



Western Balkans Labor Market Trends 2020

Western Balkans Labor Market Trends 2020 Highlights:

- This report used data from national labor force surveys to examine key labor market indicators for the six Western Balkan countries Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia between the second quarter of 2018 and the second quarter of 2019.
- Despite a slowdown in economic growth in 2019, the Western Balkan countries' labor markets developed more favorably than a year earlier. During this period, 105,500 new jobs were created and employment increased by 1.7 percent, ranging from a decline of 2.4 percent in Bosnia and Herzegovina to an increase of 5.2 percent in North Macedonia.
- Recent job creation benefited women, younger and older age groups, and those with higher levels of education most. Amid an overall increase in employment in the region, the number of people employed informally dropped in Serbia and North Macedonia (by 43,000 and 14,600), respectively, and rose in Albania (by 30,000).
- Unemployment reached an all-time low in all Western Balkan countries, ranging from 10.3 percent in Serbia and 11.5 percent in Albania to 25.2 percent in Kosovo. Emigration from the region played an important role in the reduction of unemployment.
- Youth unemployment fell in all Western Balkan countries, to an average of 30.4 percent, but it was more than twice as high as the EU average. More than one fifth of the youth population was not in employment, education or training (NEET), almost unchanged compared to a year earlier.
- Wages increased in all Western Balkan countries, and this was partly the result of hikes in the minimum wage, rises in public sector wages as well as labor shortages in some sectors. In 2019, average monthly gross wage growth was positive in all Western Balkan countries and was higher than in 2018, except in Kosovo.



This report and the accompanying database are available on the website of the Vienna Institute for International Economic Studies (wiiw) at <u>https://data.wiiw.ac.at/seejobsgateway.html</u>.

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This report was written prior to the outbreak of the COVID-19 pandemic in Europe. At the time of publication, the severity and duration of the pandemic and the resulting impact on the Wester Balkan labor markets were uncertain.

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Annex



Abbreviations, country classification, and country codes

Abbreviations

CEDEFOP	European Centre for the Development of Vocational Training
CPI	Consumer price index
ECD	Earl Childhood Development
ER	Exchange rate
ESAP	Economic and Social Affairs Platform
ETS	Educational test service
EU	European Union
EUR	Euro
FDI	Foreign Direct Investment
GDP	Gross domestic product
HICP	Harmonized Index of Consumer Prices
ICT	Information and Communication Technology
ILO	International Labour Organization
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
ITS	Technology and services
LFS	Labor force survey
NACE	Nomenclature statistique des activités économiques dans la Communauté
	européenne - statistical classification of economic activities in the European
	Community
NCU	National currency unit
NEET	Young people neither in employment nor in education and training
OECD	Organisation for Economic Cooperation and Development
TLO	On-the-job training
PIAAC	International assessment of adult competences
PPP	Purchasing power parity
R&D	Research and Development
SEE	South Eastern Europe
SES	Structure of Earnings Survey
STEM	Science, Technology, Engineering and Math
STEP	Skills towards employment and productivity
TVET	Technical and Vocational Education and Training
ULC	Unit labor costs
UNDP	United Nations Development Program
wiiw	The Vienna Institute for International Economic Studies

Country classification

EU-CEE countries	Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia
EU peer countries	Austria, Bulgaria, Croatia, Hungary
Western Balkans-6	Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia



Country codes

AL	Albania
AT	Austria
BA	Bosnia and Herzegovina
BG	Bulgaria
HR	Croatia
HU	Hungary
ME	Montenegro
МК	North Macedonia
RS	Serbia
ХК	Kosovo



Executive Summary

This report was written prior to the outbreak of the COVID-19 pandemic in Europe. At the time of publication, the severity and duration of the pandemic and the resulting impact on the Western Balkan labor markets were uncertain.

This fourth report on Western Balkan labor market trends presents a descriptive analysis of key labor market indicators for the six Western Balkan countries (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia) and selected European Union (EU) countries (Austria, Bulgaria, Croatia, and Hungary) between the second quarter of 2018 (2018 Q2) and the second quarter of 2019 (2019 Q2). The report begins with an overview of labor market developments drawn from the Jobs Gateway in South Eastern Europe database (<u>https://data.wiiw.ac.at/seejobsgateway.html</u>), and is followed by a special topic on new technology and skill challenges in the Western Balkans.

The working-age population (15-64 years) continued to shrink in most Western Balkan countries in 2019 – a trend driven by population aging and continued outward migration. Based on Labor Force Survey data (LFS), the overall working-age population of the Western Balkan countries dropped by about 762,000, or 6 percent since 2012. Between 2018 Q2 and 2019 Q2, the focus of this report, the overall working-age population dropped by 2 percent. Variations existed across the region, however. For example, Bosnia and Herzegovina showed the largest decrease (9.2 percent), whereas the working-age population increased in Kosovo (1.5 percent) and Montenegro (0.3 percent).

Between 2012 and 2019 Q2, the activity rate (15-64 years) rose by 4.5 percentage points, driven by the increased labor market participation of women at the regional level. Above average increases of the activity rate were reported for Montenegro (8 percentage points), Serbia (6.6 percentage points) and Albania (4.9 percentage points), whereas in the remaining three countries, they increased by 2 or less percentage points over this period. The increased entry of women into the labor market has led to an overall increase in participation, especially in Albania, Bosnia and Herzegovina, Northern Macedonia and Serbia.

Labor markets have further improved; between 2018 Q2 and 2019 Q2, the number of employed increased by 105,500 persons. Since 2012, over 900,000 jobs were created in the Western Balkans countries, from an estimated 5.5 million in 2012 to 6.4 million in 2019. In addition to an improving economic environment, the increase in employment was also driven by active labor market policy measures – subsidies for employment in particular – as for example in Montenegro and North Macedonia. Since 2012, job creation benefited men and women (almost equally), the prime age and older age groups, and those with medium and higher levels of education, while low-skilled jobs were lost. Jobs were mainly generated in the service sector, followed by construction and industry; employment continued to slide in agriculture.





Unemployment reached an all-time low in all Western Balkan countries but remained higher than in the EU peer countries. Between 2018 Q2 and 2019 Q2, the number of unemployed fell by 156,300. Unemployment rates ranged from around 10.3 percent in Serbia and 11.5 percent in Albania, to 25.2 percent in Kosovo. Since 2012, unemployment declined by an estimated 742,000 people – from 23.9 to 13.3 percent of the labor force; unemployment of young people was reduced by 166,000 persons – from 48.6 to 30.4 percent. Also, long-term unemployment¹ continued to fall – from 18.6 percent of the labor force in 2012 to 8.8 percent in 2019 Q2. Apart from new job creation, emigration from the region was key to the reduction in unemployment. But, despite historically low unemployment rates, they were still two to three times higher than in the EU peer countries (Austria, Bulgaria, Croatia and Hungary). At the same time, skill shortages were reported in certain sectors such as IT personnel in Serbia and Kosovo and medical doctors and nurses mostly throughout the region.

In 2019, informal sector employment remained persistently high in Albania (36 percent of total employment), North Macedonia (17 percent), and Serbia (19 percent), the three countries for which data are available. Amid an overall increase in employment in the region, between 2018 Q2 and 2019 Q2, Serbia and North Macedonia reported a drop in the number of people employed informally (of 43,000 and 14,600, respectively). Meanwhile, informal employment rose at a higher rate (6.6 percent) than total employment (3.4 percent) in Albania, increasing by 30,000 (representing about 70 percent of all jobs created). Since 2014, employment in the informal sector has declined in all three countries, but with alternating increases and decreases in each year.

Despite improvements in labor market performance, the current spread of the COVID-19 pandemic and the resulting economic effects are expected to have serious negative consequences for growth and employment in the region.

Wages increased in all Western Balkan countries, and this was the result of hikes in the minimum wage, rises in public sector wages as well as labor shortages in some sectors. In 2019, average monthly gross wage growth was positive in all Western Balkan countries and was higher than in 2018, except in Kosovo. After two years of falling wages, Montenegro also reported positive, albeit low, wage growth in 2019. Between 2015 and 2019, minimum wages increased in all Western Balkan countries, except for Kosovo. At the beginning of 2019, minimum wages in the region – as a percentage of the average monthly wage (expressed in euro) – were diverse and ranged between 28 percent in Kosovo and almost 50 percent in Albania, North Macedonia and Serbia. The wage pressure amid declining or stagnating productivity has not been contained, thus eroding the region's competitiveness.

Despite the observed positive trends in labor market indicators, Western Balkan countries must continue working to close gaps with comparator countries and prepare for the future perspectives of labor markets. Countries should explore policies that facilitate the entry of youth into the labor market, provide access to vulnerable sectors of the population and increase labor productivity in order to boost the region's competitiveness. In addition, countries should review current policies that could be affecting these outcomes and assess the effectiveness and sustainability of interventions that may have a short term impact, such as Active Labor Market Policies and wage

¹ Long-term unemployment refers to persons unemployed for 12 months or more.



subsidies. This agenda also calls for increased monitoring and evaluation efforts at the policy level and continuous review of labor market indicator trends, such as those presented in this report.

The report also makes a call for action for Western Balkan countries to step up their investment in skill development as a response to globalization, changing technologies and demographic trends. The report argues that more productive firms and jobs are needed in the region to boost its competitiveness in the EU and in a globalized environment. The report finds that automation will impact a significant number of jobs in the region, with an overall probability of automation around 50 percent in the Western Balkans. However, the report argues that low skilled / low wage jobs will be disproportionately affected by automation, which implies that the region will need to substantially upgrade the skills and productivity of their labor force to remain competitive. Educational reforms, development of core and technical skills, but also investments in socio-emotional and "new economy" skills will be needed to equip current and future generations of students for the changing labor market environment they will face, according to the report.







1. Introduction

In this fourth labor market trends report,² labor market developments in the six Western Balkan countries – Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia – between the second quarter of 2018 (2018 Q2) and the second quarter of 2019 (2019 Q2) are examined and compared with selected member states of the European Union (EU), namely Austria, Bulgaria, Croatia, and Hungary.³ The report draws on data from the South Eastern Europe (SEE) Jobs Gateway Database to explore key labor market indicators. Specifically, labor force survey (LFS) data provided by the statistical offices of the individual Western Balkan countries and by Eurostat for the EU peer countries are used and can be accessed online at the South Eastern Europe Jobs Gateway (https://data.wiiw.ac.at/seejobsgateway.html).⁴ The objective of this report is to describe and summarize these data for a general, non-technical audience, and to offer insights into how labor markets in the Western Balkans have developed over the past years.

The report is divided into two parts. The first part starts with a discussion of recent economic developments (Section 2), and is followed by an overview of demographic aspects, including the working-age population and labor force participation (Section 3). Sections 4 and 5 focus on employment and unemployment. Section 6 elaborates on wages. The second part is devoted to a special topic on new technology and skill challenges in the Western Balkans. The report includes a statistical annex on key labor market, and economic indicators for each of the Western Balkan countries and peer countries.

2. Economic environment

The Western Balkan countries' overall GDP growth slowed from 4 percent in 2018 to an estimated 3 percent in 2019 (Figure 1). With the exceptions of Kosovo and North Macedonia, all countries in the region experienced lower levels of growth in 2019 than in 2018. Employment increased in all countries, apart from Bosnia and Herzegovina. Three of the peer countries – Bulgaria, Croatia, and Hungary – reported accelerating economic growth, whereas GDP growth slowed in Austria. Employment grew in all the peer countries, most markedly in Bulgaria.

Labor productivity⁵ developments varied across the region (Figure 1). With the exception of Bosnia and Herzegovina, which showed a remarkable and continued increase in labor productivity (5.2 percent), all other countries in the region reported either a slowdown (Kosovo), stagnation





² See World Bank and wiiw (2017) for a discussion of Western Balkan labor market trends between 2010 and 2016, and World Bank and wiiw (2018) for an analysis of the Western Balkan labor markets in 2017, and a special chapter on migration, as well as World Bank and wiiw (2019) for an analysis of the Western Balkan labor markets in 2018, and a special topic on labor costs, labor taxation, and low wage earners in the Western Balkans.

³ Each of these comparator countries represents a different accession "wave" to the EU (Austria, 1995; Hungary, 2004; Bulgaria, 2007; and Croatia, 2013) and is geographically close and similar in population size to the Western Balkan countries.

⁴ A detailed description of the database, including data sources, methodology, definitions, and limitations can be found in the statistical annex.

⁵ Labor productivity is measured as GDP in real terms per person employed, according to Labor Force Survey (LFS) statistics. This measure does, however, have some limitations: for example, it does not take account of hours worked or changes in the structure of employment by type and sector.

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(Albania and Serbia) or even decline in labor productivity (North Macedonia and Montenegro) in 2019. As for North Macedonia, relatively high economic growth was outstripped by even higher employment growth, resulting in the strongest decline (down 1.5 percent) in labor productivity in the region. Labor productivity in all the EU peer countries was driven by (much) higher growth in GDP than in employment.



Figure 1 / GDP, employment, and productivity growth, 2011-2019, in %

Note: Data for 2019 refer to the average of the first two quarters.

Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat; wiiw Database. <u>Click here to download figure</u>.



3. Population

WORKING-AGE POPULATION

The working-age population (15-64 years)⁶ continued to shrink in most Western Balkan countries – a trend driven by population aging and continued outward migration; this was particularly true for Bosnia and Herzegovina (Figure 2).⁷ The overall working-age population dropped by 2 percent between 2018 Q2 and 2019 Q2. Bosnia and Herzegovina showed an extraordinary decrease (9.2 percent), whereas the working-age population increased in Kosovo (1.5 percent) and Montenegro (0.3 percent).

Since 2012, the working-age population of the Western Balkan countries dropped by about 762,000, or 6 percent,⁸ but there were large variations across countries (Figure 2). Bosnia and Herzegovina was affected most, reporting a decline of more than 20 percent, followed by Serbia (-10 percent), Albania (-8.8 percent), Montenegro (-3.1 percent) and North Macedonia (-1.4 percent). The only country to report a significant increase was Kosovo (up 5 percent).

The working-age population also decreased in the EU peer countries, except for Austria.



