of reduced revenue caused by layoffs or reduced working hours because of the pandemic.

Economic crisis caused by pandemic stems from simultaneous contraction of supply and demand. Supply has been contracted due to lockdown that reduce output in many sectors, while demand is reduced as a result of reduction in income due to layoffs and reduced working hours (Pavlovic et al., 2020). Bosnia and Herzegovina was no exception. One of the best indicators of the effect of the crisis was the changes in GDP. Up until 2020 and the crisis caused by the pandemic, Bosnia and Herzegovina had recorded an increase in GDP (Figure 4, below), which was primarily the result of increased private consumption and to a lesser extent investment and export growth (ILO, 2020).

Figure 4. Real GDP growth (in %)



Source: Agency for Statistics of Bosnia and Herzegovina and the Central Bank of Bosnia and Herzegovina.

Economic growth in Bosnia and Herzegovina had remained positive prior to the pandemic, albeit slow, yet the pandemic in 2020 pushed Bosnia and Herzegovina into recession and caused a drop of 4.3 per cent in GDP, the largest in the post-war period.³ The drop in GDP globally was 3.1 per cent, which was far less than expected in the first months of the pandemic.

The containment measures and consequent reduction in mobility resulted in a major supply shock as workers remained at home and many businesses closed temporarily. Certain sectors, such as tourism and hospitality, were affected the most by the pandemic. Shops (except essentials) and restaurants either closed their doors

³ This is an estimate by the Agency for Statistics of Bosnia and Herzegovina, while the Central Bank estimate for the drop was set at 4.6 per cent..



completely or opened with far reduced seating capacity matched by low demand. The pandemic has resulted in very large revenue losses and not only for airlines and cruise operators but also for smaller companies that rely on revenue from, for example, tourism. Those employed in seemingly unrelated industries also felt the secondary effects of social distancing. Manufacturers, particularly those outside the medical field, for example, had fewer orders as purchases slowed and demand for certain goods, such as new clothing, declined.

Supply shock soon caused demand shock as demand reduced in line with reduced income, rising unemployment and increasing uncertainty. Decline in foreign and domestic demand and industrial production and disturbances to the supply chains and permanent political instabilities have been identified as the main reasons for such a large decline in economic activity in Bosnia and Herzegovina (WB, 2021; wiiw, 2020). According to projections by the Central Bank of Bosnia and Herzegovina from November 2020, expectation in terms of GDP growth in 2021 and 2022 were moderate with rates not expected to exceed 3 per cent.

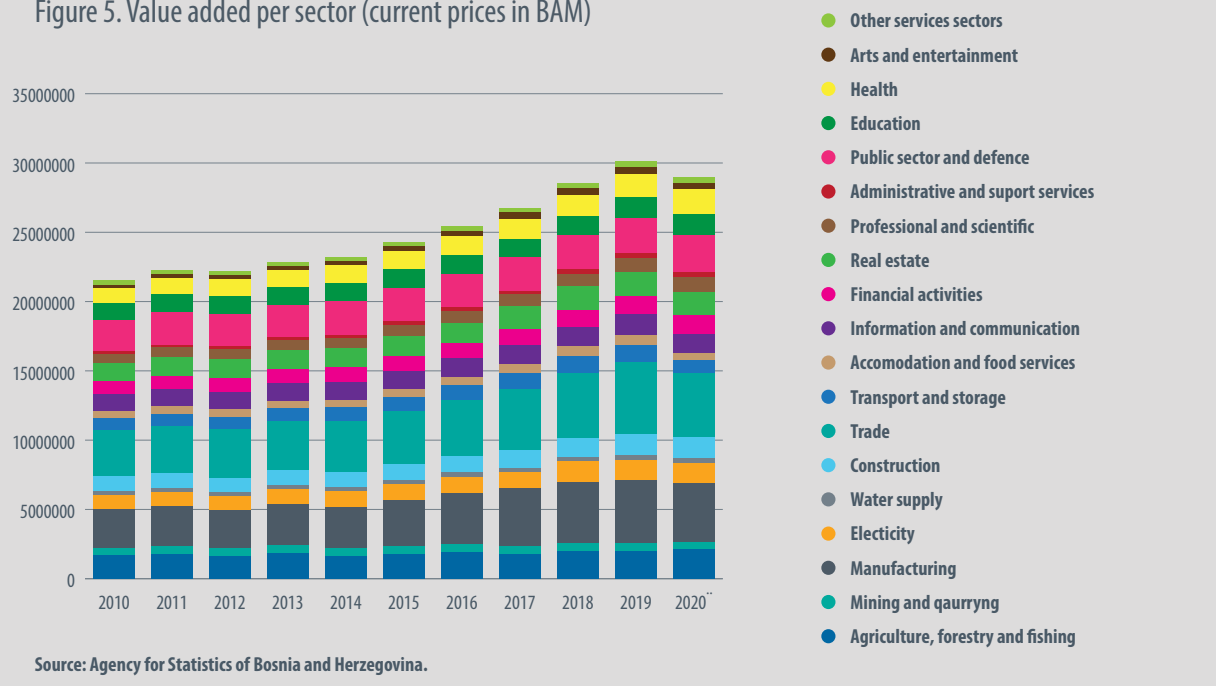
The effect of the pandemic was disproportionate in terms of the economy. The pandemic led to a reduction in economic activity, particularly in the economies that rely heavily on the sectors affected predominantly by the measures taken by local and international authorities. This was primarily the case with tourism and the economies where revenue from tourism accounts for a significant share of GDP such as Montenegro, which recorded a significant decline in GDP (WB, 2020).

As indicated by Bartlett and Oruc in 2021, in the WB economies in 2020, recession has a shape of a letter 'V' characterised by the significant decline of economic activities in early stage of pandemic, even more so than most of EU member states. Yet, in the summer of 2020, its recovery was also higher than in most of the EU member states.

The sectoral structure of GDP shows that trade, manufacture, public administration and defence as well as agriculture are sectors that contribute the most to total value added (Figure 5).



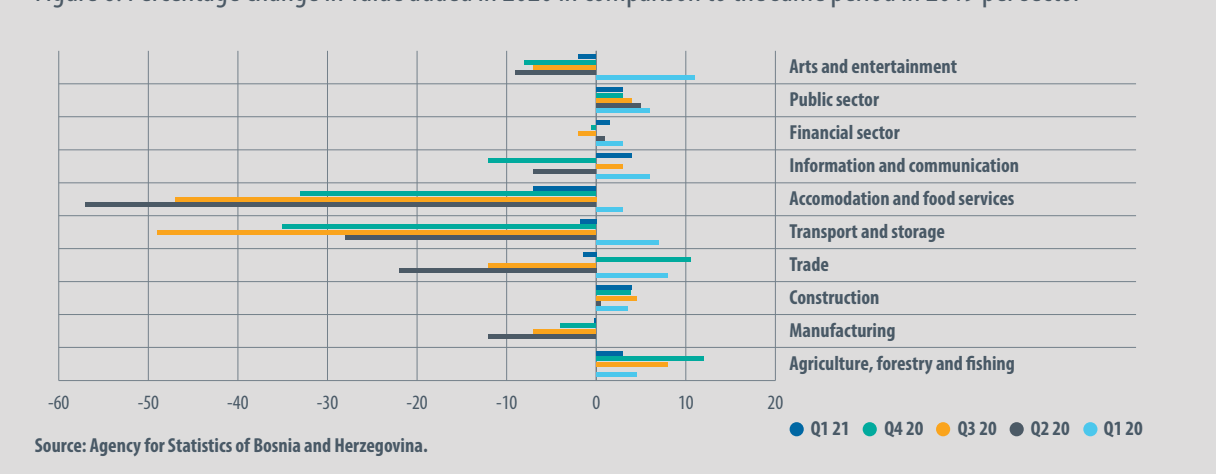
Figure 5. Value added per sector (current prices in BAM)



As shown in the previous figure, the pandemic caused a decline in value added in those sectors that were most affected by the containment measures and that were heavily reliant on the arrival of foreign tourists and diaspora. This included, amongst others, accommodation, food services and the transport sector as well as those sectors affected by the decline in external demand and value chain disruption, such as trade and manufacturing. Among other factors, the decline in demand was a consequence of reduced mobility, growing insecurity and loss of income (wage) and job losses.

At the same time, some sectors, such as agriculture and the public sector, increased during the pandemic. A review of the quarterly data gave an insight into the effects of the pandemic. Figure 6, below, shows the percentage change in value added by sector in comparison to the same period in the previous year.

Figure 6. Percentage change in value added in 2020 in comparison to the same period in 2019 per sector





As expected, services in the sectors most affected (primarily accommodation and food services and transportation and storage) experienced a fall in economic activity mostly in the second quarter of 2020 during the strict lockdown and particularly for those activities that were banned from operating at that time. Value added in the accommodation and food services sector, the transport and storage sector and the trade sector fell by 57 per cent, 28 per cent and 21 per cent respectively in the second quarter of 2020 in comparison to the same period in the previous year.

These sectors, along with arts and entertainment and recreation, all recorded a fall in value added in all other quarters in comparison to the same period in the previous year. Yet almost all sectors, with the exception of transport and storage, were showing signs of recovery in the third and fourth quarters, while transportation fell by almost 50 per cent in the third quarter in comparison to the same period in 2019. The most affected sectors showed signs of improvement in the last quarter of 2020 but failed to recover fully and have continued to generate significantly less value added than in the same period in the previous year. Surprisingly, value added in the ICT sector fell by more than 11 per cent in the fourth quarter of 2020 in comparison to the same period in the previous year. Yet value added in the agriculture, construction and public administration (including education and health) sectors increases in all quarters. Bosnia and Herzegovina, like North Macedonia, suffered a severe first wave of the pandemic, which slowed down recovery more than expected in the fourth quarter.

The negative impact that the pandemic had on the economic perspective and business revenue also reduced initiatives and capacities for domestic and foreign investment. Foreign direct investment in Bosnia and Herzegovina was hit particularly hard by the pandemic: in the second and third quarters of 2020 investment was lower by 48 per cent in comparison to the same period in 2019 (wiiw, 2021).



4. The labour market in Bosnia and Herzegovina

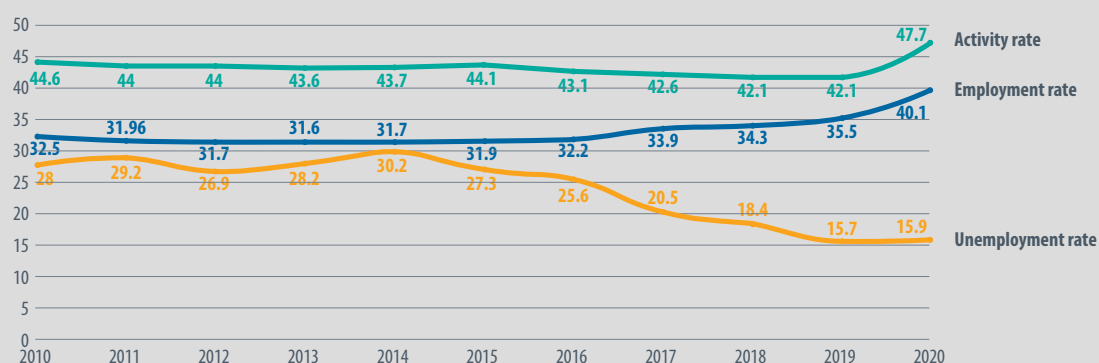


4.1. Labour market trends

Labour market indicators in Bosnia and Herzegovina displayed positive trends (Figure 7) and there were positive developments in both employment and unemployment (an increase in the employment rate and a reduction in the unemployment rate) as of 2015 up until the pandemic in 2020. The pandemic caused a pronounced decrease in the employment rate as a result of slower growth in employment and migration (wiiw, 2020).

The long-term unemployed, women, persons with only secondary school education and youth predominate among the unemployed. Although the data shows that the activity rate increased in 2020 it is still one of the lowest in the region and substantially lower than the EU average. The very low female activity rate is of particular concern. This rate in 2018 was 32.9 per cent, which was 36 per cent lower than the activity rate for men. The estimated results show that women lose approximately 35 years of productive formal employment during their lifetime. The low activity rate can be explained by the significant level of and reliance on remittances, which can discourage employment incentives, especially among women (UNDP, 2016; Mojsoska-Blazevski et al. 2017).

Figure 7. Labour market indicators



Source: Agency for Statistics of Bosnia and Herzegovina, and the Labour Force Survey.



The drop in GDP in 2020 was accompanied by substantially lower growth in unemployment. Positive trends in the unemployment rates were reversed in the year of pandemic. The data shows only a slight increase in the unemployment rate of just 0.2 percentage points (Figure 7), which can be attributed to the implementation of job-retention measures and the steep decline in working hours.

The incomparability of the data on the rates before and after 2019 precluded us from drawing any finite conclusions. It is important to note that the Labour Force Survey (LFS) is the data source for the (un)employment and the activity rates. Up until 2020 the LFS was conducted once a year on a representative sample of households; however, from 2020 the LFS has been conducted throughout the year with quarterly data release. The sample design is a two-stage stratified random sample, but the weight calibrations before and after 2020 have changed. Weights were not calibrated according to population age and gender prior to 2020 because there were no reliable estimates of the population age groups and gender whereas from 2020 calibration was done according to five-year groups and gender in order to harmonise with EU and Eurostat requirements.

The methodology of the LFS was redesigned again in 2021 and the methodological instruments for data collection were changed in accordance with the EU standards and in order to increase the quality of the data collected and allow for international comparison of data. However, methodological changes could influence the values of key labour market indicators and therefore the results of LFS 2021 are not comparable with the results of continuous LFS from 2010 and the results of annual LFS conducted before 2020. Albeit incomparable with data from the previous period, the availability of labour market indicators at the quarterly level was particularly important for an assessment of the effects of the pandemic.