Figure 2 / Working-age population (15-64 years), change in %

Note: Data for 2019 refer to the average of the first two quarters. For country-specific methodologies, see the statistical annex of the respective country.

Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.

Since 2012, the structure of the working-age population in the Western Balkans changed in the direction of increasing employment and self-employment, combined with a decline in unemployment and inactivity (Figure 3). Despite improvements, the percentage of the employed in the Western Balkans remained far below that of the EU peer countries. At the same time, the proportions of people unemployed and inactive were still higher in the region than in the peer countries.

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⁶ Data on the working-age population are based on LFS data for each country.

⁷ Information provided by the Statistical Office of Bosnia and Herzegovina.

⁸ For comparison, if taking the working-age population (15+) as a basis, the decline is less pronounced – 382,000 persons or 2.6 percent.





Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.

ACTIVITY RATES

Since 2013, activity rates in the Western Balkan countries increased but remained low. This was primarily due to low female labor force participation, but also to low male participation in some countries (Figure 4). Overall, between 2018 Q2 and 2019 Q2, the regional activity rate (15-64 years) increased by 0.5 percentage points (to 63.8 percent), rising in all countries except Kosovo and Serbia. The labor force participation rates still lagged far behind those of the peer countries (except Croatia), and varied considerably across the countries. With regard to gender, the labor force participation of women in the Western Balkans was among the lowest in Europe, whereas male activity rates (with the exceptions of Bosnia and Herzegovina and Kosovo) were comparable to those of the EU peer countries.



Figure 4 / Activity rates (15-64 years), in %





Note: Data for 2019 refer to the average of the first two quarters. Data for Kosovo (and thus the region as a whole) available beginning in 2012. For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. Click here to download figure.

Since 2012, the gender gap in activity rates slowly decreased in the Western Balkan countries, declining from 21.5 to 19.1 percentage points in 2019. Over this period the gender gap in activity rates narrowed most in Bosnia and Herzegovina and Serbia (by 4 percentage points each) and in North Macedonia (by close to 3 percentage points), but widened in Montenegro and in Kosovo. In 2019 Q2, the gender gap in the activity rate ranged from 13 percentage points in Serbia and Montenegro to almost 39 percentage points in Kosovo, where only about 20 percent of women participated in the labor market. In the EU peer countries, the gender gap in the activity rate widened in Hungary, narrowed in Austria and Croatia, and changed little in Bulgaria. In 2019 Q2, the gender gap in the peer countries ranged from 8 percentage points in Bulgaria to 15 percentage points in Hungary.





INACTIVITY

Inactivity remained stubbornly high in the Western Balkans. Despite dropping by 2.6 percentage points since 2012, in the second quarter of 2019, the number of persons outside the labor market averaged 4.1 million, or 37 percent of the working-age population (aged 15-64). This was 138,000 fewer than in 2018 Q2. The reduction in 2019 Q2 and also in the past years was due almost entirely to a decline in female inactivity, particularly in Albania, North Macedonia and Serbia. Since 2012 the inactivity rate in the EU peer countries fell more strongly than in the Western Balkans, by almost 9 percentage points in Hungary and by 7 percentage points in Bulgaria. In Austria and Croatia it declined by less than 2 percentage points. In 2019 Q2 the inactivity rate in this group of countries ranged between 23.3 percent in Austria and 34 percent in Croatia.



Figure 5 / Inactivity rates (15-64 years) in 2019 Q2, in %

Note: For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.

The prevalence of inactivity among women in the Western Balkans remained high, at 46.3 percent, versus 27.1 percent for males in the second quarter of 2019. Among the main factors behind the high female inactivity were low educational levels, family responsibilities, lack of affordable or available child care (especially in rural areas), and cultural and religious reasons. Another explanation is the reliance on remittances, which is thought to reduce employment incentives (Atoyan and Rahman, 2017; World Bank and wiiw, 2019). The incidence of inactivity in the EU peer countries was also higher among women than among men, but the differences were much smaller (Figure 5).

Across the Western Balkan countries, the lack of participation in the labor market was most acute among young people (aged 15-24), with this age group reporting an inactivity rate of 68 percent in the second quarter of 2019. Young women were more likely to be inactive than were men (75.4 percent, vs. 61.8 percent in 2019 Q2). The high level of inactivity among young people can partly be explained by a longer stay in training and by the likelihood that they timed the start of their working lives according to the situation of the labor market (e.g., by extending their training when labor market conditions were tight). Irrespective of a longer stay in education and training, there was a large group of young people (aged 15-24) who were not in employment, education or training (NEET): they accounted for about a fifth of that age group. This percentage changed slowly over time





(25.9 percent in 2012, vs. 22.1 percent in 2018). Inactivity among young people was above the Western Balkan average in Bulgaria and Croatia and was similar in Hungary. Austria was the only exception, where the share of young people outside the labor force was 45 percent.

In terms of education, the inactivity rate among those with the lowest levels of education⁹ was 56.8 percent on average in the region, compared to 33.1 percent among those with medium levels of education, and 13.5 percent among those with high levels of education.

4. Employment

Employment grew in all Western Balkan countries, except Bosnia and Herzegovina (Table 1)¹⁰. Between the second quarter of 2018 and the second quarter of 2019, 105,500 new jobs were created, as compared to 68,000 over the same period a year earlier. At 5.2 percent and 4.8 percent, respectively, growth was strongest in North Macedonia (supported by government programs¹¹ and rising demand in the country's industrial zones), and Kosovo; it rose by slightly over 3 percent in Albania and Montenegro. Serbia witnessed only a minor (0.7 percent) employment increase. Bosnia and Herzegovina was the only country in the region to report an employment decline – of 2.4 percent. In most countries, the service sector, industry, and construction were the main sources of job creation, while employment in agriculture continued to slide.

By comparison, in the EU peer countries, employment rose by 3.3 percent in Bulgaria and was below 1 percent in all the other countries. The service sector was the main driver of job creation in this group of countries, pushed in particular by "human health and social work activities"; meanwhile, industrial employment grew only in Bulgaria and Austria. Employment in agriculture grew in all EU peer countries, with the exception of Austria.





⁹ The educational structure refers to the International Standard Classification of Education (ISCED), 2011: levels 0-2: early childhood education and primary education; levels 3-4: lower secondary education and upper secondary education and post-secondary nontertiary education; levels 5-8: short-cycle tertiary education, bachelor or equivalent, master or equivalent, doctoral or equivalent.

¹⁰ Albania is not included in Table 1, because there are no quarterly data available by sector.

¹¹ Programs refer to a set of active labor market programs (self-employment grants, various trainings) and wage subsidies.

Table 1 / Employment change by sector, from 2018 Q2 to 2019 Q2

2018 Q2 - 2019 Q2, in thousands	Western Balkan countries				Peer countries				
	BA	ME	МК	RS	ХК	AT	BG	HR	HU
Total - all NACE activities	-19.6	7.5	39.2	19.7	16.6	25.7	105.5	7	36.3
Agriculture, forestry, and fishing	15.5	-2.6	-9.3	-15.9	5.0	-1.4	3.3	12.8	6.4
Industry	-9.5	-1.6	12.2	4.3	8.4	3.1	30.1	-7.6	-5.8
Mining and quarrying			0.3		-1.1	0.9	1.4	-1.8	-1.6
Manufacturing		-1.2	8.1		11.8	8.8	18.3	-4.9	3
Electricity, gas, steam, air cond. supply		0.0	0.4		-2.4	-4.2	7.9	2.2	-9.1
Water supply; sewerage, waste manag.		-0.4	3.4		0.1	-2.4	2.5	-3.1	1.9
Construction		4.9	0.8	16.3	8.2	14.2	9.4	-3.2	4.2
Services	-25.6	7.1	35.6	15.1	-5.0	9.8	62.7	5	31.5
Trade; repair of motor vehicles		0.4	4.6		6.4	-5.3	-6.7	6	13.9
Transportation and storage		0.5	3.8		2.0	-3.3	-0.9	7.8	15.5
Accommodation and food services		1.3	3.8		1.5	9.1	24.1	-21.5	4.8
Information and communication		0.2	3.1		0.1	0	2.1	1.1	26.1
Financial and insurance activities		-0.1	2.4		-1.8	-10.3	-0.1	-3	-14.7
Real estate activities					0.2	3.2	-0.2		-2.9
Professional, scientific and techn. act.		3.2	2.9		1.9	4.5	11.5	-2	5.9
Administrative and support service act.		1.4	5.1		4.2	-2.1	6.7	-2.4	-13.4
Public administration and defense		-1.1	0.1		-3.4	-6.7	12.6	3.5	-25.3
Education		0.0	0.1		-5.4	12.7	-0.3	5	6.5
Human health and social work activities		0.4	1.7		-2.7	21.4	6.4	15.4	11.9
Arts, entertainment, and recreation		0.2	7.8		0.6	3.3	2.1	-4.2	6.6
Other service activities		0.6	1.1		-8.9	-7.6	5.6	-4.7	-5.6

2018 Q2 - 2019 Q2, %	Western Balkan countries				Peer countries				
	BA	ME	МК	RS	ХК	AT	BG	HR	HU
Total - all NACE activities	-2.4	3.1	5.2	0.7	4.8	0.6	3.3	0.4	0.8
Agriculture, forestry, and fishing	12.0	-12.4	-7.6	-3.4	46.3	-0.9	1.5	13.3	3.0
Industry	-3.6	-7.0	6.8	0.7	18.2	0.4	4.3	-2.2	-0.5
Mining and quarrying			4.8		-36.7	15.5	4.9	-22.8	-11.0
Manufacturing		-7.9	5.5		35.9	1.3	3.1	-1.7	0.3
Electricity, gas, steam air cond. supply		0.0	3.9		-42.1	-14.7	20.1	12.2	-22.9
Water supply; sewerage, waste manag.		-7.8	24.8		2.2	-11.6	7.6	-9.7	3.3
Construction		23.3	1.4	12.6	20.5	4.1	3.9	-2.8	1.2
Services	-6.0	4.0	9.0	0.9	-2.0	0.3	3.1	0.5	1.1
Trade; repair of motor vehicles		0.9	4.4		11.0	-0.8	-1.2	2.7	2.5
Transportation and storage		3.9	10.4		17.5	-1.5	-0.4	7.7	5.4
Accommodation and food services		6.4	11.1		6.9	3.6	13.9	-17.1	2.5
Information and communication		3.9	24.8		0.8	0.0	2.1	1.7	23.9
Financial and insurance activities		-2.6	30.4		-23.1	-7.4	-0.1	-6.7	-16.5
Real estate activities					66.7	9.1	-1.6		-11.1
Professional, scientific and techn. act.		31.4	15.9		29.2	1.7	10.5	-2.4	3.9
Administrative and support service act.		11.1	33.1		45.7	-1.4	5.5	-5.0	-8.5
Public administration and defense		-5.2	0.2		-12.6	-2.3	5.8	3.1	-6.0
Education		0.0	0.2		-13.3	4.4	-0.2	4.1	1.9
Human health and social work activities		3.2	4.0		-13.7	4.8	4.0	14.3	3.9
Arts, entertainment, and recreation		3.4	67.8		14.3	4.6	4.4	-13.0	8.5
Other service activities		8.7	8.4		-48.1	-6.3	10.7	-13.4	-5.7

Note: For Albania no quarterly data are available by sector. Bosnia and Herzegovina - Industry including construction (F). Source: National statistical offices, based on LFS of the respective countries. <u>Click here to download table</u>.

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The main contribution to employment growth in the Western Balkans came from individuals with higher levels of education; this was particularly the case in Albania, Montenegro, North Macedonia and Serbia (Figure 6). By contrast, people with medium levels of education contributed most to employment creation in Kosovo and North Macedonia, and to a lesser extent in



Montenegro. In Bosnia and Herzegovina, only low-educated persons made any substantial contribution to job creation; this was not, however, sufficient to offset the job losses of people with medium and high levels of education.

By comparison, in the EU peer countries, the highly educated contributed most to employment growth in Austria and Hungary; the medium-educated in Croatia; and those with the lowest level of education in Bulgaria.





Note: Data on the educational structure are based on the International Standard Classification of Education (ISCED), 2011: levels 0-2: early childhood education and primary education; levels 3-4: lower secondary education and upper secondary education and post-secondary non-tertiary education; levels 5-8: short-cycle tertiary education, bachelor or equivalent, master or equivalent, doctoral or equivalent. BA – refers to contributions April 2018, vs. April 2019.

Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.

Women experienced faster employment growth (2.6 percent) than men (1.1 percent) in the Western Balkans overall, but differences existed across the countries (Table 2). In the peer countries, employment growth was similar for women and men in Austria and Bulgaria; in Hungary, the employment of men grew more rapidly than that of women; in Croatia, male employment increased, while female jobs were lost.

The rise in employment in the Western Balkans was particularly pronounced for the younger and older age groups but was negligible for the prime-age group (25-54 years). In the peer countries, youth employment fell, particularly in Austria and Hungary, but gains were reported among the older age group in all countries.





Table 2 / Employment growth, from 2018 Q2 to 2019 Q2

growth in thousands	Gender		Age				Education		
	Total	Male	Female	15-24	25-54	55-64	Low	Medium	High
Western Balkans	105.5	38.9	66.6	24.3	6.5	41.1	39.2	4.6	61.8
Albania	42.0	19.4	22.6	2.6	24.6	11.4	10.9	-2.2	33.4
Bosnia and Herzegovina	-19.6	-20.3	0.7	0.2	-51.8	16.9	7.0	-15.5	-11.0
Montenegro	7.5	5.0	2.5	3.2	-0.4	3.6	-6.0	6.1	7.4
North Macedonia	39.2	24.5	14.7	9.6	28.8	3.2	7.1	18.6	13.6
Serbia	19.7	4.2	15.5	0.6	1.8	1.0	12.6	-12.9	20.0
Козоvо	16.6	6.1	10.5	8.1	3.5	4.9	7.6	10.5	-1.5
Austria	25.7	12.7	13.0	-10.7	11.3	31.8	-10.9	-37.2	73.7
Bulgaria	105.5	55.0	50.4	1.1	54.9	31.0	51.7	39.4	14.5
Croatia	7.0	20.5	-13.6	5.9	-15.5	9.2	-4.7	9.2	2.5
Hungary	36.3	29.0	7.2	-10.3	18.1	7.6	-1.6	-23.2	61.1

growth in % Gender				Age			Education		
	Total	Male	Female	15-24	25-54	55-64	Low	Medium	High
Western Balkans	1.7	1.1	2.6	5.5	0.1	3.8	2.9	0.1	4.2
Albania	3.4	2.8	4.2	2.2	3.0	5.2	2.0	-0.5	14.2
Bosnia and Herzegovina	-2.4	-3.9	0.2	0.3	-9.0	10.9	5.7	-2.8	-7.9
Montenegro	3.1	3.7	2.4	13.8	-0.3	10.1	-21.7	4.3	10.8
North Macedonia	5.2	5.4	4.9	21.8	4.9	2.8	5.1	4.4	7.1
Serbia	0.7	0.3	1.2	0.4	0.1	0.2	2.6	-0.8	2.7
Kosovo	4.8	2.2	14.7	24.4	1.4	9.6	17.0	5.1	-1.6
Austria	0.6	0.6	0.6	-2.3	0.4	5.1	-2.0	-1.6	5.0
Bulgaria	3.3	3.3	3.4	0.8	2.3	5.3	14.6	2.2	1.4
Croatia	0.4	2.3	-1.8	5.1	-1.2	3.5	-3.3	0.9	0.5
Hungary	0.8	1.2	0.4	-3.5	0.5	1.1	-0.3	-0.8	5.1

Note: For the definition of the educational structure, see Figure 6 above.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Click here to download table.

EMPLOYMENT RATES

Employment rates (15-64 years) increased in all Western Balkan countries between 2018 Q2 and 2019 Q2 but were still far below European standards (Figure 7). For the six Western Balkan countries as a whole, the employment rate rose by 1.7 percentage points, to 54.6 percent of the population aged 15-64 in 2019 Q2. There were, however, large variations in the employment rate across the region – from around 30 percent in Kosovo to 61 percent in Albania and Serbia. In the EU peer countries, employment rates varied between 61 percent in Croatia and 73 percent in Austria. In 2019, the employment rate was above the 2012 level in both the Western Balkans and the peer countries.

Between 2018 Q2 and 2019 Q2, employment rates increased for both men and women throughout the region (except in Kosovo) but remained low compared to the EU peer countries. In 2019 Q2, the employment rate of women was below that of men in both the Western Balkan and EU peer countries. In most countries, however, the gap between male and female employment rates narrowed.







Figure 7 / Employment rates (15-64 years), in %

Western Balkan countries

Note: Data for 2019 refer to the average of the first two quarters. Data for Kosovo (and thus the region as a whole) available beginning in 2012. For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. Click here to download figure.

INFORMAL EMPLOYMENT

Employment in the informal sector remained persistently high in Albania, North Macedonia, and Serbia, the three countries for which data are available (Figure 8).¹² Between 2018 Q2 and 2019 Q2, the number of those employed informally declined by 42,950 in Serbia and by 14,600 in North Macedonia but increased by more than 30,000 in Albania. Since 2014, employment in the informal sector has declined in all three countries, but with alternating increases and decreases in each year.





¹² Data on informality are collected regularly by the labor force surveys of Albania, North Macedonia, and Serbia only; all use the comprehensive International Labour Organization (ILO) definition of informal employment. Accordingly, informal employment covers (1) Self-employed in unregistered businesses, (2) Wage workers without a written contract, and (3) Unpaid family workers. For other countries such as Kosovo and Bosnia and Herzegovina, the LFS collects information about unstable employment (Kosovo) or other categories of employment that are not part of administrative data sources but could include informal employment (Bosnia and Herzegovina). Nevertheless, according to the respective statistical offices, this information is not representative of informal employment.

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Figure 8 / Informal employment, share of total employment, in %

Source: SEE Jobs Gateway Database. Click here to download figure.

Self-employment continued to be the prevalent type of informal employment, whereas unpaid family work was becoming less important. The incidence of informal employment is higher for men than for women, and for those with low and medium levels of education than for the highly educated (Table 3). Informal employment is still predominant in agriculture, but its share is declining.¹³

Table 3 / Informal-sector employment – selected indicators

	AI	Albania		North Macedonia		Serbia	
	2014	2018	2014	2018	2014	2018	
Informal employment, in thousands	532.2	455.3	156.0	140.8	542.5	553.8	
Share in total employment	51.3	37.0	22.6	18.6	21.2	19.5	
Sectors, share in %							
Agriculture			63.8	59.0	70.2	61.7	
Non-agriculture	•		36.2	41.0	29.8	38.3	
Gender, share in %							
Male	55.0	55.5	65.9	67.4	54.7	54.0	
Female	45.0	44.5	34.1	32.6	45.3	46.0	
Age, share in %							
15-24	11.3	12.6	13.0	9.2	8.0	7.7	
25-54	69.5	62.7	71.9	66.5	55.9	54.4	
55-64	15.9	18.5	12.7	18.2	22.4	21.5	
Education, share in %							
Low educated	61.1	61.0	57.5	50.7	48.2	43.2	
Medium educated	33.9	33.6	37.9	43.3	46.6	50.0	
Highly educated	5.1	5.3	4.5	6.1	5.2	6.9	
Type share, in %							
Self-employed			41.7	47.8	42.2	45.8	
Wage workers without contract			15.2	14.6	18.8	25.8	
Unpaid family workers			43.1	37.6	39.1	28.5	

Note: For Albania, no data are available by sector and type of informal employment. Data on informal employment are not available in the labor force surveys of Bosnia and Herzegovina, Kosovo, or Montenegro.

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Source: SEE Jobs Gateway Database.

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¹³ For further details, see World Bank and wiiw (2019).



5. Unemployment

Except in Montenegro, unemployment continued to fall across the Western Balkans, reaching new historic lows in all countries. Notwithstanding these improvements, unemployment rates in the region remained elevated compared with the EU peer countries. Although the economic environment was less favorable than in the preceding year, the number of unemployed fell by 156,300 between 2018 Q2 and 2019 Q2, compared to a fall of 65,000 in the previous year. The overall unemployment rate stood at 13.3 percent in 2019 Q2, down 2 percentage points from 2018 Q2 (Figure 9). With the exception of Albania, unemployment was higher for women than for men, which is particularly true for Kosovo, but also Bosnia and Herzegovina, Montenegro and North Macedonia. In Albania and Serbia, the differences are less pronounced. Decreases in unemployment were also recorded in the EU peer countries. There, unemployment was lower for women than for men in Austria and Bulgaria, but considerably higher for women in Croatia. Emigration, both from the Western Balkan countries and from the EU peer countries of Bulgaria, Croatia, and Hungary were key to the reduction in unemployment.

Figure 9 / Unemployment rates, in %

Western Balkan countries









Gender 2019 Q2



Note: Data for 2019 refer to the average of the first two quarters. Data for Kosovo (and thus the region as a whole) available beginning in 2012. For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.





LONG-TERM UNEMPLOYMENT

Long-term unemployment¹⁴ continued to decline as in previous years, but it remained a salient feature of the region's labor market. Long-term unemployment in the Western Balkans fell by 127,000 to 649,700 (8.8 percent of the labor force) between 2018 Q2 and 2019 Q2. Overall, the share of long-term unemployment in total unemployment in the region fell from 68.4 percent in 2018 to 66.3 percent in 2019. But there were huge variations across countries, ranging from close to 60 percent in Serbia to 78 percent in Montenegro (Figure 10). The share of long-term unemployment also decreased between 2018 and 2019 in the EU peer countries. With the exception of Bulgaria, the share of long-term unemployment in this group of countries was much lower than in the Western Balkans. Overall, there is a clear relationship between the rate of unemployment and the proportion of long-term unemployment (Figure 11). Countries with a high unemployment rate tend to have higher shares of long-term unemployment and vice versa.



Figure 10 / Long-term unemployed as a share of total unemployed, in %

Note: Data for 2019 refer to the average of the first two quarters. Data for Kosovo (and thus the region as a whole) available beginning in 2012. For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.

¹⁴ Long-term unemployment refers to persons unemployed for 12 months or more.





Figure 11 / Long-term unemployment share and unemployment rate, 2019 Q2

Note: For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.

The risk of long-term unemployment in the Western Balkans continued to be higher for men than for women, and for those with lower and medium levels of education, compared to those with higher levels. In the peer countries men and women were equally affected by long-term unemployment in Austria and in Hungary, in Croatia the incidence was higher for women and in Bulgaria for men. In Austria and Hungary reporting data on the educational attainment of long-term unemployed it was highest among those with the lowest levels of education.

YOUTH UNEMPLOYMENT

Youth unemployment in the Western Balkans continued its downward trend, but despite declining the situation of the young in the labor market remains alarming. In 2019 Q2, it stood at 30.4 percent, 4 percentage points lower than in 2018 Q2. The youth unemployment rate was higher for females (33.4 percent) than for males (28.7 percent) in 2019, whereas in 2018 the opposite was the case (Figure 12). Between 2018 Q2 and 2019 Q2, with the exception of Hungary youth unemployment also fell in the EU peer countries, particularly in Croatia and in Bulgaria.







Figure 12 / Youth unemployment rates (15-24 years), in %



10.0

Note: Data for 2019 refer to the average of the first two quarters. Data for Kosovo (and thus the region as a whole) available beginning in 2012. For country-specific methodologies, see the statistical annex of the respective country. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. Click here to download figure.

SUB-NATIONAL UNEMPLOYMENT

There were large differences in regional unemployment within and across individual Western Balkan countries, but improvements were seen in most sub-regions. Montenegro displayed the widest regional variation in terms of unemployment rates: it had both the highest and the lowest unemployment rate in the Western Balkans – 34.7 percent in the Northern region of the country and 5.6 percent in the Coastal region. Since 2012, unemployment fell in all sub-national regions, most markedly in the Northeast and Vardar regions (both in North Macedonia).







Figure 13 / Unemployment rate – sub-national 2012 Q2 and 2019 Q2

Note: Albania – regional data from 2016, estimated back to 2012. Source: SEE Jobs Gateway Database. Click here to download figure.

6. Wages

In 2019, real wages increased in all Western Balkan countries, partly as a result of hikes in the minimum wage, but also due to wage increases in the public sector. Average monthly gross wage growth was positive throughout the region and, except for Kosovo, higher than in 2018 (Figure 14). Serbia reported the strongest increase (7.8 percent), owing to public sector wage increases, a rise in the minimum wage, but also due to labor shortages in some sectors. Kosovo and Montenegro (after two years of decline) recorded real wage growth below 1 percent. A similar positive trend in real wage growth was also observable in the EU peer countries in 2019, with highest increases reported for Hungary and Bulgaria (close to 8 percent), where labor shortages exerted a continued pressure on wages. In both countries real wage growth was well above productivity growth. In Croatia real wages grew by 3 percent owing to public sector wage increases and labor shortages in some sectors. By contrast, Austria saw only a slight wage rise (1.4 percent) in 2019.

Between 2015 and 2019, the minimum wage increased in all Western Balkan countries, except for Kosovo. In Montenegro, the minimum wage was raised in July 2019 for the first time since 2013. At the beginning of 2019, minimum wages in the region – as a percentage of the average monthly wage (expressed in euro) – were diverse and ranged between 28 percent in Kosovo and almost 50 percent in Albania, North Macedonia and Serbia (Figure 15). Between 2015 and 2019, minimum wages in the EU peer countries also increased, as did their share of the average monthly wage in Bulgaria and Croatia, while it stagnated in Hungary.¹⁵ Minimum wages were mostly lower and generally more homogeneous among EU peer countries than in the Western Balkans, amounting to around 40 percent of average monthly wages at the beginning of 2019.

¹⁵ There is no minimum wage in Austria.





Figure 14 / Average monthly gross wages, real growth in %



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Note: Wage data are based on administrative data (enterprise surveys or tax administration data or a combination of the two) for the Western Balkans and peer countries, except Austria, which is based on gross wages of National Accounts. Albania: data since 2015 refer to tax administration data, Structural Business Statistics data before.

Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. <u>Click here to download figure</u>.





in euro, as of 1 January

Note: Average gross wage data refer to survey data or tax records. Kosovo: minimum wage refers to age group 35 and above. Bosnia and Herzegovina: country-wide minimum wage not applicable. No minimum wage in Austria. Source: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat, authors' own calculations. <u>Click here to download figure</u>.





Labor market developments by country



Albania

In Albania, the labor market continued to improve in 2019. Between the second guarter of 2018 and the second quarter of 2019, employment grew by 42,000 persons or 3.4 percent; more than half of those new jobs went to women and the prime-age group (25-54 years). Jobs were created mostly in the service sector and industry, but growth was almost stagnant in agriculture. These developments were also reflected in rising activity and employment rates, at close to 70 percent and 60 percent, respectively, representing the highest rates in the region. However, the largest portion of the employment increase was due to a rise in informal employment of 30,000, or 6.7 percent. In terms of education, the highly educated and the low-educated contributed most to the employment increase, whereas the contribution of the medium-educated was negligible. Overall, Albania still employed the highest share of low-educated people in the Western Balkans, and consequently a smaller proportion of medium- and highly educated people. Unemployment fell by 2 percentage points to 11.5 percent; next to Serbia, this represents the lowest unemployment rate in the region. Youth unemployment moderated slowly, by 0.6 percentage points to 26.6 percent, as did the share of young people not in employment, education or training (NEET), which remained fairly unchanged at 26 percent. The share of long-term unemployment decreased by more than 3 percentage points, to 64 percent of total unemployment, which was below the regional average but well above the EU average. The medium-educated accounted for over 42 percent of the long-term unemployed, with the low- and highly educated accounting for 37 percent and 20 percent, respectively. In Albania, regional differences in unemployment were less significant than in other Western Balkan countries. Unemployment has traditionally been lower in the Southern region of Albania than in the Northern or the Central regions; it ranged from 8.9 percent to 13.1 percent in 2019.