Table 1. Labour market indicators at the quarterly level

Period	Employment rate	Unemployment rate	Activity rate	Working age population (in thousands)	Work force (in thousands)
Q1-20	39.3	16.7	47.1	2,926	1,378
Q2-20	39.6	16.0	47.1	2,926	1,379
Q3-20	41.3	14.2	48.2	2,926	1,410
Q4-20	40.2	16.6	48.2	2,926	1,410
Q1-21	38.4	19.1	47.4	2,904	1,377
Q2-21	39.1	18.1	47.7	2,904	1,387

Source: Agency for Statistics of Bosnia and Herzegovina, and the Labour Force Survey.



Although the values in 2020 and 2021 were not comparable we could see similarity in the trends for the first two quarters in both years, namely better performance in the second than in the first quarter. Although the number of persons in the labour force in 2020 and 2021 was relatively similar, the data for the last decade shows that there was significant decline in both the working age population and the labour force. This indicates that only a portion of the unemployed managed to find a job in the local labour market, meaning that a certain number was either absent from the labour market, migrated or became inactive.

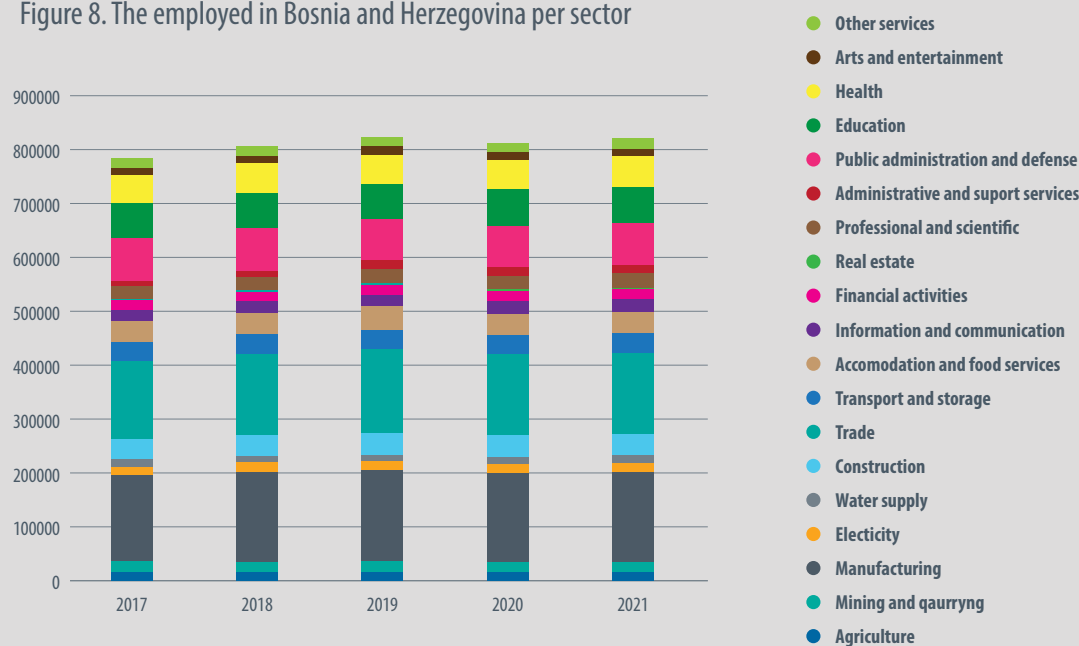
Another important indicator of change within the labour market during the crisis caused by the pandemic were the changes in the number of working hours. ILO estimations show that 9.7 per cent of total working hours in Bosnia and Herzegovina were lost due to the pandemic in 2020, which is equivalent to the loss of 110,400 jobs.⁴ The estimated loss of working hours was higher than the global estimate (8.8%) as well as the estimated average for Eastern Europe (7.4%).

Manufacturing, trade and public administration were the top sectors in terms of employment. Although agriculture ranked highly in terms of its contribution to value added, a significantly lower percentage of persons were formally employed (for illustration purposes, 7.2% of total value added was created in agriculture in 2020 yet the percentage of workers formally employed in agriculture was only 2.4%). This can be explained by the fact that the agriculture sector is the largest generator of informal employment; data from the LFS for 2020 shows that 12 per cent of the total work force in the agriculture sector was in informal employment (this percentage was even higher for women at 14%).

⁴ Compared to the base pre-pandemic indicators.



Figure 8. The employed in Bosnia and Herzegovina per sector



Sectoral analysis showed that the number of employed decreased significantly in the service sector, which employed around 50,000 persons in 2019 (Figure 8). An additional problem was that many of these sectors, those most affected by the crisis, employed a large percentage of vulnerable categories such as women and youth. According to data from 2019, 62.6 per cent of employees in the service sector were women.

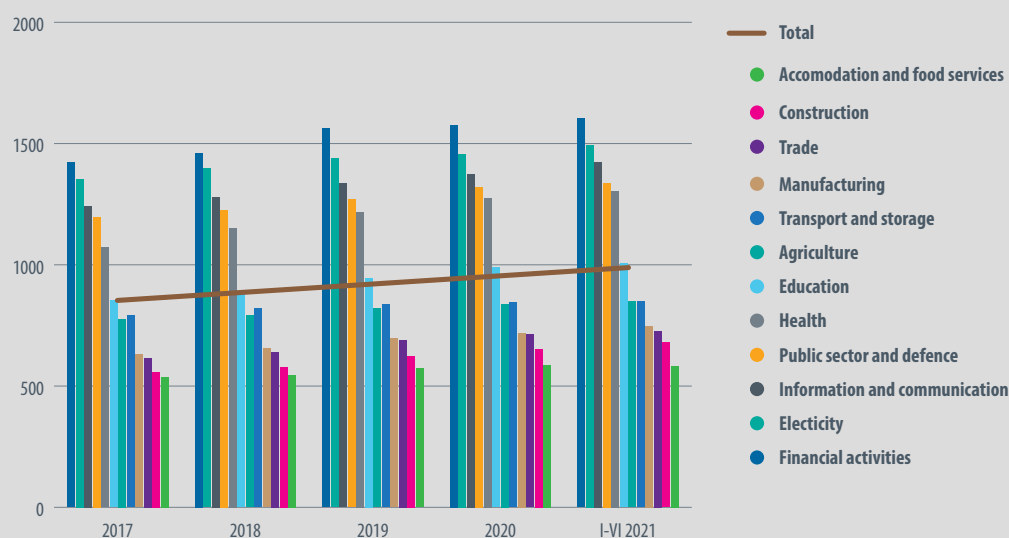
More than half of those employed (55% according to the latest available data) were engaged in sectors that pay wages below the national average, which for the first six months of 2021 was almost BAM 1,000.⁵ This is attributable primarily to manufacturing and trade which, according to data from June 2021, accounted for 38 per cent of the total number of employed and had an average wage of BAM 700. While it is encouraging that there is a trend of wage growth in all sectors the largest increase occurred in those sectors that pay the lowest wages (average wage), such as manufacturing and construction where wages increased by just over 4 per cent in the first half of 2021 in comparison to the previous year (Figure 9).⁶

⁵ The agriculture, manufacturing, transport and storage, construction, trade and accommodation sectors pay less than the national average (Figure 9).

⁶ Annual wage growth in this sector was 7% prior to the pandemic.



Figure 9. Average wage per sector in BAM



Source: Agency for Statistics of Bosnia and Herzegovina.

The monthly data shows that the largest drop in earnings during the period of the pandemic occurred in those sectors that were most affected by the containment measures (Figure A1 in Appendix). To make things worse, these are the sectors that pay the lowest wages (primarily the accommodation and food processing sectors) and the crisis has further exacerbated the position of the most vulnerable categories in society. At the same time, wages in the public sector increased slightly during the pandemic. In Bosnia and Herzegovina as well as in the entire region, the wage gap between the public and private sectors attracts young talent, potentially reducing private sector development and the competitiveness of the economy (Zhongming, Wangqiang and Wei, 2021; Vladisavljevic, 2020).

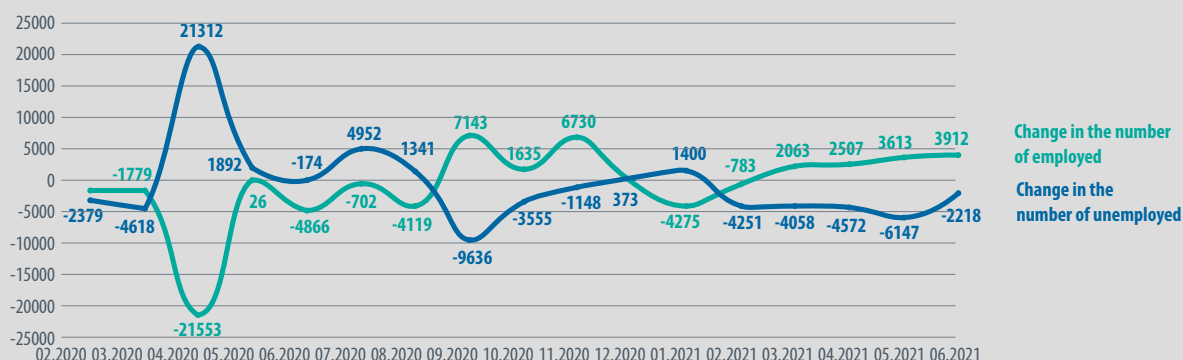
A review of the monthly data on the number of unemployed and formally employed should provide a better insight into labour market changes induced by the pandemic. In contrast to the data on the employment/unemployment rates, the data on changes in the number of employees showed that labour market developments were affected by the number of infections and the containment measures. As from April 2020, after the introduction of lockdown, a strong decline in employment and a simultaneous rise in unemployment were recorded. Records show that the number of unemployed increased by 28,000 during March and July 2020.

The summer months were characterised by an improvement in the epidemiological situation and an easing of the restrictive measures, which was reflected in the increase in the number of employed. September, a month that typically sees public sector employment and the entry of graduates into the labour market, brought a significant increase in the number of employed and a decrease in the number of unemployed. This positive trend continued until the end of 2020 when the peak of the first wave of the pandemic occurred and stringent measures were re-established. With the arrival of spring and the improvement of the epidemiological situation, the situation in the



labour market again recovered. At the peak of the first wave of the pandemic in the winter of 2020 an increase in unemployment and a decrease in the number of employed were recorded.

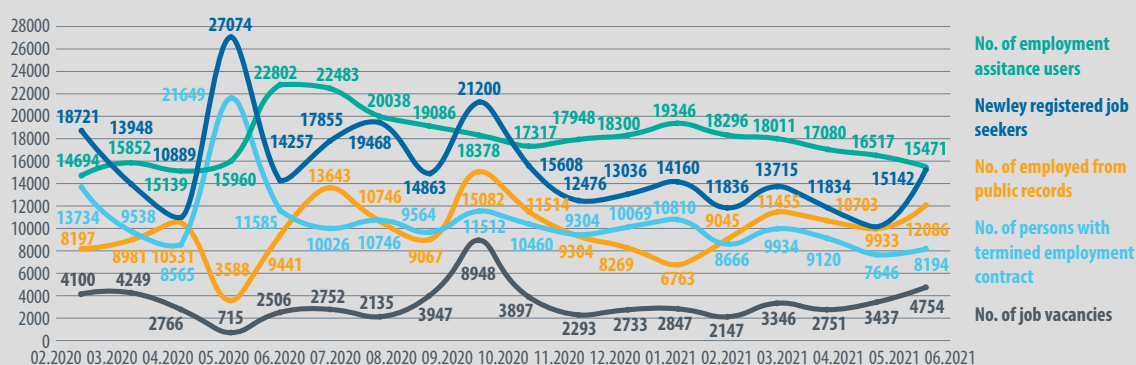
Figure 10. Changes in the number of unemployed and formally employed in comparison to the previous month



Source: Agency for Statistics of Bosnia and Herzegovina.

A review of the records of the public employment offices showed a high degree of similarity to the market situation discussed previously. The crisis caused a significant increase in the number of beneficiaries of cash benefits, which is not surprising given the significant rise in unemployment. The decline in employment in April 2020 was linked to the reduced number of vacancies and the inability of the employment institutes to find adequate employment for newly registered jobseekers. The records on the number of persons employed were subject to large fluctuations, which can be attributed to the government measures. Namely, in order to maintain employment the governments adopted a whole set of measures, including employment subsidy, with almost all indicators recovering in September 2020. With the recovery of economic activity in the spring of 2021, labour demand increased and the number of cash beneficiaries declined.

Figure 11. The records of the public employment offices



Source: Labour and Employment Agency of Bosnia and Herzegovina.



There were 199,395 persons officially registered in the records of the public employment offices within the territory of Bosnia and Herzegovina in 2020, which constitutes an increase of 14,220 persons (7.68%) compared to the previous year. In the same year, 118,759 people were registered as employed in the records of the employment services, which constitutes a reduction of 24,307 (17%) compared to 2019. The number of persons whose employment contracts were terminated in 2020 increased by 12,022 persons compared to the same period in 2019. In the first year of the pandemic, the number of reported vacancies decreased by 21,510 (34.4%) compared to 2019. However, the largest change was recorded in terms of the number of beneficiaries of cash benefits, which increased by 62,289 beneficiaries compared to the previous year. The number of beneficiaries gradually decreased in the third quarter but a growing trend was recorded in the period from November 2020 to January 2021, followed by a declining trend in the first half of 2021.