Real wages rose by 4.5 percent, mostly in services such as trade and information and communication. A hike of 8.3 percent was applied to the minimum wage beginning in January 2019. Rising wages were driven by tightening labor markets, as outward migration remained high (165,000 Albanians, or 6 percent of the current population, have emigrated over the last decade) (Mara, 2019).

Since 2012, Albania's working-age population (15-64 years) increased by 0.6 percent, and the activity rate rose from 65.8 percent to 69.8 percent in 2019. Employment picked up by about 120,300 persons to reach 1.3 million in 2019. At the same time, unemployment fell by 11,000 (from 13.5 percent of the labor force to 11.5 percent), and the share of the long-term unemployed declined from 77 percent to 64 percent. Youth unemployment decreased slightly faster – from 29.8 percent to 26.7 percent – and the NEET rate for those aged 15-24 dropped from 29.4 percent to 26.5 percent; over the same period, the NEET rate among young females (the low-educated in particular) shrank by 5.8 percentage points to 27.6 percent, and remained unchanged for young males (25.4 percent). After a government campaign began in 2015, the number of those employed informally fell by 74,000 between 2014 and 2019, and their share in total employment dropped from 52 percent to 38 percent; nevertheless, the rate of informality was still the highest in the region, with 1 employed person in 3 working informally. Informal employment affected far more men than women, and their respective shares remained constant over time, at 54 percent and 46 percent, respectively. The medium-educated and low-educated, in particular, were more likely to be informally employed than were those with high levels of education; the respective shares remained almost constant since 2014.




Bosnia and Herzegovina

Economic growth (2.7 percent) did not lead to new job creation. Instead, employment fell by almost 20,000 (or 2.4 percent) between the second quarter of 2018 and the second quarter of 2019; this was exclusively due to a decline in male employment. Jobs were lost in industry and services, which could not be offset by the creation of additional employment in agriculture. Thus, the rise in the employment rate (15-64 years) of 2.4 percentage points (to 46.4 percent) and in the activity rate of 1.2 percentage points (to 55.5 percent) was the result of a significant decline in the working-age population, due to population aging and continued outmigration. Although it increased, the employment rate of both men (57 percent) and – particularly – women (35.6 percent) remained low compared to the regional average. The major obstacles to female employment included the low availability of child care and elderly care (European Commission, 2019a). Unemployment fell by 19,400 (from 18.4 percent to 15.7 percent of the labor force), driven by the shrinking working-age population and migration. Despite declining by 6 percentage points, the share of the long-term unemployed in total unemployment remained high, at 76 percent. The medium-educated accounted for over 70 percent of the long-term unemployed; and the low- and highly educated for 16 percent and 11 percent, respectively. Youth unemployment declined by 8,300 persons in 2019, and was 5 percentage points lower than in 2018, while 7,700 young people found a new job. Unemployment decreased in both entities of the country and the District of Brčko over time, but disparities remained: in 2019, the Republika Srpska reported the lowest unemployment rate (11.7 percent), followed by the Federation of BiH (18.4 percent) and the District of Brčko (21.4 percent). Though informal-sector employment is not covered by the country's labor force survey, estimates (Efendić, 2018; Gashi and Krstić, 2016) put the share of workers in the informal sector at close to 30 percent. Young people, the low-educated from rural areas and those from economically disadvantaged families were the groups affected most by informal employment.

Between 2012 and 2019, Bosnia and Herzegovina faced a substantial contraction of the working-age population (15-64 years) of almost 20 percent. Over this period, there was only a modest improvement in the activity rate – from 53.9 percent to 55.5 percent, which remained very low by regional and European standards. The gender gap in the activity rate improved from 26 percent to 22 percent in 2019, but it was still among the highest in the region. Consequently, a large part of the working-age population was inactive (44.5 percent in 2019), and this hardly changed since 2012. More than half of the inactive population had a medium level of education, and over 40 percent were low-educated¹⁶. Unlike other countries in the region, which reported employment gains since 2012, Bosnia and Herzegovina lost about 11,000 jobs up to 2019; at the same time, the number of unemployed fell by 167,000 (from 28 percent to 25.7 percent of the labor force), pointing to strong outward migration. The unemployment rate among young people almost halved during the period – from 63 percent to 33.8 percent. Also, the proportion of young people not in employment, education or training (NEET) dropped from 28.4 percent in 2012 to 21.6 percent in 2019. Over this period, the share of long-term unemployment fell by 6 percentage points to 76 percent – almost exclusively because of the decline in the most recent period.

¹⁶ Low level of education: early childhood education and primary education; medium level: lower secondary education and upper secondary education and post-secondary non-tertiary education; high level: short-cycle tertiary education, bachelor or equivalent, master or equivalent, doctoral or equivalent





Kosovo

Between 2018 Q2 and 2019 Q2, solid economic growth translated into only a moderate improvement in the labor market. The working-age population (15-64 years) continued to grow (1.5 percent), while the labor force decreased (by 0.8 percent) between 2018 Q2 and 2019 Q2, thus resulting in a slight decline in the activity rate (of 0.9 percent) to 40.1 percent, the lowest in the region. Thus, inactivity was the highest in the region (60 percent), especially for females (80 percent). Following an employment decline in 2018, Kosovo generated 16,600 new jobs in 2019 Q2 (year on year). Jobs were created in industry and agriculture but fell in the service sector - "other services," in particular. The rise in employment was particularly pronounced for females, the younger and older age groups, and the low- and medium-educated. Jobs were lost among the highly educated. The employment rate stood at close to 30 percent in 2019, up 2 percentage points compared with the year before, but the wide gender gap between the male and female employment rates (46 percent vs. 13.8 percent) persisted. The employment rates for both men and women were the lowest in the region. Unemployment declined by 20,200 - or from 29.2 percent to 25.2 percent of the labor force. The fall was exclusively due to a drop in male unemployment, since female unemployment increased. The long-term unemployment rate decreased only marginally (by 0.2 percentage points) to 17.4 percent. Youth unemployment fell by 5.8 percentage points, to 49 percent. The share of young people not in employment, education or training (NEET) increased in 2018 (latest data available) after two years of decline. At 28.5 percent (in 2018), it was exceptionally high – well above the regional average (22.1 percent) and the EU average (10.4 percent). The proportion was even higher among those aged 15-29, at 35 percent.

Between 2012 and 2019, the working-age population (15-64 years) increased by 5.3 percent, while the activity rate rose by only 1.9 percentage points. Kosovo is the only country in the Western Balkans where the gender gap in the activity rate increased – from 37.3 percent to 38.8 percent, which also represented the highest gap in the region. Thus, inactivity remained almost unchanged over time. With this high proportion in the working-age population of inactive people who were not engaged in employment, the lack of labor income increased the risk of poverty, limited budgetary revenues, and reduced the growth potential of the economy (IMF, 2018). Since 2012, 57,300 new jobs were generated and the employment rate increased by 3.4 percentage points, with the male employment rate rising faster (5.3 percentage points) than the female rate (2.3 percentage points). Both overall unemployment and youth unemployment fell by about 5 percentage points. The proportion of young people not in employment as a share of total unemployment increased by 9.8 percentage points, from 59.4 percent to 69.2 percent. Increases were higher for women (12.4 percentage points) than for men (8.2 percentage points).



Montenegro

The labor market continued to improve in Montenegro. Between 2018 Q2 and 2019 Q2, the activity rate (15-64 years) increased by 1.5 percentage points, to 66.7 percent. Female participation rose faster (2 percentage points) than male participation (1 percentage point). Employment rose by 7,500 persons (3.3 percent) and the employment rate increased by 1.3 percentage points, to 59.6 percent. The service sector (e.g., professional, scientific and technical activities, administrative support services, tourism) and construction were the main sources of job creation, while employment in industry and agriculture dropped. The rise in employment was particularly pronounced for males, younger people, and the medium- and highly educated. Employment among the low-educated declined. Jobs based on a temporary contract increased by 10.4 percent, and the share of temporary employment rose to 36 percent. The unemployment rate remained almost unchanged, at 14.3 percent; the male rate dropped by 1.2 percentage points (to 13 percent) and the female rate rose by 1.3 percentage points (to 16 percent). Youth unemployment fell from 23.9 percent in 2018 Q2 to an all-time low of 20.7 percent in 2019 Q2, representing the lowest unemployment rate among the young in the region. The rate of young people not in employment, education or training (NEET) was the lowest of the Western Balkan countries (16.2 percent) but well above the EU average (10.4 percent). NEET rates were higher for young men than for young women.

The large regional disparities in the country are reflected in the unemployment rate, which ranged from 5.6 percent in the Coastal region to 34.7 percent in the Northern region. While unemployment steadily declining in both the Central and the Coastal region, it further increased in the less-developed Northern region between 2012 and 2019.

After shrinking in 2017 and 2018, real wages increased only modestly (0.5 percent) in 2019, despite a rise in the minimum wage of 15 percent in July (for the first time since 2013).

Since 2012, the working-age population (15-64 years) remained almost stagnant, whereas the activity rate rose by 9 percentage points (10 percentage points for men and 7.7 percentage points for women). Between 2012 and 2019, employment grew by almost a quarter: 46,200 new jobs were created. Over this period, employment gains were reported mainly in high-skill sectors, such as finance, ICT, and other sophisticated services. Between 2012 Q2 and 2019 Q2, overall unemployment fell by 7,900, or 5.6 percentage points, with male unemployment declining faster than female unemployment. At the same time, the youth unemployment rate fell by 24 percentage points and the NEET rate declined by a mere 0.7 percentage points.

Though informal-sector employment is not covered by the country's labor force survey, estimates indicate that those employed informally made up 22 percent of all those in employment; in addition, 10 percent of those employed had underreported salaries (Katnic, 2018). Accordingly, the incidence of informal employment was higher for men, young and elderly people, and the low-educated.





North Macedonia

Solid economic growth contributed to further improvement in the labor market situation in North Macedonia. In the second quarter of 2019, employment growth in the country was, at 5.2 percent, the highest in the region, amounting to an increase of 39,000 jobs. This was made possible by active labor market programs (e.g., subsidies for the self-employed, various training courses, wage subsidies), but also by an increased demand for labor in foreign-owned companies in Technological Industrial Development Zones (TIDZ), also subsidized by the former "Invest in Macedonia" program. Jobs were primarily created in the service sectors (trade, transport, tourism, and administrative support services) and industry. Men, prime-age workers and the medium- and highly educated were the primary beneficiaries of employment increases. The employment rate increased by 3 percentage points to 54 percent, while the activity rate rose by 0.8 percentage points to 66.1 percent. Informal employment, of males in particular, declined by 14,600, and the share of informal employment in total employment fell by 2.8 percentage points, to 17.2 percent. Unemployment dropped by 12.6 percentage points to 17.5 percent. Supported by the government's "Youth Guarantee" program, youth unemployment continued to improve year on year by 12.7 percentage points (dropping to 35 percent), but the unemployment rate of the population aged 15-24 remained among the highest in the region. The rate of young people not in employment, education or training (NEET) remained almost unchanged, at 24 percent for the third year in a row.

Despite shrinking over time, there were still stark regional differences in unemployment, which ranged from 6.5 percent in the Southeastern region of North Macedonia to 36.5 percent in the Northeastern region in 2019.

Average real gross wages increased by 5.1 percent, due to a rise in the minimum wage in April 2019, and to wage increases for public servants since the beginning of the year.

Since 2012, the working-age population (15-64 years) of North Macedonia declined by 1.2 percent, and the activity rate went up 2.3 percentage points. At the same time, 147,000 new jobs were created, and the employment rate grew by 10.7 percentage points (with the male rate rising by 12.8 percentage points and the female rate by 8.5 percentage points). Over the period 2012-2019, the proportion of informal-sector employment, which played an important role in the country's labor market, fell by 5 percentage points from 23.1 percent of total employment to 17.2 percent. Self-employment continued to be the prevailing type of informality, while unpaid family work became less important. Over time, young men and those with low and medium levels of education were most affected by informal employment. Starting from a high level, unemployment fell by 14 percentage points between the second quarter of 2012 and the corresponding period in 2019. At the same time, youth unemployment dropped by 20 percentage points, with unemployment among young males declining faster (by 27.6 percentage points, to 30.7 percent) than among young females (by 8 percentage points, to 41.1 percent); the NEET rate declined by just 0.7 percentage points.



Serbia

Serbia's labor market continued to improve moderately in 2019. The activity rate (age 15-64 years) remained almost unchanged, at 68 percent in the second quarter of 2019, compared to the previous year. After an impressive start to the year, employment grew by below 1 percent, or around 20,000 jobs. Jobs were generated in construction and in the service sector, but employment continued to slide in agriculture. Women, prime-age workers, and the highly educated accounted for the bulk of employment growth. Informal-sector employment decreased for the second consecutive year, with a more pronounced decline for women than for men. In 2019, the informal sector still employed 480,000 people (or 19.3 percent of total employment), but this was slightly less than in 2018. The employment rate increased by less than 1 percentage point compared to the second quarter of 2018, but it rose at above average for those with higher levels of education. Next to Albania's, Serbia's employment rate of 60.8 percent represented the highest in the region. Unemployment continued to decrease – from 11.9 percent in the second quarter of 2018 to 10.3 percent in the corresponding period of 2019 (or by 57,000 persons). Youth unemployment fell more rapidly than overall unemployment – by 3 percentage points, to 24 percent; and the proportion of young people not in employment, education or training (NEET) dropped by a further 0.7 percentage points, to 16.5 percent, representing the lowest rate in the region after Montenegro. The share of the long-term unemployed fell to 59.7 percent - 2 percentage points lower than in 2018. However, the improvement in the labor market was negatively affected by continued outward migration.¹⁷

Real wages surged by 7.8 percent year on year in 2019 due to public sector wage increases and minimum wage hikes driving private sector wages. Labor shortages in some sectors due to continued migration also put pressure on wages.

Since 2012, the working-age population (15-64 years) decreased by 10.3 percent, driven by population aging and outward migration; meanwhile, the activity rate (15-64 years) increased by 7 percentage points. The gender gap in activity rates narrowed from 17 percent in 2012 to 13 percent in 2019, representing the region's smallest gender gap in the activity rate. The creation of 626,000 new jobs translated into an increase in the employment rate of 15.6 percentage points. Over the same period, informal employment rose by 187,000; the share of the self-employed – the largest group among those employed informally – decreased slightly, as did the share of unpaid family workers; meanwhile, the share of wage workers showed a marked increase. Over time, young men, older women, and the medium-educated were affected most by informal employment. Since 2012, unemployment fell by 459,000 (or 15 percentage points; and the share of the long-term unemployed by 17.6 percentage points. Differences in regional unemployment were less significant than in other countries of the Western Balkans. Since 2012, all Serbian regions, the Vojvodina in particular, reported a fall in unemployment: in the second quarter of 2019, the unemployment rate ranged from 7.8 percent in Belgrade to 12.8 percent in Southern and Eastern Serbia.





¹⁷ About 500,000 people emigrated from Serbia to OECD countries between 2008 and 2017 (IMF, 2019; Serbian monitor, 14 November 2019). In 2018, an estimated 50,000 to 70,000 people left the country (European Commission, 2019b). https://www.serbianmonitor.com/en/what-is-the-real-cause-of-the-decline-in-unemployment-brain-drain-or-economic-growth/

References

Atoyan, R. and J. Rahman (2017), "Western Balkans: Increasing women's role in the economy," IMF Working Paper WP/17/194, Washington.

Efendić, A. (2018), "Undeclared work in Bosnia and Herzegovina – evidence and policy recommendations," Policy Brief, Economic and Social Affairs Platform (ESAP), September.

European Commission (2019a), "Economic Reform Programme of Bosnia and Herzegovina (2019-2021)," Commission assessment, Staff Working Document, SWD (2019), 167 final, 11 April 2019, Brussels.

European Commission (2019b), "Economic Reform Programme of Serbia (2019-2021)," Commission assessment, Staff Working Document, SWD (2019), 169 final, 11 April 2019, Brussels.

Gashi, A. and G. Krstić (2016), "Informal employment in the Western Balkan region," mimeo.

International Monetary Fund (IMF) (2018), "Republic of Kosovo, Selected Issues," IMF Country Report No. 18/31, September, Washington, DC.

International Monetary Fund (IMF) (2019), "Republic of Serbia," IMF Country Report No. 19/238, July.

Katnić, M. (2018), "Undeclared work in Montenegro – evidence and policy recommendations," Policy Brief, Economic and Social Affairs Platform (ESAP), September.

Mara, I. (2019), "Albania: Growth will remain below potential," in: Braced for Fallout from Global Slowdown, Economic Analysis and Outlook for Central, East and Southeast Europe, wiiw Forecast Report Autumn 2019, Vienna.

World Bank (2018), "Montenegro, Growth and Jobs," Report I, September, Washington, DC.

World Bank (2019), "Rising Uncertainties," Western Balkans Regular Economic Report No. 16, Fall 2019, Washington, DC.

World Bank and wiiw (2017), "Western Balkans Labor Market Trends 2017," World Bank, Washington, DC.

World Bank and wiiw (2018), "Western Balkans Labor Market Trends 2018," World Bank, Washington, DC.

World Bank and wiiw (2019), "Western Balkans Labor Market Trends 2019," World Bank, Washington, DC.



Special topic: A Call for Action: Changing Technologies and Skills Development in the Western Balkans



Executive Summary

This report is a call for action for Western Balkan countries to step up their investment in skill development. Western Balkan countries are at a crossroad. Globalization and technology bring opportunities in terms of new markets, products, and services, but also threats in terms of job losses because of automation and skill losses because of outmigration. If Western Balkan countries fail to substantially step up their investment in skill development, they may fall into a trap of specialization in labor-intensive production and low productivity growth. Developing a skills agenda that engenders solid foundational and "new economy" skills and lifelong learning opportunities will help Western Balkan countries climb the productivity ladder and converge towards higher incomes.

The rapid transformation of the landscape of jobs, workers and skills in the Western Balkans will require swift policy reform to prevent job and economic losses. Globally, firms employ new technologies to increase productivity, expand into new markets, and reach out to a global and ICT-savvy consumer base. This process is killing off jobs, especially those involving largely "routine" tasks that easily translate into computer codes. At the same time, however, the increased use of technology is giving rise to new jobs as demand grows for other tasks and skills that are complementary to new technologies (Box 1). Aging populations also create pressure to increase the productivity of jobs to improve living standards with fewer workers and more dependents. As the Western Balkan countries seek stronger integration with the European Union (EU), cross-border flows of goods and services, of investments, and of people and talent will affect the future of jobs in the region. Faced with these changes, governments, firms and individuals will need to foster skill sets that help them not only cope with but thrive in the accelerating speed of transforming labor markets.

With jobs and workers concentrated in low skill, labor-intensive sectors, the Western Balkans are poorly prepared to face the changing nature of jobs. Employment has increased in Western Balkan countries in the past few years, but in contrast to the global trends, this job creation has taken place mostly in low productivity sectors offering few opportunities for wage growth. Foreign Direct Investment (FDI) – a potential vehicle for attracting and fostering productivity-enhancing innovation throughout the host economy – has recently been directed to sectors with low value-added and low productivity growth. These patterns reflect several failings in the economic and education sectors, including the lack of relevant, modern skills to sustain productivity growth.

Attracting or fostering job creation based on low labor costs is not a winning strategy when low productivity, low skill jobs are at risk of automation or relocalization. Western Balkan countries cannot become competitive by focusing exclusively on low labor costs. Given their income levels, low skill, low wage jobs are not sustainable in a world where technology is driving productivity. Whereas low-skill jobs provide livelihoods for individuals with limited education and skills, they will not help Western Balkan countries increase wages and living standards nor reduce poverty and vulnerability in the region. Western Balkan countries need to foster an investment climate that attracts high quality FDI and encourages innovation and productivity growth within firms, including through policies that foster skill development, innovation, and a competitive environment where resources flow to more productive firms. These are the firms that can provide jobs that thrive in a technology-rich environment and, ultimately, improve the living standards of Western Balkans.







Box 1 / Technology, "New Economy" Skills and the Future of Jobs and Workers

Technological developments are changing the nature of work – again. Past centuries have seen jobs and skill requirements transforming through the introduction of mechanization, electrification, mass production and digitalization. This transformation is ongoing. Tasks previously undertaken by humans are now increasingly automated, operating without being directly controlled by a person. Computers and machines are replacing not only physical tasks, but also an increasing share of "routine" tasks, i.e., regular, unvarying, and predictable everyday activities in the workplace. In parallel, the skill demands of jobs and occupations have also changed.

More recent technological developments, including advances in artificial intelligence and machine learning, have moved the frontier of automation further. More tasks, including "non-routine" tasks previously reserved for human intelligence, can now be carried out by robots, accelerating the speed of change in labor markets. Nonetheless, AI still faces "engineering bottlenecks", including in the area of perception and physical manipulation, creative intelligence, and social intelligence (people skills), which robots have not yet mastered. In a world where technology takes over the codifiable, "routine" and predictable tasks and some "non-routine" tasks, technology raises demand for digital (ICT) skills but also for skills that are strongly complementary to computerized tasks. These so called "new economy skills" – so labeled because they are valuable in the new, technology-intensive economy of today – include creativity, complex problem solving, social skills such as teamwork and communication capabilities, and the ability to learn new things and adapt to new challenges. With strong investments in human capital, "new economy" skills can begin to develop early on and continue to grow through education, training and lifelong learning opportunities.

Source: Autor, Levy, and Murnane 2003; Autor and Dorn 2013; Frey and Osborne 2013; World Bank 2019.

Automation is threatening low-skill jobs in the Western Balkans and will, without appropriate policy action, increase inequality and diminish the region's growth prospects. Overall, too many jobs are tied to low productivity tasks, many of which could be cost-effectively replaced by machines. Automation is also threatening potential new jobs, especially when foreign direct investment (FDI) is "aborted" because automation in home countries may become a more cost-effective solution than relocation to Western Balkan countries. Individuals that are inadequately equipped for managing technological change and whose jobs are at stake include low educated people, youth, those in industrial, low-skill occupations, and those who are not receiving (or not seeking themselves) skill development on the job.

The Western Balkans must face the future with a workforce equipped with strong "new economy" skills that are complementary rather than interchangeable with technology. This will require revamping and reforming the education and skill formation process starting from early childhood development interventions through the formal school system and including firm-provided training and life-long learning opportunities for adults.

Strengthening foundational skills should be a priority, as they are necessary for individuals to function in modern societies and are the basis for more advanced skills. Firms complain about the inadequacy of skills developed in the general education system. At the same time, learning outcome assessments in some Western Balkan countries confirm that many children and youth demonstrate substantial weaknesses in basic cognitive skills. Too many years of education are lost because the quality of education is low, resulting in limited actual learning. Later, the TVET and tertiary education systems often fail to impart the technical skills that are sought by employers, and the progression of cognitive and socioemotional skills that will ensure workers' adaptability in the future. It is critical to boost investments in the quality and labor-market relevance of skills, both system-wide and among vulnerable groups.



In addition, failing to invest in transversal "new economy" skills may hinder the growth of highpotential, innovative firms and may fail to attract FDI in higher productivity sectors. Many workers in the Western Balkans are poorly prepared for the digitalization of their work environment. Moreover, whereas employers in the region complain about skill gaps among job seekers, they are not forward looking in terms of the skills their workers will require. Firms do not prioritize "new economy" skills when looking for new hires, and they are not investing enough in training their workforce. Few firms report that their existing workforce has skill gaps, whether in skills considered relevant or less relevant to the firm's business. Life-long learning opportunities are limited as most firms do not offer ongoing professional development to upgrade their workers' skill set.

Among the few who acquire the right skills for the changing nature of work, many leave the region. The challenge is not only to equip the workforce with the right skills, but also to provide incentives and an environment that keeps skilled people from migrating. Improving the skills of the workforce is necessary but not sufficient; there is a need for broader reforms that also take into account the migration of skills out of the region.

To avoid being trapped in a low-productivity, low-wages cycle, the Western Balkans must boost their investments in quality education and job-relevant skills. Technology and automation will change the nature of jobs whether the Western Balkans are prepared or not. Failing to adapt to these transformations – a scenario that is becoming increasingly likely – will trap the Western Balkans in a low-productivity, low-wages cycle. Lower skill, "routine" task jobs run a particularly high risk of being replaced by technology innovations, both in the Balkans and abroad, and it will become increasingly difficult for the region to compete globally and attract FDI through policies focusing on low cost of labor. Failing to adapt to new technologies is also contributing to "new economy" skills leaving the country through outmigration, further undermining the likelihood of a technological transformation.



1. The transformation of jobs

Rapidly changing job markets are driven by the quest for productivity growth. In the Western Balkans, however, much of employment is concentrated in sectors with relatively low productivity. Productivity growth is also slow among the majority of firms, which holds back opportunities for wage growth. Foreign direct investment has the potential to promote more productive employment, but investment is increasingly concentrated in low productivity sectors and jobs. The region can no longer afford to compete in the low labor cost, low productivity segment of goods and services. These jobs are associated with higher risk for automation and remaining competitive would require downward pressure on wages and living standards. Raising the productivity and quality of jobs will require substantially increasing workforce skill levels.

MORE PRODUCTIVE FIRMS ARE NEEDED FOR MORE PRODUCTIVE JOBS

More productive firms are needed in the Western Balkans as they provide more sustainable and higher paid jobs. Creating more jobs is critical, but these jobs must also be more productive than current ones. As workforces will be stagnating or shrinking due to aging populations, the pressure to increase productivity to maintain living standards is even higher. In the Western Balkans, more productive firms employ more people and pay higher wages than less productive ones.¹⁸ Fostering productivity growth within firms and removing constraints that prevent the entry and growth of productive firms would help increase the quality of jobs further.



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Figure 1 / Labor productivity in the Western Balkans is not catching up

Source: Estimates based on Eurostat data. Click here to download figure.

¹⁸ Cojocaru 2017; World Bank 2018b; Davies 2019a, 2019b.





Stronger economic integration with European markets will also create pressure to increase productivity growth. Although labor costs are lower in the Western Balkans compared with EU countries, labor productivity is also several times lower than in the average EU country. The lower labor productivity places the region at a competitive disadvantage. Moreover, Western Balkan countries are not catching up: productivity growth in the past few years has been at most at par with, or below, EU member countries (Figure 1).

Employment is increasingly concentrated in less competitive sectors and firms. In North Macedonia, jobs have failed to become more productive, in part, because employment growth has been concentrated in lower productivity sectors (Figure 2); a similar pattern holds for Albania. In Serbia, productivity growth has been driven by the manufacturing sector, but it has not been sufficient to reach positive productivity growth (Figure 1) or to even begin approaching the levels of EU member states.¹⁹ Up until 2014, moreover, efficiency was achieved in the region by shedding workers. Since then, domestic firms have begun seeing some productivity and employment growth, but labor productivity has taken a sharp negative turn among foreign firms (Figure 3).





Source: World Bank 2018b. Size of bubbles represents share in employment. <u>Click here to download figure</u>.

¹⁹ Davies 2019b, 2019a.





Productivity growth is held back by the lack of workforce's skills, but also low firm capabilities and weak investment climates. Lack of skills, outdated management and organizational practices, and low investment in technology and R&D are jointly holding back productivity development within firms. In 2014, about 14 percent of Serbian firms invested in R&D, compared to 25 percent in Slovenia. Importantly, the amount invested (measured as share of revenue) was considerably lower in Serbia, at 0.3 percent, compared to more than one percent in Slovenia. Recent data from the Enterprise Survey show that while Serbia's share of firms investing in R&D has caught up with Baltic countries (60 percent of Serbian firms in 2019), other Western Balkan countries remain far behind.²⁰ Large differences in productivity within sectors also suggest that resources are not moving to more productive firms as they would in a competitive environment. Weaknesses in the investment climate, ranging from access to credit and land to insufficient infrastructure, lack of competition in key sectors serving businesses (e.g., logistics), and uncertainties in regulatory frameworks are also stunting more productive firms.²¹





Source: Davies 2019a. Click here to download figure.