The data for the first six months of 2021 show the labour market recovery in comparison to the same period in 2020. The number of newly registered job seekers decreased by 26,089 (25.4%) persons compared to the same period in 2020, while the number of persons registered as employed increased by 5,604 (10.3%). At the same time, the demand for workers increased by 2,194 (12.8%).

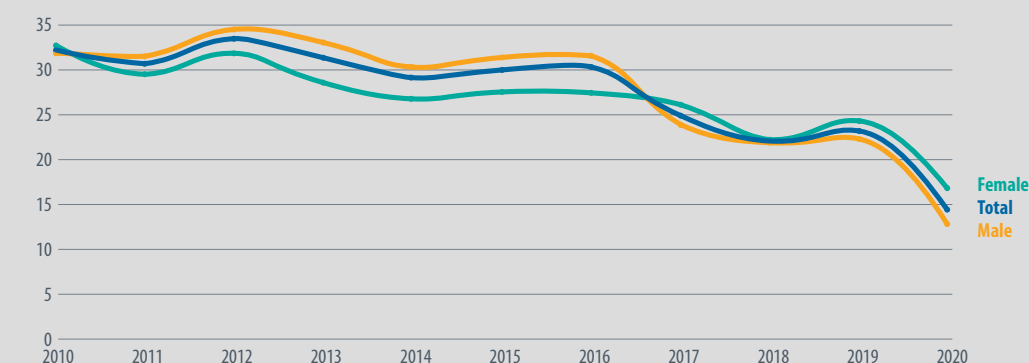
A comparison of the data for 2021 with the data for same period in 2019, prior to the pandemic, led to conclusions that were not uniform. Based on the demand indicators, which refer primarily to the number of newly registered job seekers, we found a smaller number of newly registered jobseekers in the first six months of 2021 (6,734 persons) compared to the same period in 2019. However, labour market supply indicators for the first six months of 2021 indicate that supply has not reached pre-pandemic levels. Namely, the number of persons employed and the number of job vacancies compared to the same period in 2019 were both lower by 13,699 and 12,094 persons respectively.

Based on the observed indicators at the monthly level (Figure 11), the labour market was hit hardest in April 2020. This was the month when the state of emergency was declared and a ban or restriction on non-essential sectors in Bosnia and Herzegovina was introduced. As an illustration, the number of newly registered jobseekers in April 2020 increased by almost 110 per cent, the number of persons whose employment was terminated increased by 126 per cent and the number of job vacancies decreased by 92 per cent compared to April 2019. Labour market trends in the rest of 2020 varied depending on the epidemiological situation. With the exception of February 2021, all indicators appeared to show signs of recovery as from the end of 2020.

The earnings and the number of formally employed were not greatly affected, while the greatest impact was felt among the informally employed. The proportion of informally employed workers declined over last decade, with the largest drop recorded in 2020 when there was a reduction of almost 7 percentage points down to 14.3 per cent informally employed (Figure 12). However, the source for this data was the LFS, which, as explained earlier, is not comparable with the pre-pandemic period. Hence, those figures can partially be explained by the new data collection methodology and are therefore not solely attributable to actual trends in the labour market.



Figure 12. Share of informal employment according to gender

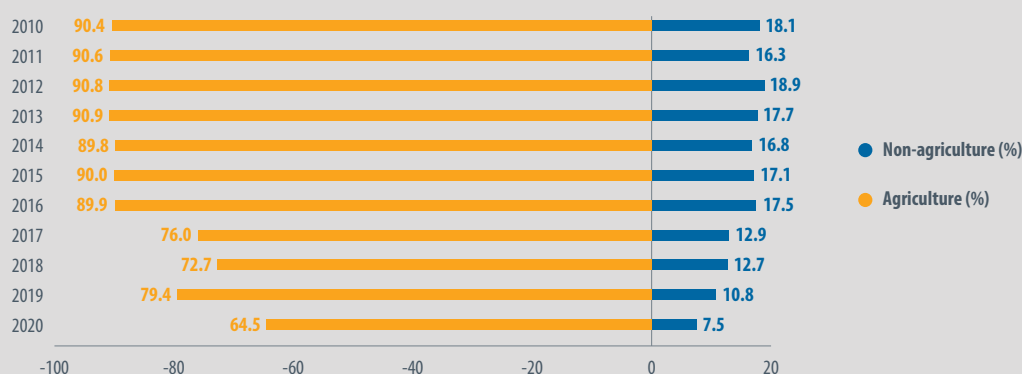


Source: International Labour Organization.

The available reports published by international organisations suggest that the effects of the crisis brought about by the COVID-19 pandemic are asymmetric and that informal workers employed in sectors where lockdown and containment measures caused job losses and reduction in earnings were most exposed (ILO, 2020b). The crisis has deepened the existing risks to which these workers are exposed, which are reflected primarily in the lack of any alternative income and other mechanisms to cope with job and earning losses. The trend of informal employment was similar in terms of gender. More women were employed in the informal economy in 2018, but the gap widened during the pandemic. However, the difference between male and female informal employment in Bosnia and Herzegovina is smaller than in most of the economies in the Western Balkans. Namely, in Kosovo*, for example, twice as many women work in informal employment than men.

Agriculture accounts for a large share of informal workers. In 2020, 64.5 per cent of those employed in agriculture were informally employed compared to around 7.5 per cent in other sectors.

Figure 13. Distribution of informal workers according to the sector of economic activity



Source: International Labour Organization.



International organisation estimates show that earnings of the informally employed have declined significantly. Without a safety net, these workers are at risk of extreme poverty. Workers with temporary contracts and part time workers are exposed to greater risks of in-work poverty (ILO, 2021).

5. Analysis of the Labour Market Survey for Bosnia and Herzegovina in 2020





The employment institutes at the entity level and in Brcko District developed, under the technical assistance of the EU funded project 'Improving Labour Market Research', a methodology and conducted a survey of employers in Bosnia and Herzegovina in 2020. The research aimed to collect data on business indicators and employment for a sample of companies in both entities and in Brcko District in 2020 as well as their expectations for 2021. The survey questionnaires were filled out by authorised persons within the companies (owners, managers and human resource managers) who had knowledge about the indicators for 2020 and the plans for 2021.

The data was collected in December 2020. The survey questionnaire provided an insight into other data that was relevant for reviewing the labour market situation such as the process of recruiting workers and resolving redundancies, measures implemented in response to the COVID-19 pandemic, cooperation with the employment services and problems related to the qualification structure of workers and the willingness to invest in training and retraining of the unemployed and graduates.

5.1. Methodology and sampling

The sample for the survey was obtained using the method of a randomised sample based on a master sample of 20,200 employers obtained from the Tax Administration and those companies that were not on the list of the Tax Administration. The sector and size of the companies were used as stratification variables. The sample size gave results within a margin of error of 2.54 per cent with 95 per cent reliability. Following the practice of international organisations, the sample in Republika Srpska and the Federation of Bosnia and Herzegovina (FBiH) did not include the sectors of agriculture, public administration, defence, education or healthcare (for more on the methodology, see the reports by the Federation of Bosnia and Herzegovina, Republika Srpska and Brcko District employment institutes).

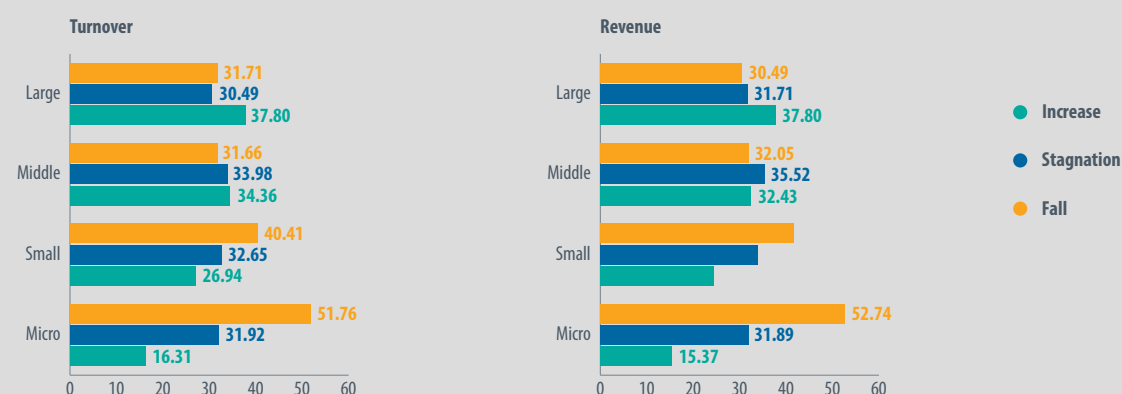
5.2. Business trends in 2020

5.2.1. Turnover and financial effects

The business results of the surveyed companies in the first year of the pandemic were assessed by analysing the change in the business indicators, turnover and revenue. Respondents were asked whether there had been a decline or increase in turnover and revenue in 2020 compared to the previous year. Their answers are summarised in the following graph. Both indicators are presented in parallel and grouped according to the size of the company.



Figure 14. Changes in revenue reported by the surveyed companies for the 2019–2020 period (% of surveyed companies)

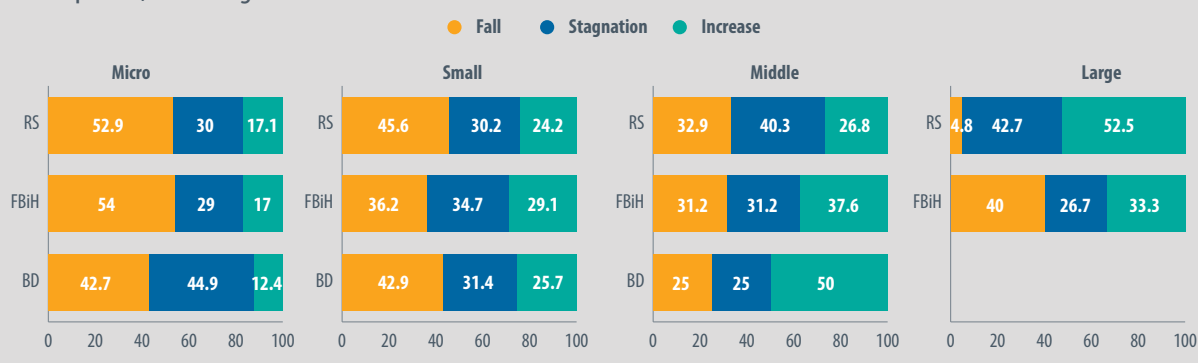


Micro and small companies were most influenced by the crisis with over 50 per cent of micro companies and around 40 per cent of small companies experiencing revenue and turnover loss. At the same time, large companies seemed to be less affected by the crisis with only a third experiencing revenue loss and almost 40 per cent revenue gain. Statistical tests also confirmed that there was a statistically significant difference between business outcomes between companies of different sizes ($\chi^2=79.84$, $p=0.000$).

The questionnaire distributed in Republika Srpska included additional questions about the impact that the crisis caused by the COVID-19 pandemic had on business indicators in 2020. About 80 per cent of respondents assessed that the crisis had had a negative impact on both revenue and turnover and almost a fifth characterised this impact as very significant. Similar percentages were recorded in terms of their presence in the existing markets and expansion into new markets and establishment of cooperation with new clients.

Since the results were very similar for both indicators, we focus solely on revenue in the further analysis. The following figure shows the previously analysed data for the entities and Brcko District.

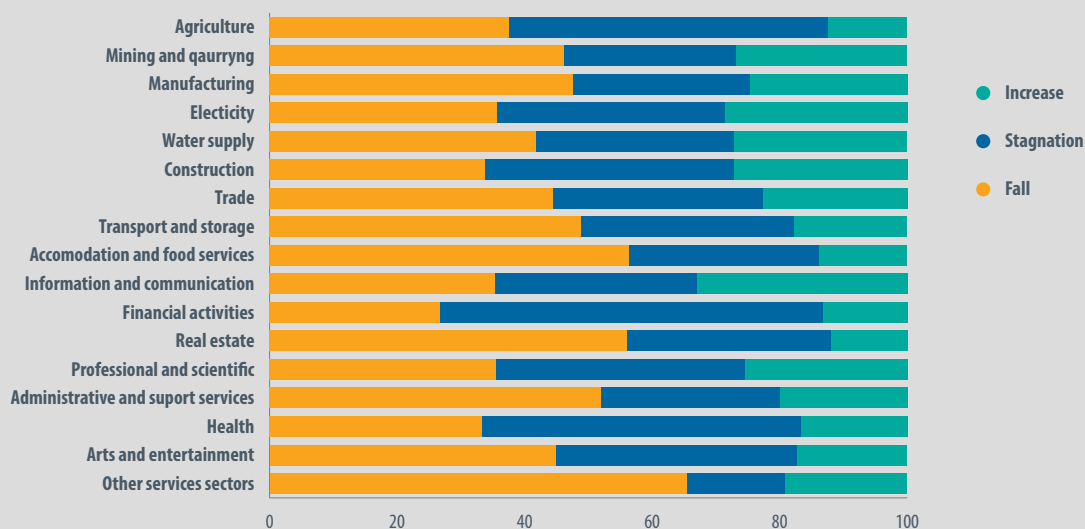
Figure 15. Changes in revenue reported by the surveyed companies for the 2019–2020 period (% of surveyed companies) according to size in the entities and in Brcko District.



The situation differed slightly in the entities. Figure 15, above, shows that most of the micro companies in Brcko District expected stagnation of revenue, unlike most micro companies in Federation of Bosnia and Herzegovina that expected a reduction in revenue. Yet the largest difference appeared in the expectations of large companies: almost 40 per cent of large companies in the Federation of Bosnia and Herzegovina expected a fall in revenue, while this was reflected by around 5 per cent in Republika Srpska. We did not report for Brcko District as only one large company participated in the survey.

Sectoral distribution by sector showed a heterogeneity of outcomes in 2020. Companies in accommodation and food services and other service sectors as well as real estate activities were most affected by the crisis with 58 per cent, 65 per cent and 56 per cent respectively experiencing loss of revenue. As expected, the largest proportion of companies in ICT reported an increase in revenue in 2021 (almost 32%). Stagnation was most present in the financial sector (60% of companies), followed by the health and agriculture sectors where half reported no change in 2020. The differences between sectors was highly statistically significant ($\chi^2=59.03$; $p=0.009$).

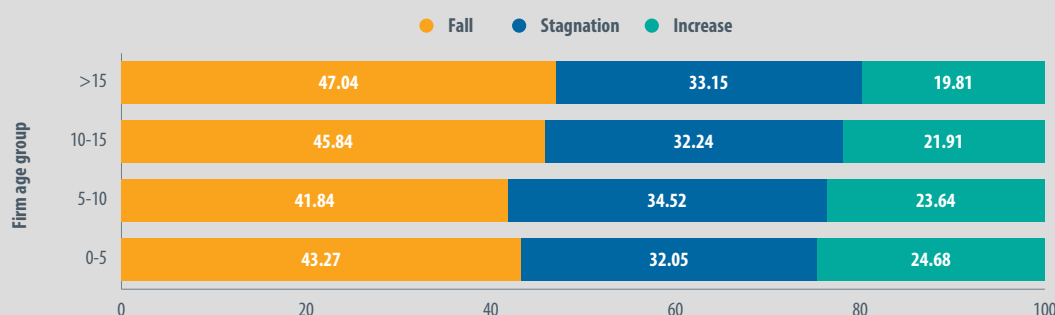
Figure 16. Changes in revenue reported by the surveyed companies for the 2019–2020 period (% of surveyed companies) per sector



Maturity did not play a major role when it came to future prospects. We saw very similar expectations in terms of change in revenue in 2021 among younger companies (up to 5 years) and those that had been working for 15 or more years. In fact, a greater proportion of younger companies reported the expectation of gain in 2021 compared to the more established companies of which a large proportion was expecting revenue loss. However, these differences were not statistically significant ($\chi^2=6.79$; $p=0.341$).



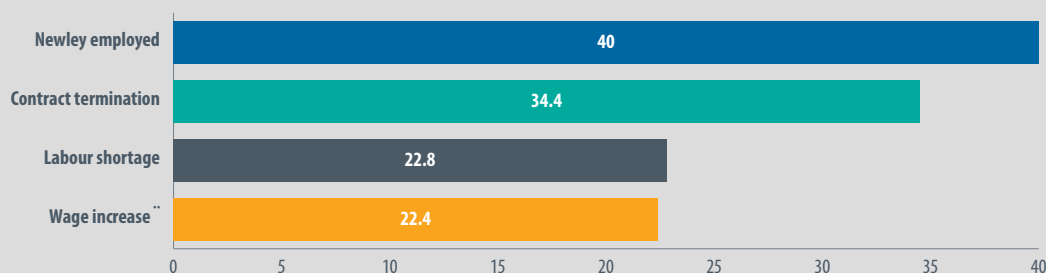
Figure 17. Changes in revenue reported by the surveyed companies for the 2019–2020 period (% of surveyed companies) according to the level of maturity



5.2.2. Employment policy in 2020

Regardless of the data source (company survey or macroeconomic data), revenue and employment trends were similar. This suggests that a decline in revenue was not accompanied by an equal decline in the number of employees. We recorded a higher percentage of employers who reported new hires than layoffs in 2020 compared to 2019; although 34.4 per cent of companies reported layoffs and 40 per cent of employers reported new employment (Figure 18 below).

Figure 18. Employment indicators for the surveyed companies in 2020 in percentage



** The data is only for the Federation of Bosnia and Herzegovina and Brcko District.

The surveyed data confirmed that the mismatch between labour supply and demand is of a structural nature. Despite the very high unemployment rate in the economy, almost a quarter of the surveyed companies reported a shortage of labour.⁷ Furthermore, the percentage of companies that reported wage increases in 2020 was similar to the number of companies reporting labour shortages. Considering that a much

⁷ Percentages were similar in the entities (24.4% in the Federation of Bosnia and Herzegovina and 22.9% in Republika Srpska respectively), while in Brcko District this percentage was around 14%.

larger percentage of the companies that reported labour shortages also reported wage increases, one might conclude that wage increases represent one of the ways of retaining existing and attracting new workers. However, most of the companies reported very modest wage increases. The data for the Federation of Bosnia and Herzegovina and Brcko District shows that 85 per cent of companies increased wages by up to 10 per cent. Sectoral distribution confirmed a similar trends (Figure 19, below).

Sectoral analysis confirmed the correlation between labour shortage and wage increases; most of the sectors that reported a shortage of workers were those sectors that reported the most wage increases (primarily ICT, manufacturing and construction). The same sectors were also at the top when it came to companies that reported new hires, but also termination of employment contracts.⁸ Sectors such as ICT were characterised by a large percentage of mobility between companies among workers and a lower percentage of fired workers compared to the general amount presented here. Data from Republika Srpska confirmed this with around 26 per cent of surveyed ICT companies reporting layoffs. The reasons for such layoffs could only be observed in Republika Srpska where the largest number of surveyed companies cited reduction in turnover and revenue and other consequences of the COVID-19 crisis as the main reasons for the layoffs.

Figure 19. Employment indicators for the surveyed companies in 2020 per sector

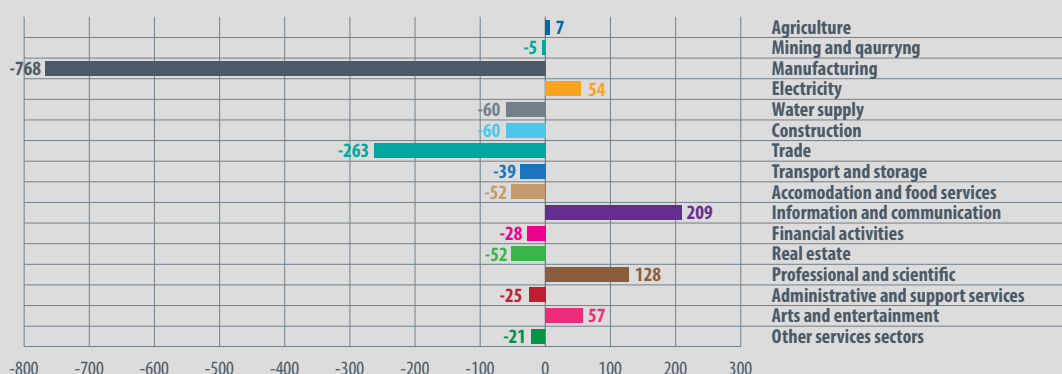


⁸ Data for Republika Srpska data only refers to fired workers, while the Federation of Bosnia and Herzegovina data refers to fired workers as well as those that consensually terminated their contract with the company.



Although the largest percentage of companies reported new employment rather than termination of contract, we needed to analyse the number of workers in order to gain an understanding of the actual situation in the labour market. The data shows that the surveyed companies employed 8,791 workers but also that these companies terminated more worker contracts (9,640) in 2020. The following figure shows the total change in the total number of workers per sector, namely the number of newly employed workers minus the number of workers that lost their job.

Figure 20. Net change in the number of workers per sector in 2020



The ICT sector employed the largest number of new employees, followed by professional and technical activities and arts and entertainment. On the other hand, those companies operating in the sectors that employ the largest number of workers in general (manufacturing and trade) showed the largest negative change in the number of workers in 2020.

The questionnaire enabled us to investigate the reasons for the labour shortages. This can be divided into two large groups: from the aspect of the employers and from the aspect of society. According to the employers, the labour shortage was primarily a consequence of a lack of knowledge and skills, inappropriate working experience and the problem of the deficit in certain occupations. The employers believed that the institutional aspects (taxes, lack of funds for training and information about labour supply) as well as worker satisfaction in terms of wages and working conditions were of secondary importance when it came to labour shortages.



Employers' perspective

Society/institution perspective

Shortage of workers with occupations in demand	Shortage of workers with adequate working experience	Candidate's dissatisfaction with wage offer	Taxation (high level of tax and social contributions)
			Lack of funds for training
Shortage of workers with knowledge and skills needed for the job	Candidate's dissatisfaction with working hours and conditions	Remoteness of working place from the place of residency	Lack of information about labour force

The problem of the mismatch between knowledge and skills and labour market needs is of a structural nature and is therefore not a direct consequence of the pandemic. Almost half of the respondents in the survey "Balkan Barometer 2019" believed that the skills developed during their formal education were insufficient for their job (RCC, 2019).

Structural unemployment within the labour market in Bosnia and Herzegovina is reflected, among other things, in the large percentage of long-term unemployed and youth unemployment, which is a challenge for the economy and employers due to lower potential for economic growth (Halilbasic et al., 2015; Zhongming, Wangqiang and Wei, 2021).

The mismatch between knowledge and skills and labour market requirements reduces diversification and inhibits the improvement of business activities. According to the LFS data for 2020, as many as 74.7 per cent of the unemployed have been looking for a job for more than a year and the unemployment rate among young people (under 25) is twice as high (36.6%) as the total amount. One in five young people are not in employment or in training. High youth unemployment rates and employment in the informal economy result in an increase in the elasticity of supply in the labour market, even when there is a shortage of labour (Petreski et al., 2021).



5.3. Estimations for 2021

5.3.1. Turnover and revenue

The questionnaire distributed in the Federation of Bosnia and Herzegovina and in Brcko District also contained a question on the expected change in revenue and turnover in 2021 in comparison to 2020. Figure 21, below, indicates that most of the companies were expecting recovery of both revenue and turnover in the next period. The companies in the Federation of Bosnia and Herzegovina had a more optimistic outlook, while those in Brcko District were more cautious and more of them were expecting that both revenue and turnover would fall in 2021 in comparison with the companies in the Federation of Bosnia and Herzegovina.

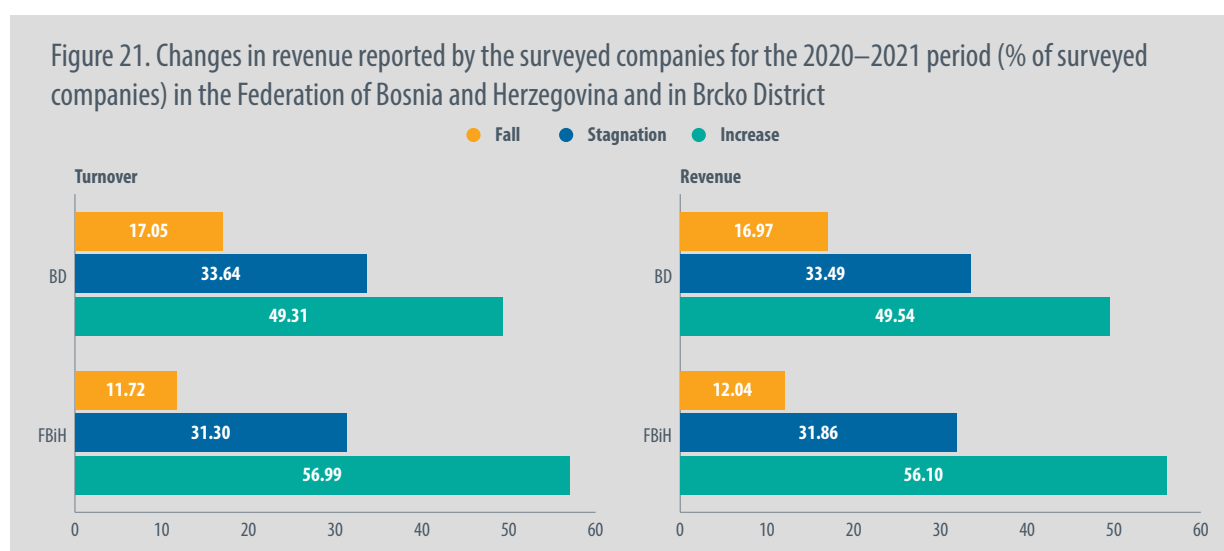
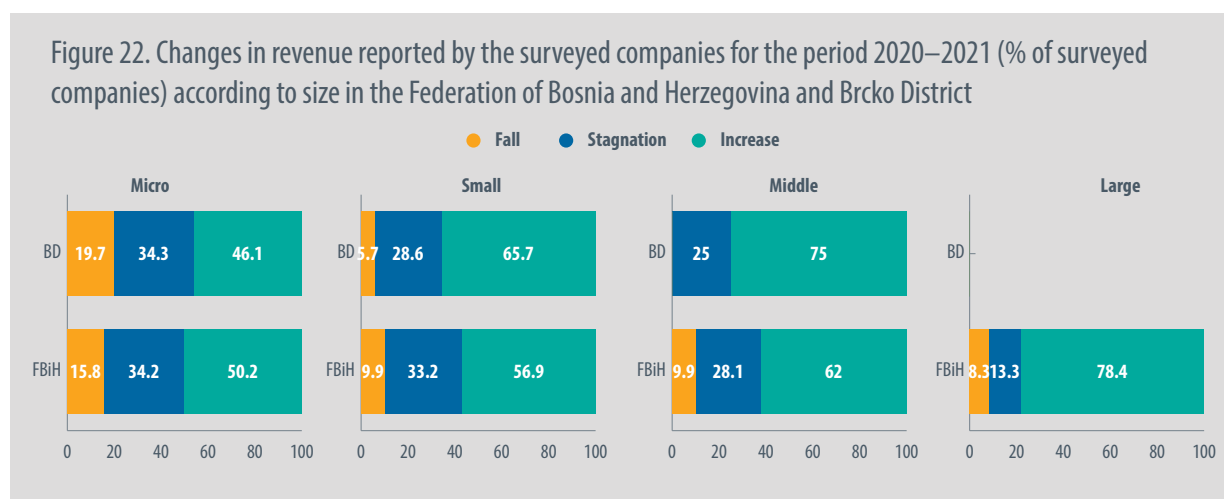
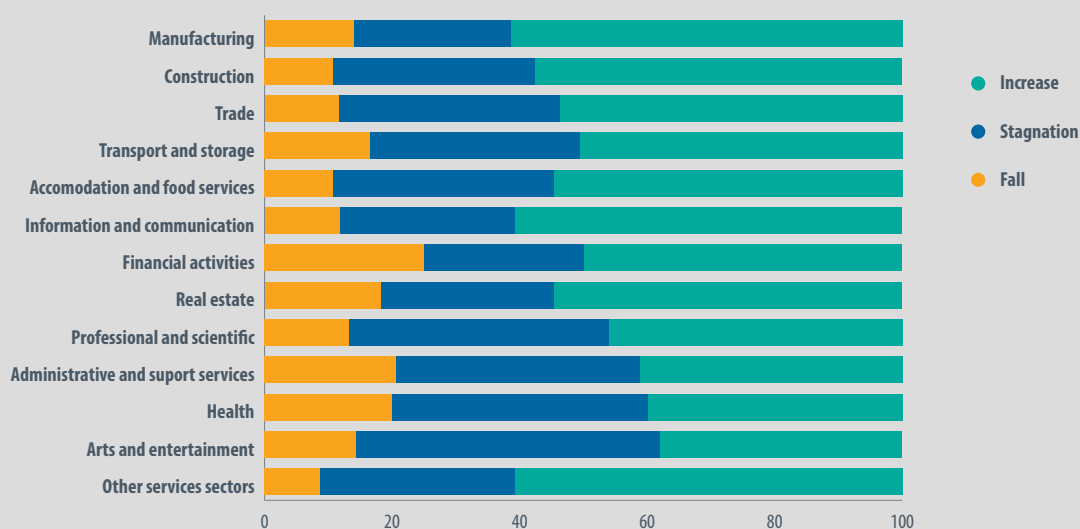