²¹ Davies 2019a

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²⁰ See 2019 data from Enterprise Surveys (http://www.enterprisesurveys.org), The World Bank.

Foreign Direct Investment (FDI) is no longer a driver of productivity growth in employment, and the stock of FDI is concentrated in less productive sectors compared to the EU newer member states. Among EU's newer member states, FDI has contributed significantly to integration, exports, employment and productivity growth. In the Western Balkan region, too, foreign-owned firms are more productive and employ more people, and FDI has been a driving force in establishing new industries. Overall, however, the Western Balkans have a higher share of low-tech products in their manufacturing FDI stock than EU member countries²² and there have been limited spillovers (higher productivity among domestic firms resulting from linkages or imitation). FDI in the Western Balkans has been directed mostly to non-tradable sectors, especially retail, although recent years have seen more investment in exports-oriented sectors, in particular the automotive part industry.²³ However, FDI is not necessarily contributing to productivity growth. In the case of Serbia, for example, FDI jobs are still the most productive in the economy, but investments in both industry and services has increasingly been directed to lower value-added sectors such as textile, motor vehicle parts and equipment, retail, administrative and support services (Figure 3). Whereas employment has increased in the manufacturing sector, productivity growth has not, and FDI jobs have in fact seen falling productivity. A notable exception is the ICT sector, which is central to the jobs of tomorrow and has seen both employment and productivity growth.²⁴

High quality and skilled labor are critical for export growth and Global Value Chain integration, and they are lacking in the Western Balkans.²⁵ High quality education is associated with improved participation in Global Value Chains (GVCs), which can in turn accelerate exports and income growth. A recent survey with export firms across Western Balkan countries confirm that skill shortages hinder GVC integration. Some 70 percent of the firms report skill shortages, and they rank it as their top constraint. An adequate pool of skilled labor is also key to raising imports' contribution to growth, as they are needed to efficiently utilize and absorb higher technology inputs.²⁶

Western Balkan countries need to increase the quality of jobs and workforce skills to create higher paying and more sustainable jobs. The concentration of employment in low productivity firms and recent trends in FDI render many jobs vulnerable to technical change. For the Western Balkans to sustain both wage increases and employment growth, productivity growth is critical. A higher skilled workforce is essential for Western Balkans to generate new jobs and attract investments in more productive sectors. In turn, an increased integration into international value chains should also transfer new skills to workers and encourage knowledge transfers.



²² Fah Jirasavetakul and Rahman 2018

²³ Estrin and Uvalic 2016.

²⁴ Davies 2019a.

²⁵ Global Value Chains are created when firms specialize in a particular set of activities in one country to produce parts and components for other count (definition from World Development Report, 2019, World Bank Group).

²⁶ Ilahi et al. 2019.

AUTOMATION WILL IMPACT TASKS, JOBS AND WORKERS IN THE WESTERN BALKANS

The range of tasks that can be undertaken by machines (i.e., automated tasks) is constantly growing, and low productivity jobs remain more at risk than ever. Low productivity jobs with high levels of "routine" tasks are more vulnerable to automation than those with more "non-routine" tasks. Advances in artificial intelligence ("smart automation") is also accelerating change in product, services and labor markets as many "non-routine" tasks can increasingly be replaced with algorithms. Nevertheless, jobs requiring more advanced skills like creative problem solving or socioemotional skills remain more difficult to replace entirely with robots. And as these skills are largely complementary to those replaced by automation, they are likely to be in even higher demand in the future.²⁷

In the Western Balkans, the concentration of employment in lower productivity sectors makes automation likely to have significant negative impacts on jobs. There is little evidence to suggest that *all* jobs will be wiped out by robots. History shows that whereas technology has destroyed some jobs, it has created others, and it has changed the task composition of some jobs without eliminating them altogether. There are also non-technological barriers to automation, including socio-cultural factors. Accordingly, research on the risk of automation in OECD or EU is inconclusive on the *share* of jobs at high risk in these countries, which ranges from 9 to 47 percent of all jobs, depending on the methodology.²⁸ These caveats notwithstanding, the same cross-country studies also show that countries with some commonalities with the Western Balkans, notably the new EU member states from Central and Eastern Europe, are among the countries with the highest risk for job losses. Compared to peers, these countries have a higher share of workers with low- and mid-levels of education and a higher relative share of jobs in "routine" occupations and in industry.

To the extent that firms in investing countries may opt for automation instead of relocation, the Western Balkans may also lose future jobs through "aborted" FDI. Western Balkan jobs will also be affected by the impacts of technology in Europe. Countries that are important sources of FDI for the Western Balkans, such as Austria, Germany, Greece, Turkey and the new EU Member States, are among the countries with a high likelihood of automation.²⁹ A process of automation in FDI source countries may therefore threaten future jobs in the region through reduced FDI; with machines replacing low-skill labor involved in routine tasks, the incentive to relocate in low-cost labor countries is reduced. Moreover, technological change in home countries may increase the demand for skilled labor, and therefore incentives of the skilled workforce in the Western Balkans to migrate.

²⁹ Fah Jirasavetakul and Rahman 2018; Arntz, Gregory, and Zierahn 2016.



²⁷ See, for example, Manyika et al. 2017; World Economic Forum 2018; World Bank 2019; EBRD 2018; Oxford Economics 2019, for recent comprehensive studies focusing on the effects of automation on jobs.

See, for example, Acemoglu and Restrepo 2017; Acemoglu and Autor 2011; Arntz, Gregory, and Zierahn 2016; Frey and Osborne 2013; Nedelkoska and Quintini 2018; Pouliakas 2018. Note that none of these studies include Western Balkan countries.

UNSKILLED AND "ROUTINE" WORKERS MAY LOSE THE RACE AGAINST THE MACHINE

Automation will have significant and most likely negative distributional effects on labor markets. Whereas the overall risk of automation on net employment is up for debate, the distributional impacts are clear. Automation does not obliterate the need for workers but changes the kind of skills that are needed and rewarded in the labor markets. And when those skills sets are inequitably distributed (as they almost inevitably are), automation will increase inequality. Although AI and machine learning are making inroads into tasks requiring higher order skills, the primary losers of automation remain those engaged in low wage, low skill jobs, requiring low levels of education. Jobs where young people work and jobs in the manufacturing and agricultural sectors are most at risk, although sales and services jobs are also vulnerable.

Overall, workers in the Western Balkans spend a high share of their time doing "routine" tasks. "Routine" tasks – those repetitive in nature - are surprisingly common across all occupational categories in the Western Balkans. On average, workers are doing repetitive work almost all the time (index=0 in Figure 4), or at least half of the time (index=1). Rarely do they engage in solving problems or learning new things on the job. There are however pronounced differences across workers with different levels of education, with higher educated workers doing much more "non-routine" work.



Figure 4 / Workers spend a small share of their time doing "non-routine" tasks

Notes: The chart indicates the responses of workers as to how likely they were to solve problems, learn new things, or do repetitive tasks on the job. The incidence is estimated based on responses from 0 to 3, where 0 is never/none, and 3 is frequent/high use of tasks. The scale is reversed for the question related to repetitive tasks. Source: Estimates based on STEP Household Surveys.

Click here to download figure.

The distributional consequences of automation could be strong given that jobs are concentrated in low skill, low wage sectors. Table 1 provides estimates of the risk of automation of selected jobs using task descriptions and the Serbia STEP Household Survey (Box 2). The results are based on an automation index that measures the extent to which an occupation involves non-automatable tasks – a first attempt to estimate, empirically, the potential exposure to automation for the Western Balkan countries. The index is developed using the tasks currently contained in different





occupations, as captured by the STEP Household Survey.³⁰ The findings are in line with studies from the OECD and the EU. Classes of occupations requiring higher order and more "non-routine" skills ("non-routine" occupations in the STEP terminology) have a lower score on the automation index than occupations requiring "routine" skills ("routine" occupations). For Serbia, jobs in agriculture, industry and low-skill services are more vulnerable to automation in terms of the tasks they involve, and these jobs account for 31 percent of employment in Serbia's urban areas. Jobs with more automatable tasks include stationary plant and machine operators, food processing workers, and unskilled labor in mining, construction, manufacturing and transport. By contrast, jobs for professionals (e.g., health, legal, business, ICT, science and engineering) and managers at different levels involve fewer automatable tasks and make up 27 percent of urban employment in Serbia.

Box 2 / Measuring skills and tasks: the STEP Survey Measurement Program

The World Bank's STEP Skills Measurement Program (STEP) is an initiative to fill knowledge gaps related to the demand and supply of skills in low and middle-income countries. The program is designed to provide policy relevant information on skills, beyond basic information on education levels and literacy, their backward links to education and background, and their forward links to productivity and earnings. Household-level surveys focus on measuring skills and the use of skills in the urban population in a comprehensive way, including cognitive, or analytical skills, socioemotional skills that affect workplace readiness and effectiveness, and job-specific technical skills. Firm level (employer) surveys focus on understanding the skills that employers need, skills that are difficult to find, and different means to address the skill gap.

Source: Pierre et al. 2014, Koettl-Brodmann et al. 2017, World Bank 2018a, Honorati, Johansson de Silva, and Kupets 2018.

Table 1 / Serbia: Occupations with automatable tasks

Occupations with more automatable tasks (share of urban employment: 31 percent)	Occupations with fewer automatable tasks (share of urban employment: 27 percent)				
 Market-oriented skilled agricultural workers Subsistence farmers, fishers, hunters and gatherers Handicraft and printing workers Food processing, wood working, garment and other craft and related trades workers Stationary plant and machine operators Assemblers Drivers and mobile plant operators Cleaners and helpers Agricultural, forestry and fishery labourers Labourers in mining, construction, manufacturing and transport Refuse workers and other elementary workers Personal service workers 	 Teaching professionals Science and engineering associate professionals/professionals Information and communications technicians/professionals Health professionals Legal, social and cultural professionals/associated professionals Hospitality, retail and other services managers Business and administration professionals Administrative and commercial managers Chief executives, senior officials and legislators Production and specialized services managers 				
 Protective services workers 					

Source: Index estimates by occupational category, estimates based on the Serbia STEP Household Survey (urban population only). Methodology in Appendix 1 - Approach 1.

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³⁰ The methodology for the STEP Automation Index is based on the framework of engineering bottlenecks introduced by Frey and Osborne 2013. The STEP Automation Index is scaled 0-10, where 10 indicates a high share of non-automatable tasks (i.e., a low risk of automation). Note that this should only be interpreted as a relative scale, rating different occupations/categories against each other. The STEP index does not provide an estimate of the absolute share of jobs at risk of automation. See Appendix 1 - Approach 1 for the detailed methodology.

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These low skill, low productivity jobs are common in sectors that have seen increased inflows in FDI in recent years. To remain competitive against automation in source countries, wages of "routine" jobs in the Western Balkans will need to remain low. Failing to upgrade the workforce's skills and betting on labor-intensive sectors seems therefore a losing game that will prevent countries to engage in an upwards spiral of better jobs, greater productivity and higher wages.

Across Western Balkan jobs, the probability of automation is around 50 percent. Figure 5 estimates the risk of automation for various workers' profiles by using estimates of the mean probability of automation in the EU and applying these to the Western Balkans.³¹ The emerging picture shows interesting and consistent patterns. As seen in Figure 5, in Albania and Kosovo, tertiary levels of education is associated with lower risk of automation, consistent with findings from other countries.³² While women and youth are also at slightly greater risk of automation, differences remain small and also depend on youth/female labor force participation and the sectors in which youth/women work.





Source: Estimates based on Labor Force Surveys and Pouliakas 2018. Methodology in Appendix 1 - Approach 2. <u>Click here to download figure</u>.

³² Kattan, Macdonald, and Patrinos 2018.





³¹ This section draws on estimates of mean probability of automation for different occupations provided by Pouliakas 2018, using the European Skills and Jobs Survey, managed by CEDEFOP. Unlike the STEP Automation Index, it is based on the task content of occupations in more developed EU countries. These risks are applied to Western Balkan countries' LFS data to arrive at mean probability for different groups. The estimates should be interpreted with caution as the task content of jobs reflects the situation in more advanced EU countries and not in the Western Balkans. See Appendix 1 - Approach 2 for the detailed methodology.

Stepping up investments in foundational and "new economy" skills will be central to lowering the exposure to automation and improving the quality of jobs and economic prospects in the region. Although skill development does not guarantee job creation, an adequate level of skills is required to foster the creation of quality jobs. Western Balkan countries need to boost investments in foundational skills and modern, "new economy" skills that will allow current and future workers to adapt to rapidly changing labor markets.

2. The transformation of skills

Equipping the population with skills for the future will require both strengthening foundational skills acquired from early childhood throughout the formal education system, and "new economy" skills that are essential to compete in an integrated and competitive economy. The Western Balkans need to equip their workforce with a broad toolbox of skills that will allow for rapid adaptation to accelerating changes in the nature of jobs and tasks. Currently, the population is lacking the skills necessary to support such a transition. Employers widely complain that education systems are not producing individuals with the skills needed for their businesses to prosper, indicating that without reform skill challenges will only worsen. At the same time, few firms develop the skills of their workforce or invest in "new economy" skills, suggesting that reform must go beyond the education system and include stronger private sector development support.

SKILL GAPS ARE HOLDING BACK FIRM GROWTH AND JOB CREATION

There remain large skill gaps in the Western Balkans, especially for occupations requiring "new economy" and "non-routine" skills, which affect both firm growth and job creation. When asked about labor-related constraints to business expansion, between 20 and 50 percent of firms in the Western Balkans cite workers' lack of experience as a major or severe obstacle (Figure 6, Panel A). A majority of firms also complain that lack of experience and skills is affecting their ability to recruit (Figure 6, Panel B). Recent data from the World Bank's Enterprise Surveys tell a similar story, with between 16 percent (Montenegro) and 44 (Kosovo) percent of firms reporting that they are constrained by an inadequately educated workforce.³³

Managerial, professional and higher-level technician skills are missing. In all countries apart from Serbia, skill/recruitment gaps are higher for jobs intense in "non-routine" tasks, typically jobs in the managerial, professional and higher-level technician occupational categories. Even though workers in these categories have typically gone through higher levels of education than "routine" workers, the demand for "non-routine" skills is also significantly higher and applicants appear to fall short. As seen in Figure 6, Panel B, firms find more skill constraints when attempting to recruit workers for "non-routine" jobs than for "routine" jobs.