Figure 22, below, presents the distribution of answers grouped according to the size of the surveyed companies. The larger the firm the larger the expectation of gains in revenue and turnover in 2021.



The micro and small sized companies that were most affected by the crisis were more cautious in terms of their expectations with only around half of those surveyed expecting an increase in revenue. At the same time, 78 per cent of the large companies in the Federation of Bosnia and Herzegovina and 75 per cent of middle sized companies in Brcko District expected an increase in revenue in 2021 compared to 2020. The expectations of different sized companies were highly statistically significant ($\chi^2=33.78$; $p=0.000$).

Figure 23. Changes in revenue reported by the surveyed companies for the period 2020–2021 (% of surveyed companies) per sector

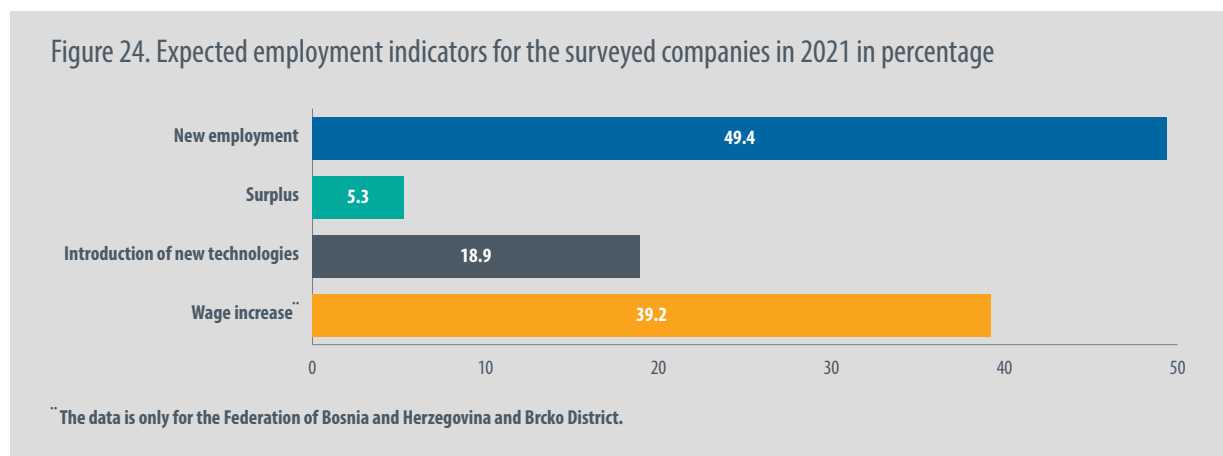


Companies across different sectors shared the most optimistic expectations when it came to revenue in 2021 (Figure 23, above). The expected changes were more uniform across sectors and yet there were differences. However, these differences were not significantly different ($\chi^2=41.32$; $p=0.249$). The ICT sector continued to perform well with almost 61 per cent of companies reporting the expectation of an increase in revenue. A similar proportion of companies in manufacturing as well as other service sectors reported an optimistic outlook in terms of expected revenue. The majority of companies in accommodation and food services and real estate activities as well as other service sectors that were most affected by the crisis expected a recovery and an increase in revenue. The financial sector, which mainly stagnated in 2020, was the sector with the highest proportion of companies reporting revenue loss in 2021. The reason for the latter could be fear that the introduction of fiscal and monetary measures intended to combat the crisis would jeopardise banking operations. Based on the available data on the gross value added in the financial sector for the first quarter of 2021, this fear was unjustified because the gross value added grew in the first quarter of 2021.



5.3.2. Labour and training requirements in 2021

Similar to the business results, the employers outlook in terms of labour requirements in 2021 were more optimistic (Figure 24).



Almost half of the employers expected new employment in 2021 and that the number of jobs at risk would be reduced significantly, while just 5.3 per cent expected to make workers redundant. The percentage of companies that planned to increase wages in 2021 was 40 per cent. In the Federation of Bosnia and Herzegovina and Republika Srpska, the percentage of companies expecting new recruitment in 2021 exceeded 50 per cent whereas in Brcko District this percentage was almost half of that. Only 5 per cent of respondents expected redundancies in 2021. A slightly higher percentage (more than 7 per cent) of companies in the Federation of Bosnia and Herzegovina expected to make workers redundant in 2021.

Sectoral analysis showed that the largest percentage of companies operating in the administrative sector expected new employment in 2021 (almost 65%), followed by construction and the ICT sector (Figure 25, below). These were also the sectors with the highest percentage of labour shortages in 2020. It is encouraging that the highest percentage of companies in the sectors with the lowest average wages and the sectors most affected by the pandemic, such as manufacturing, construction and accommodation, reported expected wage increases in 2021 (Figure 25, below). Yet a large percentage (almost 90 per cent) planned only modest wage increases of up to 10 per cent.



Figure 25. Expected employment indicators for the surveyed companies in 2021 per sector



Employers in the financial sector were expecting the largest percentage of redundant workers and the same percentage of employers were expecting to introduce new technologies. However, as expected, a reduction in revenue and turnover and not changes in the mode of operations was identified as the main reason for the expected redundancies. Reduction in revenue and turnover was reported as the main reason for redundancy by 66 per cent of employers in all sectors. Unlike the Federation of Bosnia and Herzegovina and Brcko District, the questionnaire distributed in Republika Srpska distinguished between reduced revenue and turnover and the impact of the COVID-19 crisis. The latter were identified by 63 per cent of respondents.

Almost 20 per cent of the surveyed employers planned to introduce new technology. Even before the COVID-19 pandemic, there were fears that digitalisation, automation and technological advancements would lead to significant structural changes in the market and an increase in redundancies. The literature review did not clearly indicate the negative effect of automation on the overall level of employment. Yet what remains a concern is how these processes would affect vulnerable categories in the labour market, primarily low skilled workers and workers with low levels of ICT skills.⁹ An additional problem was that these workers were less involved in training and programmes of requalification (OECD, 2019; 2021).

⁹ According to Agency for Statistics of Bosnia and Herzegovina data for the first quarter of 2021, 75.5% of the population of Bosnia and Herzegovina had internet access, which is less than the regional average.

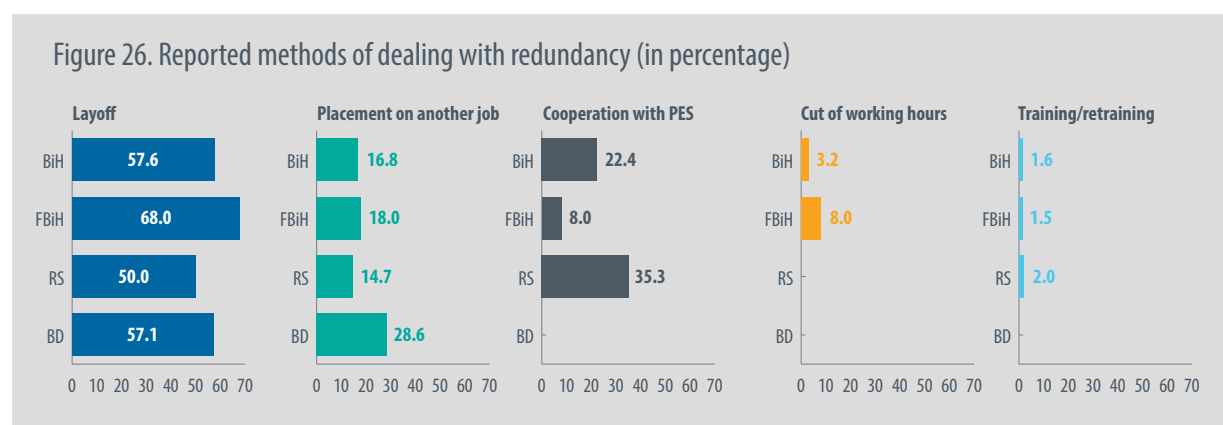


The predictions showed that the processes for introducing new technologies were expected to be continuous and perhaps even on a larger scale after the crisis (WEO, 2020). According to the survey data, there was no great danger that automation processes would cause a large number of redundancies in 2021. Among the companies that reported that they expected redundancies in 2021, only 8 per cent stated that these redundancies would be caused by a change in production methods brought about by integrating new technology.

At the same time, 18.9 per cent of respondents stated that they planned to introduce new technologies that would require additional training of employees. The largest percentage of companies planning to introduce new technologies came from the other service industries and the ITC sector (Figure 25, above).

Over 80 per cent of the companies planning to introduce new technology stated that it would be necessary to conduct training related to a specific job. In 35 per cent of cases this training related to acquiring ICT skills, learning a foreign language and project management, while a quarter of respondents indicated that the introduction of new technology would require additional training/ retraining of workers.

The main method for dealing with the expected redundancies was to lay off workers (Figure 26, below).



More than half of the surveyed employers planned to layoff redundant workers. There was heterogeneity across the entities with 68 per cent of employers in the Federation of Bosnia and Herzegovina planning to layoff redundant workers compared to 50 per cent in Republika Srpska. Around 17 per cent of employers in Bosnia and Herzegovina planned to transfer redundant workers to another job/organisation, while that percentage was almost 30 per cent in Brcko District.

In order to solve the problem of redundancy, a significant portion of employers in Republika Srpska (35%) collaborated with the public employment services (PES), while this was the case with only 8 per cent of the surveyed employers in the Federation of Bosnia and Herzegovina. A more proactive role for the public PES in Republika Srpska appears to reflect the reform and revision of the legal framework that took place in Republika Srpska in 2018. The latter was intended to reduce the administrative load on

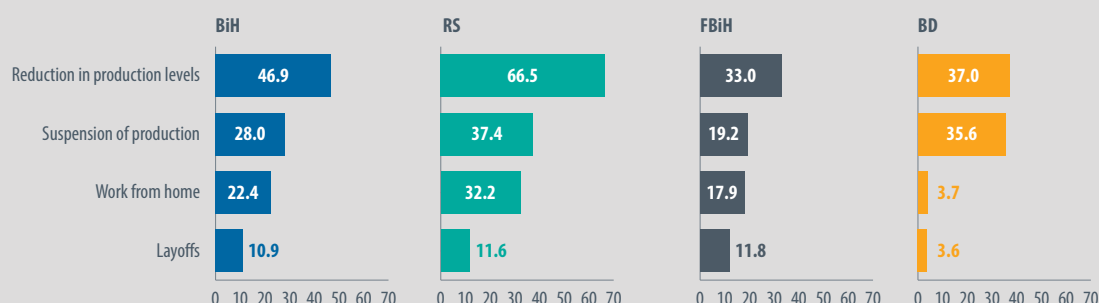
public servants and enable them to provide more active support to both job seekers and employers (ETF, 2020).

5.4. COVID-19 responses

The crisis caused by the COVID-19 pandemic revealed inadequacies in the labour laws in both entities and in particular raised questions about the organisation of work from home and the protection of job places.

Employers in Bosnia and Herzegovina, like employers around the globe, were forced to change the way they run their businesses during the global health crisis. Most employers in Bosnia and Herzegovina reduced their level of production, while some were forced either to temporarily or permanently suspend production (Figure 27, below). A significant number of employers chose to organise work from home, mainly in Republika Srpska but less than 4 per cent in Brcko District. There were noticeable differences in the ways in which employers in the entities reacted to the crisis. The largest percentage of companies reporting that they were forced to take some of the measures (Figure 27) was in Republika Srpska, while 15 per cent of the surveyed companies in the Federation

Figure 27. How employers responded to the crisis caused by COVID-19 (in percentage)

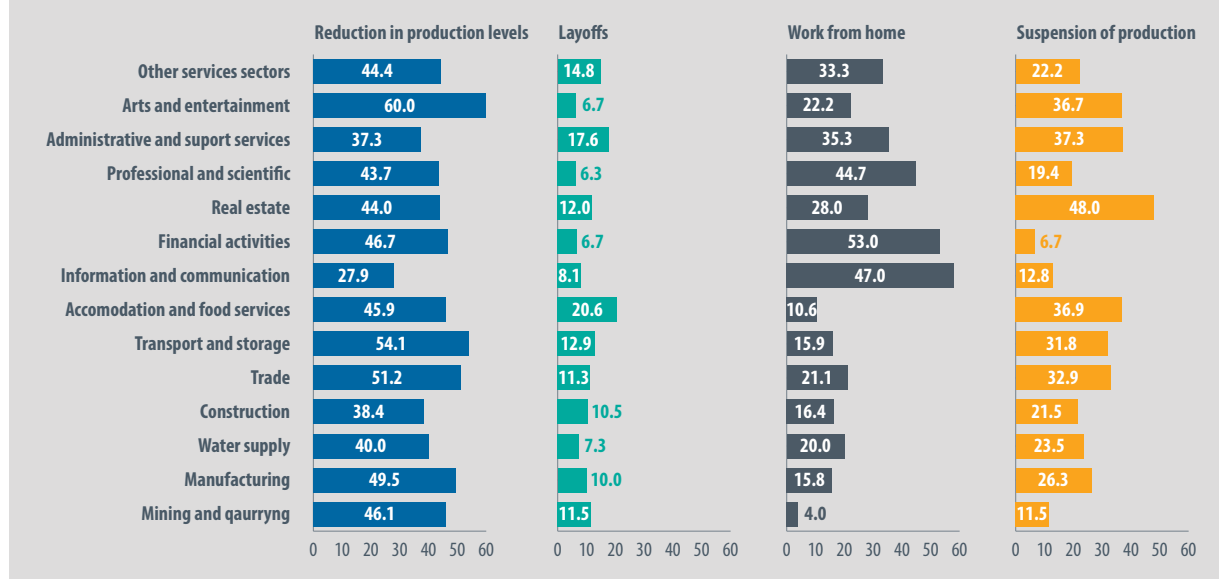


Bosnia and Herzegovina failed to apply any of the measures. Although based on the survey questions, we could not check the percentage in Republika Srpska. As described in the previous discussion, the data also shows that layoff was a measure that was used to a lesser extent in response to the crisis.

The distributions of measures applied at the sectoral level revealed the expected findings (Figure 28, below).



Figure 28. The response of employers to the crisis caused by COVID-19 per sector (in percentage)



As expected, the sectors of arts and entertainments, accommodation and food services and real estate were largely forced to suspend or reduce activities. At the same time, the largest percentage of the surveyed companies from these sectors reported having to resort to laying off workers because of the crisis caused by the pandemic. The nature of ICT business and the financial sector enabled a large percentage of the companies in these sectors to organise work from home.

5.5. Collaboration with the public employment offices

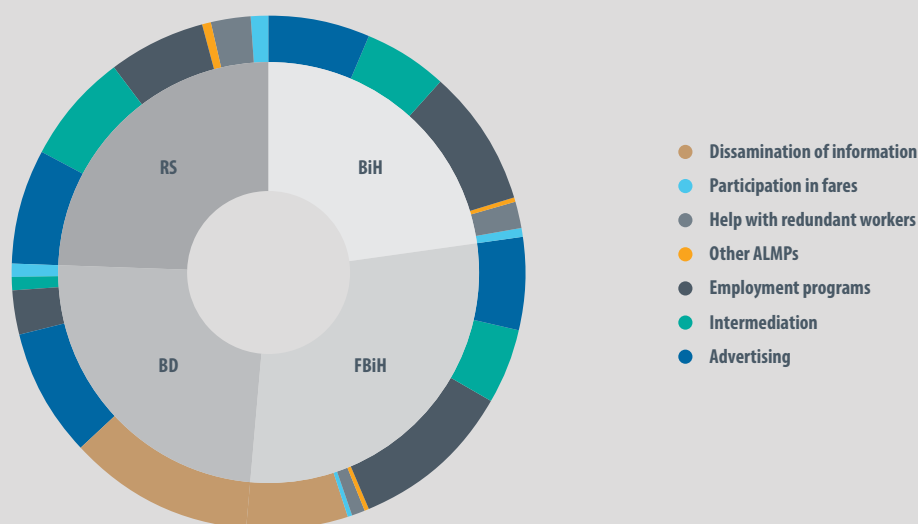
Public employment offices (PES) play a key role in tackling unemployment by implementing measures such as wage subsidies, career counselling, vocational training and job search services. However, programmes and sources of funding are not the same across the employment offices in the entities and in Brcko District and yet wage subsidies is the most used programme in all of them (Balavac, Omerovic and Markus, 2021). Wage subsidies encourage employers not only to hire new workers but to maintain existing jobs by reducing labour costs (Almeida, Orr and Robalino 2014; Kluve 2010), which appeared to be an appropriate measure during the COVID-19 pandemic crisis. Yet a review of the literature shows that under normal circumstances estimates on the effectiveness of these programmes are mixed (Card et al., 2018). Although a very small number of programmes in Bosnia and Herzegovina have been evaluated the existing ones show positive short-term effects (Balavac and Posadas, 2019).

Yet although a significant part of the work of the employment services is taken over by tasks unrelated to employment, such as the management of social benefits, some efforts have been made to reform employment services in order to enable them to provide more customer oriented services, such as active labour support. Republika Srpska revised its legislation in 2018 with the aim to redirect more funds to active labour market measures.

The questionnaires included a module on the type of collaboration between employers and the public employment offices, which were particularly important for preserving jobs that were put at risk because of the pandemic. The questions were multiple choice and the offered modalities differed to some extent across the questionnaires that were distributed in the Federation of Bosnia and Herzegovina and in Brcko District on the one hand and those in Republika Srpska on the other. Our analysis tried to analyse the answers uniformly, but regardless of this most of the modalities that were identified as the most important were defined equally across all regions.

More than 25 per cent of the surveyed employers indicated that they collaborated with the public employment offices. Heterogeneity was again present in the entities. The largest percentage was reported in the Federation of Bosnia and Herzegovina (over 31 per cent), while in Brcko District this amounted to just 8 per cent.

Figure 29. Modes of collaboration between employers and the public employment offices



At the economy level, most companies participated in employment subsidy programmes, followed by advertising job vacancies and employment intermediation (Figure 29, above). This result is not surprising, given that active employment policy measures have been one of the basic instruments used by governments around the world to respond to and mitigate the negative effects of the crisis in relation to



employment and income (ILO, 2020). Employment subsidies represent one such measure aimed at preventing a drop in demand during the crisis, but also the preservation of existing jobs. Advertising vacancies and intermediation in employment according to the required profile are also a common means of cooperation between employers and the PES. These measures are in line with the previous results that show that employers also had a shortage of workers of certain profiles and occupations in 2020. Advertising and intermediation measures were applied in order to reduce the mismatch between labour supply and demand whereby these services connected employers to the required profile of workers more effectively.

Yet there were differences. Although participation in employment subsidy programmes was the dominant form of cooperation with the PES in the Federation of Bosnia and Herzegovina and Republika Srpska, in Brcko District the main form of cooperation was information about the labour supply and a significantly smaller percentage of companies in Brcko District used the employment subsidy programmes (Figure 29, above). Information about labour supply was the second most commonly used measure in the Federation of Bosnia and Herzegovina, while this modality was neither offered nor identified in the questionnaire distributed in Republika Srpska. While companies in the Federation of Bosnia and Herzegovina and Brcko District mainly used two measures, companies in Republika Srpska used a whole set of measures offered by the PES. Considering that the data analysed is for the pandemic year, it is surprising that a very small percentage of companies in the Federation of Bosnia and Herzegovina and Brcko District cooperated with the PES on the problem of redundancy. The situation was slightly different in Republika Srpska, where 15 per cent of the surveyed companies reported using this mode of cooperation.



Conclusions and recommendations



The measures to combat the pandemic led to a considerable reduction in economic activity in Bosnia and Herzegovina, especially in those sectors where labour was partially or completely banned. The sectors that did not have limitations with regard to their activities also encountered difficulties because many employees could not perform their duties because of illness and/or self-isolation measures. Due to these circumstances, the GDP growth that had been recorded in Bosnia and Herzegovina over the last decade was halted and 2020 saw a contraction of economic activity in excess of 4 per cent.

The economic crisis that resulted from the pandemic stemmed from the simultaneous contraction of supply and demand, which was the result of reduced turnover caused by the closures and the situation on the global market as well as reduced revenue caused by layoffs and reduced working hours. Data from the Labour Force Survey (LFS) shows that the decline in GDP recorded in 2020 was accompanied by a slight increase in unemployment and a reduction in the share of informal employment. However, these indicators are not comparable with the values from previous years because of methodological changes and adjustments that were made to the LFS in 2020 and in 2021. The incomparability of data on unemployment prior to 2019 with the latest data posed a challenge when making the final conclusions and therefore the economic measures taken by government in response to the crisis, which reduced the negative impact the crisis had on the labour market, could not be compared in this respect.

Analysis of the situation in the labour market in Bosnia and Herzegovina showed that the crisis caused by the COVID-19 pandemic had an impact on the most vulnerable categories of the working age population. The restriction measures most affected those sectors that employ workers with lower income and generally poor working conditions. An additional problem was the large share of women and young people in the given sectors, who were the most vulnerable categories even before the pandemic with a very low activity rate and a high unemployment rate.

The survey of employers that was conducted in late 2020 by the employment agencies within the 'Improving Labour Market Research' project at the regional level and the level of the economy showed that certain types of companies were particularly susceptible to the shocks caused by the crisis. Micro and small businesses suffered the largest decline in revenue and turnover in 2020, as did companies operating in the hospitality and food service, other services and the real estate sector. The companies surveyed in 2020 laid off a higher number of workers than they hired. Among the surveyed companies, those in the ICT sector employed the highest number of new employees, followed by professional and technical activities and arts and entertainment. At the same time, those companies operating in the sectors that employ the highest number of employees (manufacturing and trade) experienced the largest decline in the number of workers.

Despite the pronounced problem of unemployment, a quarter of the surveyed employers reported a shortage of workers. In their opinion, this was primarily a result of insufficient knowledge and skills, inadequate work experience and occupations in deficit. The incompatibility of knowledge and skills and labour market demands is of a structural nature and therefore not explicitly related to the crisis caused by



the pandemic. This was reflected in, among others, the high level of the long-term unemployment rate and the youth unemployment rate, which represent a challenge for the economy as a whole and for employers in particular.

The surveyed companies had higher expectations in terms of their business results and hiring new workers in 2021 and therefore they did not expect a significant surplus of workers. Those sectors that reported the greatest shortage of workers in 2020 expected the highest demand for them (the administrative sector, civil engineering and ICT). Moreover, the sectors with the lowest wages on average and those hardest hit by the pandemic (manufacturing and hospitality) reported the highest expected increase in wages in 2021. Although one fifth of the surveyed companies planned to introduce new technologies, it seems that workers will not be affected by the process of automatization in 2021.

In response to the pandemic, most employers in Bosnia and Herzegovina reduced their volume of production and organised work from home, while some were forced to either temporarily or permanently suspend production. Work from home was to a large extent present in Republika Srpska, while less than 4 per cent of employers in Brcko District organised their business in that way.

To safeguard employment and reduce the negative effects of the pandemic on employment in Bosnia and Herzegovina, as in the rest of the world, a significant number of employers established cooperation with the PES, primarily by participating in employment co-financing programmes. Advertisement of vacancies and intermediation in the employment of specific profiles were common means of cooperation between employers and the public employment agencies. These measures were used to reduce the previously identified shortage of workers with specific skills and occupations. Therefore, the employment agencies were used to effectively connect employers and workers with workers with the required skills.

Lastly, an evaluation of the model we designed (for the model see Annex 1) to take into account those labour market indicators that were dependent on the number of COVID-19 cases provided an insight into the number of vaccinated people as well as the stringency measures. By allowing for differences over time we developed short and long-term scenarios in order to examine future trends in the labour market.

The projected evaluation results show that an increased number of COVID-19 cases and stringency measures would lead to a higher number of unemployed persons, while an increased number of vaccinated people would have the opposite effect on unemployment.

Having in mind that the projections of the number of unemployed persons were characterised by uncertainty in terms of the evolution of the virus and the measures that the authorities could take to prevent the proliferation of the virus, we evaluated the change in the level of unemployment using different assumptions (scenarios) that took into account the possible evolution or spread of the virus, the possible government response and the potential vaccinated rate.



Based on the previous analysis of the situation in the labour market and the presented research results, the following recommendations apply to labour market policies that should be created for the next period in order to contribute to stimulating new employment in the future.

Introduction and expansion of social protection measures for the most vulnerable categories in the labour market

Taking into account the problems related to global value chains and trade, it is likely that the policies related to employment and economic recovery will not be sufficient in the short term to help vulnerable categories of the population, who are also most affected by the pandemic, to participate in the labour market. It is therefore recommended to introduce measures aimed at providing financial assistance and social protection for the above-mentioned categories of the population, including those who are not part of the formal economy.