³³ See 2019 data from Enterprise Surveys (<u>http://www.enterprisesurveys.org</u>), The World Bank.







Figure 6 / Employers report skill gaps as a major challenge

Note: "Non-routine" jobs refer to managers, professionals and higher-level technicians, whose job descriptions usually contain "nonroutine" cognitive and socioemotional tasks. This corresponds to Type A occupations in STEP methodology. "Routine jobs" refer to all other occupations, which are Type B occupations in STEP methodology. We use this terminology for clarity of purpose. Note that although Type B occupations are mostly "routine" jobs, they can include some "non-routine" but manual tasks. Source: Estimates based on STEP Employer Surveys.

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Firms that are more intensive in skill use and that could potentially provide better jobs and higher wages are even more affected by skill gaps. In Albania, for example, workers in firms that are innovative and connected to international markets use more "new economy" skills than workers in the average firm. They are more than twice as likely as workers in the average firm to use advanced computer skills, are more likely to spend time reading or working with numbers, and are more likely to use teamwork skills.³⁴ However, these firms face greater challenges in finding and recruiting workers with the necessary skills, whether for "routine" or "non-routine" jobs (Figure 7, Panel A). A similar picture is found for the remaining countries in the region. In Kosovo, a significant majority of more productive, large, foreign-owned, or innovative firms report that they found hiring workers challenging because of the lack of skills among applicants (Figure 7, Panel B). These skill gaps reflect an underperforming skills development system, from early childhood up through secondary and tertiary education.

³⁴ Honorati, Johansson de Silva, and Kupets 2018.









Panel A - Albania



Notes: The graphs show the share of firms that attempted to hire but reported difficulties due to applicants lacking skills or required experience. "Non-routine" jobs refer to managers, professionals and higher-level technicians, whose job descriptions usually contain "non-routine" cognitive and socioemotional tasks. This corresponds to Type A occupations in STEP methodology. "Routine jobs" refer to all other occupations, which are Type B occupations in STEP methodology. We use this terminology for clarity of purpose. Note that although Type B occupations are mostly "routine" jobs, they can include some "non-routine" manual tasks. Source: Estimates based on STEP Employer Surveys.

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FOUNDATIONAL SKILLS NEED STRENGTHENING

Children and youth in the Western Balkans need to be equipped with the necessary core and technical skills to perform well in life and at work. Foundational skills, or deep learning skills, include communication (speaking, reading, writing), numeracy, problem solving, collaboration, and information accessing and processing skills (ICT or digital skills). They are necessary although not sufficient to succeed in life, not least because they are the foundation for further skills acquisition. Skills formation begins prenatally (through proper brain development) and continues throughout life, and it is nurtured through proper stimulation, education and training. Early interventions to foster skills development have strong payoffs, as they help in shaping the brain towards more effective learning in the future. Technical skills are relevant for performing specific jobs. They should





be imparted in upper secondary and tertiary education, and training should occur in close coordination with employers. The better students are prepared, in terms of both core and technical skills, the more likely it is that they will find employment. Higher education and TVET also play an important role in building higher-order cognitive skills and socioemotional skills that will ensure young people's adaptability and upskilling/reskilling throughout their working life. But this can only be built on top of solid foundational skills. This implies a significant need for curriculum reform at the primary and secondary levels, to ensure a much stronger focus on foundational components.

Education systems in the Western Balkans are failing to equip students with the skills sought after in the labor market. Most employers find that education and training systems do not graduate students with the skills they need. In Bosnia and Herzegovina, for instance, more than half of the interviewed firms state that general education systems do not equip students with workplace skills (e.g., attitude, discipline), nor the practical skills needed to satisfactorily perform the job (Figure 8). Students from Science, Technology, Engineering and Math (STEM) fields (whether with postsecondary diplomas or university degrees) are overall better evaluated than the general education system at large; nevertheless, between 40 and 50 percent of firms find STEM graduates lacking the necessary skills. In Bosnia and Herzegovina, the highest rated students are from the technical and vocational education and training system, but more than a quarter of the firms still find that TVET students lack the skills that meet their needs.



Figure 8 / Education systems do not provide students with the skills they need

Source: Estimates based on the Bosnia-Herzegovina STEP Employer Survey. Note that STEM education refers to anyone with a specific focus on STEM, whether from general tertiary education or (post-secondary) TVET. Click here to download figure.

Children in Western Balkan countries spend fewer years in school than children in more developed countries. Worse, years in school are not well spent. With the exception of Serbia, children in the Western Balkans can expect to leave school earlier than children in countries with world-class education systems, such as Singapore or Finland (Figure 9). Multiple years spent in school are also lost due to the poor quality of schooling. Although a Serbian child is expected to spend just as many years in school as a Singaporean child, her cumulated knowledge remains nearly three years behind that of a child in Singapore. When quality of education is taken into account, a child in Kosovo will be



more than 5 years behind a child in Singapore, and 4 years behind a child in Lithuania in terms of actual learning levels.



Figure 9 / Learning in school is highly ineffective

Note: Lost years in school are estimated as the difference between (expected) actual years in school, and the learning adjusted years in school based on test scores. See https://www.worldbank.org/en/publication/human-capital. Source: HCI database.

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Lost learning opportunities result in weak foundational skills. Based on literacy testing, 37 percent of adults in Kosovo are not proficient, even at a very basic level of literacy: the equivalent level is 15 and 17 percent in Austria and Germany. The average worker in Kosovo is capable of recognizing basic vocabulary, evaluating the meaning of sentences, and reading paragraph text, but is not skilled in understanding and evaluating dense and complicated texts that include relevant and irrelevant information or require background knowledge (Figure 10).³⁵ In Macedonia, 40 percent of children aged 10-14 are "learning poor," meaning that they cannot read and comprehend a simple age-appropriate text.³⁶ Although improvements in education outcomes are impressive for Serbia (which achieves learning poverty levels of 8 percent, higher than the regional ECA average), the country remains behind the OECD average or peers among new EU member states. Poor reading and text analysis abilities are a significant handicap to further education, and an obstacle to accessing more qualified jobs. There are also significant differences in literacy competencies across demographic groups. Ethnic minorities in Kosovo and Serbia (including Roma), those with lower levels of education, and older workers are less able to decipher complex texts (Figure 11).

³⁶ UIS and World Bank as of October 2019.



³⁵ World Bank 2018.





Notes: The literacy test was developed by the Educational Testing Service (ETS) for the STEP Household Surveys. Level 2 (out of 5) is considered basic literacy proficiency.

Source: Estimates based on STEP Household Surveys (Armenia, Georgia, Kosovo, Serbia, and Ukraine) and the Programme for the International Assessment of Adult Competencies (PIAAC), for OECD countries.

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Figure 11 / Education, age and minority status affect reading capabilities

Source: Estimates based on STEP Household Surveys for Serbia and Kosovo. Click here to download figure.

Quality education is also important to the development of socioemotional skills. The links between socioemotional skills and educational success go both ways. Those who are able to make informed, long-term decisions and persevere are more likely to succeed in school. At the same time, socioemotional traits are not fixed over time but can be developed and encouraged from early childhood throughout the school system.³⁷ For example, in Kosovo, individuals who attended an early childhood education program (a) have more "grit" (a measure of passion for achieving long-term goals and perseverance), which is considered an important characteristic for getting ahead in life; (b) are more open to new experiences; and (c) are more emotionally stable and resistant to stress, characteristics that tend to be highly valued by employers (Figure 12). Similarly, individuals with higher levels of educational attainment score higher on all seven socioemotional characteristics measured in the STEP Household Survey. In contrast, vulnerable and less educated groups may have more challenges in developing socioemotional skills. Ethnic minorities, for instance, score lower on socioemotional skills: differences in these characteristics between main ethnic groups and minorities are statistically significant across Kosovo, North Macedonia and Serbia.

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³⁷ Heckman and Kautz 2012.





Note: Only statistically significant differences in sample means are reported (5 percent significance level). Original scale: 1-5. ECD: "Early Childhood Development".

Source: Estimates based on STEP Household Survey in Kosovo. Click here to download figure.

INVESTMENTS IN "NEW ECONOMY" SKILLS ARE REQUIRED NOW

The demand for digital skills is rising in all countries, including (to some extent) the Western Balkans. Online job search platforms show clear signals of the demand for digital skills. An analysis of 2018 job portal data in Kosovo indicates that among vacancies posted online (most of which are high-skill positions), computer skills are the third most required category of skills for all sectors and industries (Figure 13).³⁸ These computer skills generally refer to basic digital skills, such as being able to use classic software for word processing, spreadsheets and presentations. Unfortunately, however, it appears that such high demand is concentrated among the few, selected high productivity firms that use job portals (see below).

In addition to strengthening foundational skills, the education and training systems need to provide workers with digital skills. Basic digital literacy should be mastered by the majority of the workforce since, like general literacy and numeracy, it serves as a foundational skill required to work efficiently in the workplace. Such skills are substantially rewarded – in OECD countries, the earnings payoff from digital skills is estimated at around 8 percent.³⁹ To integrate the use of digital technologies, training systems need to promote *digital literacy* skill development broadly in the workforce. Additionally, *digital specialist skills* developed by specific workers are needed and *digital complementary skills*, which are skills not directly connected to digital technologies but boost worker efficiency in a technology-rich environment.⁴⁰

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⁴⁰ OECD 2016a.





³⁸ Brancatelli, Marguerie, and Brodmann 2020.

³⁹ Falck, Heimisch, and Wiederhold 2016.



Figure 13 / Kosovo: many job postings require computer skills

Note: Incidence of skills across job postings on main Kosovo job portals. Source: Brancatelli, Marguerie, and Brodmann 2020. <u>Click here to download figure</u>.

Socioemotional and foreign languages skills are also transversal skills in high demand. Foreign languages, especially English, is another key fundamental skill to prepare workers for new, more productive jobs. On Kosovo's job platforms, around 20 percent of job postings are directly published in English.⁴¹ In some sectors, especially those with higher wages (e.g., ICT, consulting and Finance), the share of English language postings exceeds 50 percent. Firms posting online vacancies are also looking for applicants with particular socioemotional characteristics, such as outgoing and energetic (extraverted), curious and inventive (open to new experience), and efficient and organized (conscientious).

The Western Balkans workforce is not prepared for the digital transformation of jobs. Analyses in high-income countries show that while the demand for basic digital skills has increased, digital literacy remains limited in many countries; across OECD countries, about one in four workers could be considered digitally illiterate (although there is considerable variation across countries).⁴² In the Western Balkan, too few existing jobs involve the use of any kind of digital skills. In Kosovo, for example, half of the workers are not using computers on the job (Figure 14). The use of ICT is also very polarized, as almost all of the workforce using digital skills do so frequently or every day. The use of digital skills is particularly low among "routine" jobs (Figure 15). This group is also more likely to lack the complementary skills needed to remain competitive as technology makes inroads into workplace tasks.

⁴² OECD 2016b based on PIAAC 2012.





⁴¹ Brancatelli, Marguerie, and Brodmann 2020.



Figure 14 / Few workers use or develop digital skills on the job

Source: Estimates based on STEP Household Surveys. Click here to download figure.





Note: Index is derived by valuing the computer use on the job as follows: skill not used (0), low use (1), medium use (2), and high use (3). Source: Estimates based on STEP Household Surveys. <u>Click here to download figure</u>.

Despite the rising demand for digital skills by selected, high productivity firms, most firms do not appear to have forward-looking strategies for promoting skill development. New economy skills will be essential to boost productivity; yet, the rising demand for digital skills found in job portals is concentrated among a few, highly productive firms. An analysis of the type of skills firms value most suggests that firms value workers (both "routine" and "non-routine") who are conscientious, innovative, possess the technical skills needed for the job, and can handle stressful situations (Table 2). By contrast, they consistently rank digital literacy, advanced computer knowledge and English among the least important skills – although all are foundational skills in an integrated, competitive and information-based society. For these "new economy" skills, a higher share of firms also state that the skill is not needed for the job, reflecting the low use of new technology by many firms.



	Albania	Bosnia-Herzegovina	Kosovo	Serbia			
What are the top three ranked skills for "Non-routine" type workers? (out of 12 skills)							
Highest	Conscientious	Conscientious	Conscientious	Job specific technical			
Second	Stable, stress resistant	Innovative	Innovative	Conscientious			
Third	Numerate	Stable, stress resistant	Numerate	Stable, stress resistant			
What is the ranking of "new economy" skills when making decisions regarding hiring or retaining "Non-routine" type workers? (out of							
12 skills)							
Advanced computer	11	11	9	10			
English	7	10	8	11			
What are the top three ranked skills for "Routine" type workers? (out of 12 skills)							
Highest	Conscientious	Conscientious	Conscientious	Conscientious			
Second	Stable, stress resistant	Stable, stress resistant	Innovative	Stable, stress resistant			
Third	Job specific technical	Interpersonal skills	Interpersonal skills	Job specific technical			
What is the ranking of "new economy" skills for accessing and processing information for "Routine" type workers? (out of 12 skills)							
English	10	10	9	12			
Digital literacy	11	11	12	9			

Table 2 / Low needs for IT and language skills among Western Balkans firms

Note: Advanced computer knowledge is included among skills for "Non-routine" type workers, and basic computer skills (digital literacy) for "Routine" type workers. Results for North Macedonia cannot be compared due to methodological differences. Source: Estimates based on STEP Employer Surveys.

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Firms do not see the need to upgrade their employees' skills. Whereas firms find many faults with job applicants (a significant share of which are likely to be new labor market entrants with little work experience), they are satisfied with the skills of their current work force. In general, fewer than 20 percent of firms across the Western Balkans believe that current workers lack the cognitive, technical and soft skills needed to do the job well, or indeed any other skills, whether relevant to the job content or not.