Align curricula with labour market needs

Although the persistent high unemployment rate is mainly the result of inadequate job opportunities, almost a quarter of surveyed employers stated that they lacked manpower. The employers cited a lack of knowledge and skills, inadequate work experience and deficit occupations as the main reasons for the lack of manpower. This is further evidence of the problem of structural unemployment, which has characterised the labour market in Bosnia and Herzegovina over the last 25 years. In order to better match supply and demand in the labour market it is necessary to align schools and institutions of higher education in order to exchange information and experiences on the skills and knowledge necessary for employment and to adjust curricula accordingly.

Currently, schools do not seek the opinion of employers in regard to the kind of employees they require. Therefore, it is not possible to provide high quality practical classes for pupils. Instead, practical education is reliant on informal channels and the goodwill of teachers and the managers of companies. Schools do not receive feedback on the effectiveness of their education plans and programmes. As a result, additional training of at least 6 to 12 months is required in order for young people to master the skills necessary for the job. Only pupils who received practical training in certain companies can find a job without additional training, since they already have the skills necessary to carry out daily activities.



Promote lifelong learning to increase the level of skills required

The survey of employers as well as the previous findings in the literature, indicate that there is a mismatch in the level of knowledge and skills. In order to reduce this gap, in addition to harmonising the curriculum for young people about to enter the labour market it is also necessary to create and promote training for young people who are actively involved in the labour market as either participants or active job seekers. Special attention needs to be paid to scarce occupations and to strengthening digital skills. This is especially true for people with a low level of digital literacy. Increasing the latter would not only increase business opportunities but also opportunities for further learning and skills development in a virtual environment.

Restructure active employment policy measures in order to reduce structural unemployment

In the forthcoming period, one of the recommendations is to increase the share of active employment market measures in order to enable restructuring. In addition to coverage, it is recommended to consider the structure of the programmes that so far have been largely oriented towards wage subsidies with a relatively small share of measures that include training, retraining and active counselling. Employment subsidy measures played a key role in maintaining labour market demand and employment at the beginning of the pandemic, but in the recovery period it will be necessary to consider measures aimed at addressing structural unemployment. Namely, given the previously identified problems related to skills shortages and structural unemployment, it is recommended to design measures that will tackle these problems.

The programme goals of the employment institutes for 2020 and 2021 emphasise the strategic commitment to undertake mediation and counselling activities. In the coming period it will be recommended to include training programmes in this mix, in order to reduce the risk of long-term unemployment of workers laid off during the crisis. Training programmes can help the economy through the reallocation of part of the workforce and to respond to challenges that are expected in the post-pandemic period in relation to labour market restructuring.

Improve the effectiveness of employment policies by conducting continuous evaluation and monitoring

In order to increase the effectiveness of active employment policy measures, it is recommended to evaluate the impact of all measures introduced or redesigned during the pandemic and intended for use in the future.



Adequate legal and institutional solution for organising work from home

Although work from home was not the most used measure among the surveyed employers during the COVID-19 crisis, we still recorded a significant percentage of companies that organised work in this way. There is an increasing number of examples and findings in the literature that point to the fact that working from home could continue in some sectors even after the pandemic. To what extent this could indeed be the case depends on many factors, such as employee productivity and working conditions. Therefore, it is necessary to conduct an analysis of these factors in order for employers to benefit from better input when formulating their own strategies. Furthermore, the legal framework needs to be improved in relation to this issue in order to provide an adequate and timely institutional response to the changes in the labour market that will inevitably follow.

Importance of public campaigns related to vaccinations

The analysis conducted for the purposes of this report posits that intensifying the vaccination process would help the recovery in the labour market. Consequently, the public employment services can also (within their scope) in some ways be involved in promoting these findings among their users, both jobseekers and employers as well as workers employed in the informal economy. According to UNDP recommendations (2021), the governments should consider workers in the informal economy as a priority group for vaccination in order to help reduce the markedly negative socioeconomic consequences of the pandemic to which these workers are exposed.

Annexes





Annex 1: Labour market projections and scenario analysis

Labour market projections are useful for the design and redesign of programmes for economic recovery and active labour market policies. Building on a baseline regression, we decided to run short and long-term scenarios for labour market trends. A review of the literature suggested that scenario planning is the preferred strategy for estimating labour market outcomes over traditional forecast modelling when uncertainty is present (such as in this case, where uncertainty about the behaviour of the virus exists).

A.1.1. Empirical Model and Data

The projections account for labour trends being a function of the complex relationship between the number of active cases and/or number of COVID-19 deaths, and the vaccination rate as well as the containment measures, active labour market measures and other government interventions. For this purpose, we used the monthly data on the labour market status issued by the Agency for Statistics of Bosnia and Herzegovina. The statistics on the pandemic (number of active cases and the number of vaccinated) and the containment measures were taken from the database 'Our World in Data', which was made available by Mathieu, et al. (2021). We used the Stringency Index and the COVID-19 Containment and Health Response Index published by the Oxford COVID-19 Government Response Tracker as an indicator of the containment measures. Daily data was available, but for the purposes of our analysis it was recalculated at the weekly level. The data used in the analysis covered the period from March 2020 to September 2021.

A.1.2. Estimated results

The results of the analysis showed that an increase in the number of active cases and more stringent containment measures increased the number of unemployed, while an increase in the vaccination rate is expected in this scenario model to reduce the number of unemployed. The expected effects in this model were highly significant. The value of the estimated coefficient for the number of active cases showed that, on average, an increase of one in the number of active cases at the weekly level was expected to increase the number of unemployed by 5.6 on average if other factors remained unchanged. In this theoretical model, if the Stringency Index increased by



one index point it was expected that the number of unemployed would increase by 395 persons per month on average. Negative trends in terms of the number of unemployed can be reversed through an increase in the vaccination rate.

A number of the projections on unemployment are characterised by uncertainty about virus behaviour, but also containment measures government planned to impose as a response to spread of a virus. Taking all of this into consideration, our analysis projected changes in the number of unemployed under different assumptions (scenarios) and in the spread of the pandemic, the containment measures and the vaccination rates. Three scenarios were developed, named 'Spread of the pandemic', 'Lockdown' and 'Vaccination'.

Assumptions	Spread of the pandemic	Lockdown	Vaccination	Estimated changes in the monthly number of unemployed
Number of new cases	A weekly increase of 100 new infections on average.			+560
Stringency Index		An increase of 55 index points.		+21,725
Number of vaccinated			An increase of 10,000 vaccinated per week.	-1,540

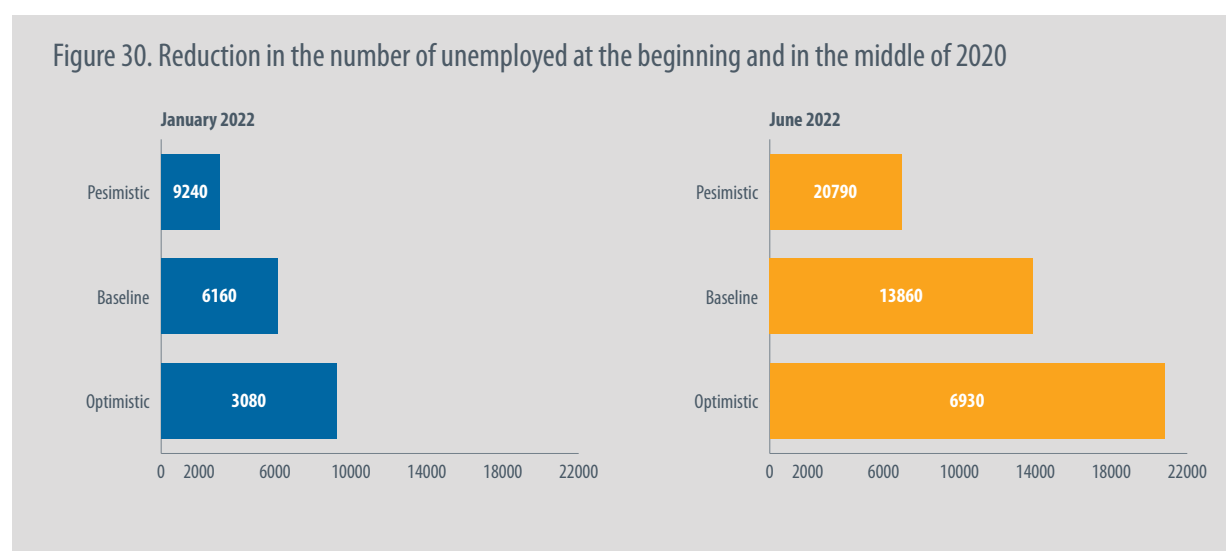
The 'Spread of the pandemic' scenario, without lockdown or a change in the vaccination dynamic, assumed an average increase in the number of active cases of 100 per week. According to this scenario, in this theoretical model the number of unemployed was expected to increase by 560 persons.

The 'Lockdown' scenario assumed that a complete lockdown was introduced. The data shows that the value of the Stringency Index for Bosnia and Herzegovina differed by 55 index points when there was a total lockdown and the value of index for the most of 2021, when no strict measures were introduced. In the case of a new lockdown, but with other factors unchanged, the model assumes that the number of unemployed would increase by 21,725 persons at the monthly level.



The 'Vaccination' scenario assumption is that the average number of vaccinated on a weekly basis, which by September 2021 was around 25,000, would increase by 40 per cent, which is equivalent to an increase in the number of vaccinated of 10,000 persons per week. Under this assumption, the estimated results show that the number of unemployed is expected to fall by 1,540 persons (if all other factors remained unchanged).

The 'Vaccination' scenario enabled us to estimate changes in the number of unemployed in the future period, depending on the rate of vaccination. The baseline for the scenario assumed an increase in the number of vaccinated of 10,000 per week in comparison to the average weekly number of vaccinated in the observed period. In addition, we will make an estimation for pessimistic and optimistic scenario, under assumption that the number of vaccinated at the weekly level will increase by 5,000 and 15,000 persons, respectively (which is an equivalent to 20 and 60 per cent in comparison to average number of vaccinated by September 2021). The projected reduction in the number of unemployed at the beginning and in the middle of 2020 is presented below in the following Figure.



According to the pessimistic scenario, an increase in the weekly number of vaccinations of 20 per cent would reduce unemployment by 6,930 workers by June 2022. It was projected that the number of unemployed would be reduced by 13,860 by June 2022 if the average number of vaccinated at the weekly level increased by 40 per cent. In the case of the optimistic scenario and an increase in the average number of vaccinated at the weekly level of 60 per cent, it was expected that the number of employees would increase by 21,000 persons. The vaccination rate would reach 70 per cent if the optimistic scenario was realised by June 2022.



Indicator		Definition
1	Employed	Persons in paid employment were all persons who had signed a work contract with an employer for a fixed or unspecified period of time, irrespective of the type of ownership or whether they worked full time or less than full time.
2	Unemployed	Persons aged 15 to 74 who were (during the reference week) not employed and currently available for work (available for paid employment or self-employment before the end of the 2 weeks following the reference week) and actively seeking employment (had either carried out activities in the four-week period ending with the reference week to seek paid employment or self-employment or found a job to start within a period of at most 3 months from the end of the reference week).
3	Working age population	Persons aged 15 to 89. This is divided into two categories: the active population or labour force (employed and unemployed persons) and persons outside the labour force.
4	Activity rate	The share of the active population (labour force) of the total working age population.
5	Employment rate	The share of employed persons of the total working age population.
6	Unemployment rate	The share of unemployed persons of the total working age population.
7	Economic activity	This refers to production or services that are performed/provided within the local unit of the business entity in which the surveyed person is employed. The activities are coded according to the EU Classification of Economic Activities (NACE Rev.2).



A.1.3 - empirical model (details) and data

Table A presents descriptive statistics for the variables in the model. During the analysed period, average vaccination rate stood at nearly 8,000 person per week while the average number of active cases was 406 per week. At the same time, average unemployment rate was slightly above 411,000 with standard variation of about 10,645.

Table A. Descriptive statistics of the variables

Variable	Observations	Mean	Std. Dev.	Min	Max
Vaccinated people	81	7,827.93	21,073.44	0	103,398
Number of active cases	81	406	440.06	1	1,632
Stringency index	78	49.36	16.41	6.75	92.59
Unemployment	74	411,426.4	10,645.49	393,781	427,593

A more in-depth view reveals that vaccination start just before week 60 and had a large variation on a weekly basis, probably reflecting limited supply capacity, per below Figure.

Figure. Distribution of weekly number of vaccinated people

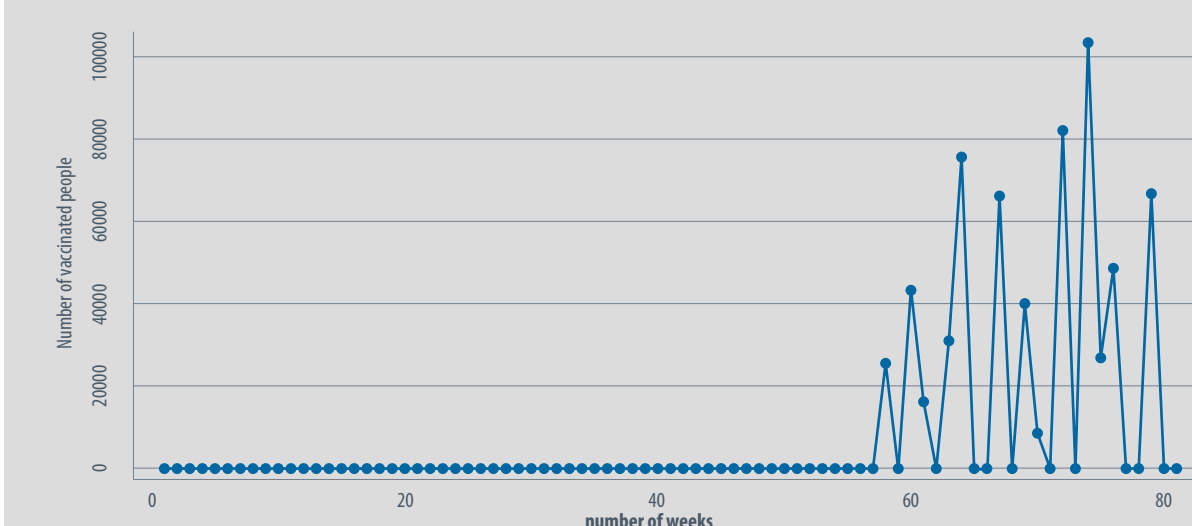
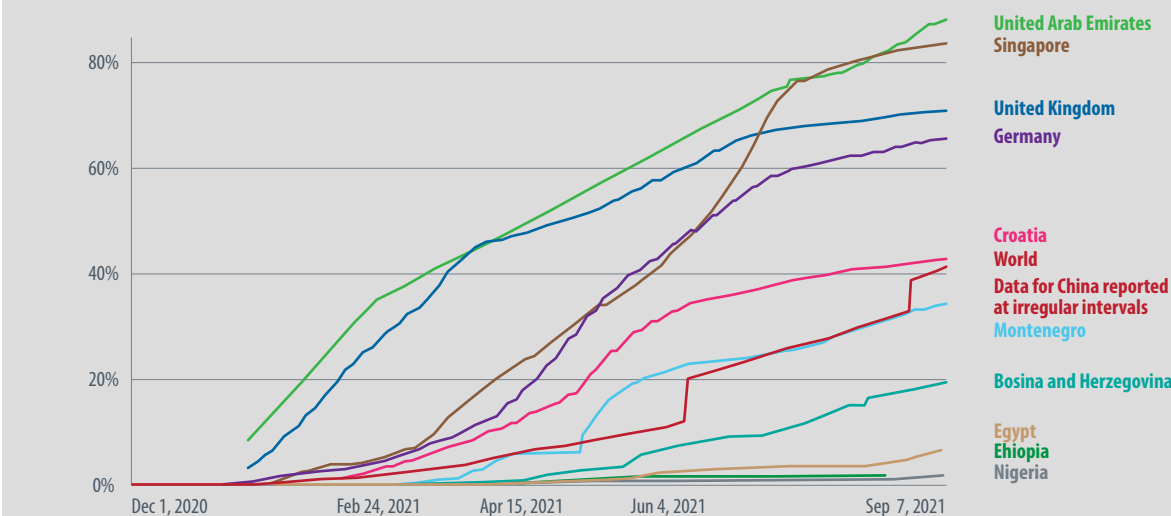


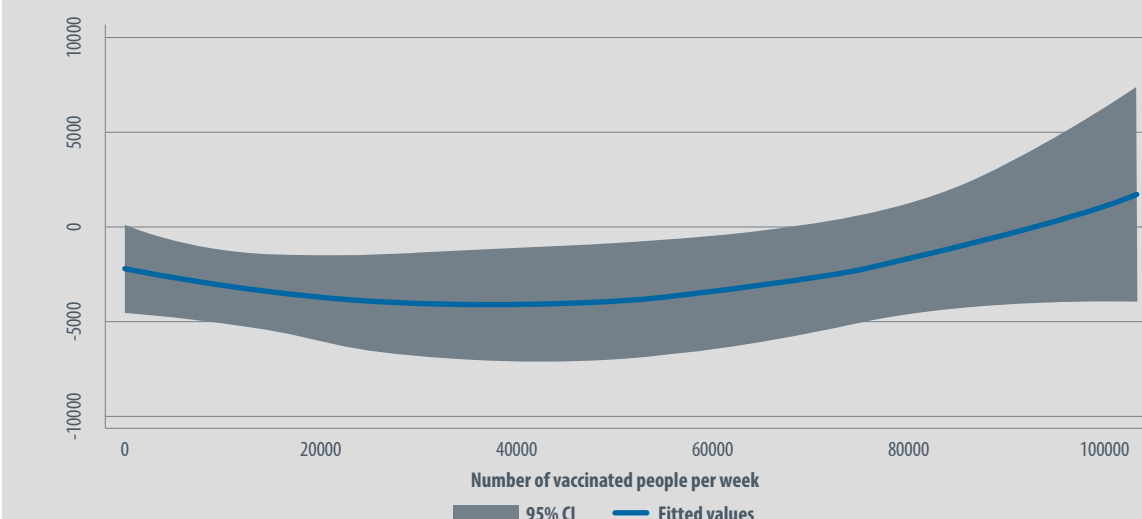


Figure. Share of people who receive at least one dose of COVID-19 vaccine



Association between vaccination rate and unemployment is shown on the Figure A. We took the period from April 2021 until September 2021 to account the period when vaccination started. As can be seen, there seems to be a positive association between weekly vaccination on change in monthly unemployment, but only to a certain level. Surpassing the level of 50,000 vaccinated people per week no longer has a significant effect on change in unemployment.

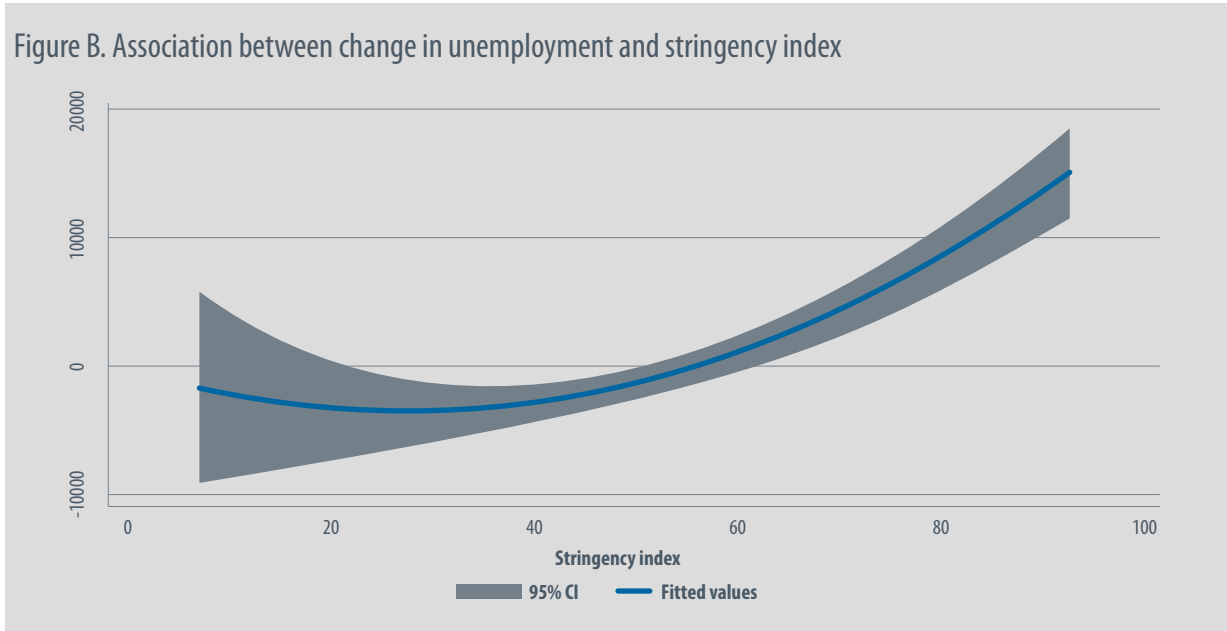
Figure A. Association between change in unemployment and number of vaccinated people



Similarly, the relationship between unemployment and stringency index suggesting that an increase in the value of index is associated with increase in unemployment



over the analysed period (Figure B). This may be the result of increase in containment measure and closures.



To shed more light on the magnitude and significance of the above trends, as well as to control for other variables, we resort to a more formal empirical method. The econometric model takes the following form:

Unemployment_{*t*}

$$= \beta_0 + \beta_1 \text{Active_cases} + \beta_2 \text{Vaccinated_people} + \beta_3 \text{Stringency_index} + \beta_4 \text{Month} + \varepsilon_t$$

where *unemployment* is number of unemployed at monthly level; *active cases* is number of active cases at weekly level; *vaccinated_people* is number of newly vaccinated at weekly level and *stringency index* is the value of stringency index at weekly level (proxy for containment measures).

The main challenge in estimation of those coefficients, is the number of potentially confounding determinants that might influence both unemployment and variables of interest (such as number of vaccinated). Small sample size and data availability impede us to be exhaustive, but all diagnostic tests indicate that model is correctly specified and estimated coefficients are unbiased.

The model is estimated using classical linear regression as well as truncated regression to account for potential outliers. To control for potential seasonality in unemployment we also include monthly time dummies. Since the results are very similar when using truncated regression, we present only the results of classical linear regression with robust standard errors to account for heteroscedasticity.



Table Regression results – impact of Covid-19 on unemployment

Dep.var.=Unemployment	Model 1
Active new cases	5.617* (3.289)
Number of vaccinated people	-0.154*** (0.0486)
Stringency index	395.8*** (117.1)
month = 2	-4.596*** (521.3)
month = 3	-16.618*** (4.791)
month = 4	-13.566*** (3.726)
month = 5	-8.981** (3.471)
month = 6	-4.655 (3.832)
month = 7	-1.492 (3.817)
month = 8	7.716*** (1.651)
month = 9	3.846*** (549,5)
month = 10	-2.786 (2.090)
month = 11	-9.162*** (3.441)
month = 12	-4.248** (1.761)
Constant	396.276*** (5.706)
Observations	74
R-squared	0.673

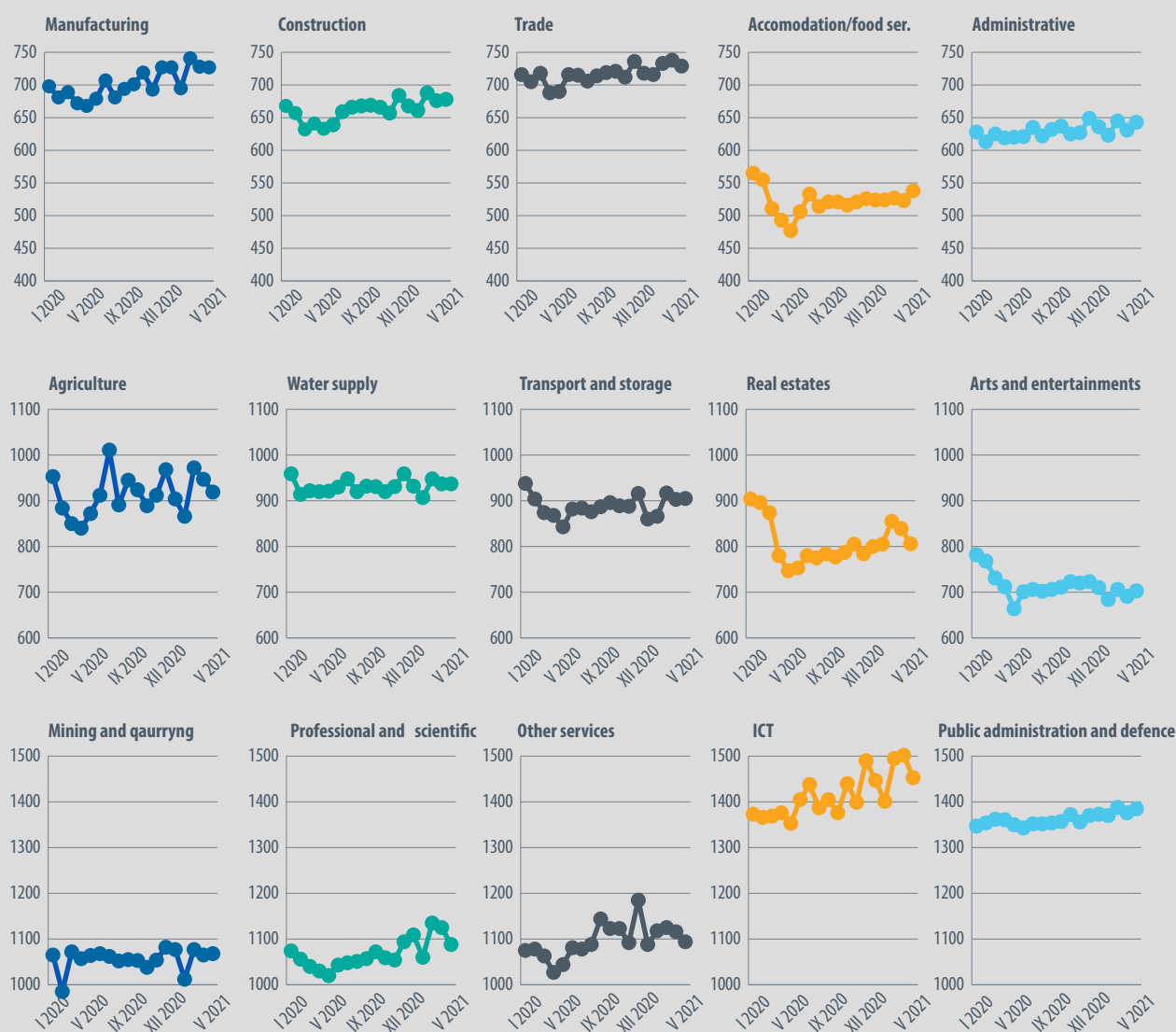
Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10

It is important to note that this model is capturing only the immediate effects that arise from the first roll-out of vaccine and should not be used to make long-term projections.



Annex 2: Review of monthly wages per sector

Figure A1. Review of monthly wages per sector





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