Note: OJT = On-the-job training. Source. Estimates based on STEP Employer Surveys. <u>Click here to download figure</u>.





Accordingly, firms invest very little in training their workforce. Few Western Balkan firms provide staff training (Figure 16). Moreover, very little of the training is provided by outside training institutions; most of it is on-the-job, helping workers to do their current job better but not preparing them for future challenges. Access to training is higher for "non-routine" workers than "routine" workers, which again underscores the vulnerability of jobs and workers in that category. Low levels of training are particularly alarming given that employers report that education systems do not equip youth with adequate skills for work.

3. The migration of skills

The same skills required to boost the productivity of Western Balkan job markets are in high demand globally, and many young and educated people who have acquired such skills are migrating out of the region. The challenge for the Western Balkans is not only to equip the workforce with solid foundational and "new economy" skills, but to benefit from these investments. Migration can favor knowledge transfers and strengthen transnational business networks but also poses many challenges when the skilled workforce is depleted as result of massive, long-term outflows. In the long run, the winning strategy remains to invest in economic reform that will create opportunities and demand for skilled labor, in solid education systems that upskill the labor force and in international partnerships that maximize the benefits of migration and skill investments.

Youth and individuals with high levels of education are most likely to migrate out of the Western Balkans. People with high levels of education are overrepresented among migrants. Data from 2010 shows that between 30 and 45 percent of the migrants that left Albania, Bosnia-Herzegovina and North Macedonia had high (post-secondary) levels of education (Figure 17). Yet, the group of highly educated made up a much smaller share of the total working age population, between 8 and 13 percent in 2010. There is strong qualitative evidence that this imbalance persists and may even be worsening. Among European countries, the Western Balkans are facing the highest risk for "brain drain", especially among youth. A recent Gallup opinion survey finds that net potential outmigration rate (a measure comparing people at risk for migrating out of the country with people who would like to migrate into the country) reaches between 30 and 50 percent among those with high levels of education.⁴³ Similarly, net potential outmigration of youth (aged between 15 and 29) reaches between 25 percent (Albania) and 57 percent (Bosnia-Herzegovina) of the relevant population.

Public investments in education and training are therefore partially lost through migration. There are generally strong private benefits of migration, explaining the significance of the phenomenon. There are also potential country-level gains, especially through higher remittances and as temporary relief for high unemployment in sending countries. However, from the point of view of public costs and benefits from investments, the losses tend to outweigh the gains.





⁴³ Based on Gallup potential net migration indices, 2015-2017, available at: <u>http://news.gallup.com/migration/interactive.aspx</u>. The comparison excludes Montenegro because it is a desired destination for many Western Balkan youth, hence net potential outmigration is negative.



Figure 17 / Educated people are most likely to migrate

Note: Low education includes lower secondary, primary and no schooling, medium education refers to higher secondary, and tertiary education refers to post-secondary levels of training.

Source: Brücker, Capuano, and Marfouk 2013 - IAB Brain Drain Database. <u>Click here to download figure</u>.

From a pragmatic viewpoint, outmigration could solve some labor market tensions, given the high levels of unemployment affecting youth at all levels of education. As one example, nursing professionals from Serbia and Bosnia-Herzegovina who cannot find gainful employment at home are given technical as well as language training in their home countries in order to take up gainful employment in Germany.⁴⁴

Western Balkan countries are also recouping part of the private benefits of migration through remittances. Data from 2018 show that in all Western Balkan countries, except North Macedonia, remittances represent more than 8 percent of GDP, and reaching 16 percent in Kosovo. These figures represent relatively high remittance levels, significantly higher than the average for upper-middle income countries (0.7 percent of GPD) or Europe and Central Asia (1.6 percent of GDP). On the other hand, there is little evidence of business networks and skill transfers as a result of return migration or other forms of diaspora initiatives that could foster skill circulation in the region.

Over the longer run, the Western Balkans cannot, however, afford to lose workers. Given how rapidly most of the region is aging, a critical mass of productive workers must remain in the Western Balkans, which will require countries to enact deep service delivery reforms that improve their attractiveness, as well as reforms that boost firms' and workers' productivity.

Initiatives to foster additional benefits from migration are incipient and not yet at the scale needed. There are examples of skill partnership programs in which sending countries receive support in the form of trainers, equipment or curriculum update from receiving countries (Box 3). Initiatives to increase the benefits from migration also include attempts to leverage the diaspora for knowledge transfers (e.g., mentorship with students, networks involving the diaspora and the local private sector) and investment. A partnership program between Sweden and Bosnia-Herzegovina in

⁴⁴ GIZ 2018.





the 1990s indicated that diaspora entrepreneurship capabilities can be leveraged for job creation.⁴⁵ Albania ran a "Brain Gain" program with the support of UNDP between 2006 and 2011 that attracted around 150 high skilled Albanians to return to the country and work for the public sector or academia. However, these initiatives seem sparse, of limited scale and not yet part of a systematic effort to benefit from the migration of skills.

Box 3 / Global Skills Partnerships – win-win migration policies

Skills partnership programs aim to create "win-win" collaborations between migration destination and sending countries. First outlined in Clemens (2015), the Global Skills Partnerships Model can take many forms, but relies on the establishment of two different tracks, one for future migrants and one for non-migrants. The "home track" ensures that some of the training is directly relevant to the local market. The sending country benefits both from the "home track" which is funded by the "migration track", and from the "migration track" which generates transfer of knowledge. Following the Global Skills Partnership model, Germany and Austria are already partnering with training centers in the Balkans. Such partnerships can benefit human capital formation in sending countries as (a) the skills and knowledge of local trainers are upgraded; (b) often outdated equipment is replaced or complemented; and (c) new and more relevant training curricula are developed or transferred directly from the destination country.

Source: M. A. Clemens 2015; M. Clemens, Dempster, and Gough 2019.

The Western Balkans are losing "new economy" skills, increasing overall labor market vulnerability to technological change. Data from LinkedIn shows that Information Technology and Services (ITS) is among the industries most affected by skill losses across the Western Balkans, except in Serbia (Table 3, upper panel).⁴⁶ Computer Software, Internet, and Telecommunications are also negatively impacted in Albania, North Macedonia and Serbia. In addition, industries like Higher Education and Research, also intense in "new economy skills", are represented among industries losing skills in Serbia and Albania. Looking at skills (as opposed to sectors), skills related to new technologies and IT are by far the most likely to be lost (Table 3, lower panel). Given that Serbia has built an IT hub (e.g., the Microsoft Development Center Serbia, located in Belgrade since 2005), it is slightly less affected than the other (smaller) Western Balkan countries. However, it remains more vulnerable to skill losses than new EU member states such as Estonia or Slovenia (not shown here). Moreover, the EU member countries are not losing technology skills to the same extent; their losses for technology skills are much lower in absolute terms and do not figure among the top five skills lost. Migrant receiving countries like Austria and Germany incur net gains in technology related skills.



⁴⁵ Lindahl et al. 2018.

⁴⁶ Results from a Big Data collaboration between the World Bank and LinkedIn, a social media platform focusing on professional networking and career development with hundreds of millions of members from more than 100 countries. These data are based on self-reported (subjective) information and not on objective measurements of skills and represent the demographics and behaviors of LinkedIn users and not the population at large. Data are not available for Kosovo and Montenegro due to small sample sizes.

Table 3 / Individuals with IT skills are leaving the Western Balkans

Top five industries in the Western Balkans most affected by the net flows of migration between Western Balkan and all other countries

Albania		Bosnia and Herzegovina		North Macedonia		Serbia	
	Net		Net		Net		
Industry	loss	Industry	loss	Industry	loss	Industry	
Tele-communications	-323	Information Tech & Services	-320	Compute Software	-294	Internet	-213
Banking	-330			Information Tech & Services	-252	Financial Services	-237
Higher Education	-498					Higher Education	-246
International Affairs	-290					Research	-384
Information Tech & Services	-339					International Affairs	-324

Top five skill losses in Western Balkans countries, due to net migration flows between Western Balkan and all other countries

Albania		Bosnia and Herzegovina		North Macedonia		Serbia	
	Net		Net		Net		Net
Skill	loss	Skill	loss	Skill	loss	Skill	loss
Computer Networking	-3072	Development Tools	-1842	Development Tools	-1888	Dentistry	-1062
Web Development	-2746	Web Development	-1707	Software Testing	-1765	Genetic Engineering	-812
Development Tools	-2297	Computer Networking	-1587	Web Development	-1755	Development Tools	-785
Data Storage Technologies	-2194	Software Testing	-1541	Computer Networking	-1247	Phys. Medicine and Rehab	-693
Tele-communications	-1691	Music	-1344	Music	-1010	Web Development	-693

Note: The net gain or net loss in skills is a normalized migration rate among LinkedIn users, computed as the net gain or loss of members from another country with a given skill divided by the number of LinkedIn members with that skill in the target (or selected) country, multiplied by 10,000. Note that there are no data available for Montenegro and Kosovo.

Source: "World Bank LinkedIn Digital Data for Development" by World Bank Group & LinkedIn Corporation, licensed under CC BY 3.0. <u>Click here to download table</u>.

People with managerial and transversal skills needed to boost productivity are also leaving the region. Part of the region's productivity problem is related to the lack of managerial skills, especially among smaller firms, which are critical to enhance firm productivity and employment growth.⁴⁷ Many small and medium sized enterprises operate without mid-management, lack overall strategic approaches toward vision, mission, customers, markets, are weak on planning and implementation procedures, lack networking abilities, and do not have people and talent management functions or strategies in place.⁴⁸ There is therefore an urgent need to invest in such skills, but also to incentivize skilled people to stay. Unfortunately, the opposite is happening as these skill sets are leaving the region (Figure 18). Although outflows are less dramatic than those for technical skills, Western Balkan countries are losing business management, people management and leadership skills at significant rates. Similarly, transversal "non-routine" skills (typical "new economy" skills), such as problem solving, time management and oral communication, are also migrating out.

⁴⁸ Findings from World Bank firm visits.





⁴⁷ See, among others, McKenzie and Woodruff 2017; Bloom and Van Reenen 2010; Bloom and Van Reenen 2007.





Note: The net gain or loss in skills is computed as the net gain or loss of members from another country with a given skill divided by the number of LinkedIn members with that skill in the target (or selected) country, multiplied by 10,000. Source: "World Bank LinkedIn Digital Data for Development" by World Bank Group & LinkedIn Corporation, licensed under CC BY 3.0. Click here to download figure.

MIGRATION MUST BE CONSIDERED WHEN DESIGNING EDUCATION REFORMS

The large share of high-skilled people among emigrants corresponds to an education subsidy to higher-income receiving countries. Education is an investment of the State in its people, and when people migrate, the benefits of these investments are transferred to other countries. These costs can be substantial. Government spending per tertiary education student (measured as share of GDP per capita) is equivalent to 15 percent in Albania and reaches 25 percent in Bosnia and Herzegovina and 32 percent in Serbia.⁴⁹ High outmigration of the most productive individuals also threatens the sustainability of pension and health insurance systems.

⁴⁹ World Development Indicators, accessed November 7, 2019.





Despite migration, the winning strategy remains to invest in solid education systems, upskilling the labor force, and fostering more competitive and productive businesses. Losing skills through migration does not imply by any means that countries should stop investing in education and training. To the contrary, *too few* people possess these skills, and when they leave, the impacts are magnified. Investing in solid education systems and upskilling the labor force would allow firms to hire the right people even if many leave. The better the skills of the workforce, and the better suited they are to the needs of prospective employers, the more firms would be able to invest in new technologies and boost their productivity and the wages they may afford to pay – reducing in the process people's incentives to migrate.

High migration flows must be taken into consideration when designing effective education and training reforms, however. For instance, governments may need to provide incentives for firmbased training, given that firms may witness their workers migrating after having made the investment in training. Governments could also sponsor skill acquisition abroad, on the condition that sponsored scholars return home afterwards.

4. Managing the skills transition

To avoid becoming trapped in a low-productivity, low-wages cycle, the Western Balkans need to boost their investments in quality education and job-relevant skills. Technology and automation will change the nature of jobs whether the Western Balkans are prepared or not. Failing to adapt to these transformations – a scenario that is becoming increasingly likely – will trap the Western Balkans in a cycle of low-productivity, low-wages. Lower skill, "routine"-task jobs run a particularly high risk of replacement by technology innovations, both in the Balkans and abroad, and it will become increasingly difficult for the region to compete globally and attract FDI through low cost of labor policies. Failing to adapt to new technologies is also contributing to a loss of "new economy" skills through outmigration, further undermining the likelihood of a technological transformation.

Building and retaining skills will require broad reforms that go beyond the education sector. A wide set of stakeholders, including communities, families, individuals, education systems, and employers help build skills throughout life. Without broad reforms, it may therefore be difficult to significantly upgrade people's skills. The region may also be trapped in a cycle that is difficult to escape – one in which the lack of more productive jobs discourages individuals from acquiring "new economy" skills and encourages the migration of the highly skilled; at the same time, the lack of "new economy" skills prevents firms from investing in productivity-enhancing technologies. Such a cycle can, however, be broken by good policies. In the short- and medium-term, investing in skills may engender more high-skill migration but, over time, a critical mass of workers with solid foundational and "new economy" skills could emerge and help disrupt the cycle.

On the demand side, the Western Balkans need to help productive firms enter, grow, and create jobs that require solid foundational and "new economy" skills. High growth potential firms will benefit from improvements in the business environment, including capacity building, support for training, innovation and technology-driven change, greater access to finance, and reforms that help create a level playing field and reward better performing firms. The widespread lack of management skills also suggests that many firms are not aware of how poorly they are performing compared to their potential. Hence, providing management professional development opportunities to existing







SMEs (e.g., training, mentoring, access to networks) may also help boost productivity, the demand for new technologies and the demand for workers with the skills required to operate them.

Education policies need to focus on helping Western Balkan's students "learn how to learn." The early childhood years lay the foundations for acquiring solid cognitive skills. Providing access to quality preschool education – which is linked to better skill formation – is a priority to get children off to a good start and a precursor to quality basic education. Foundational skills also need to be strengthened throughout the region, which will require substantial reforms of the basic education systems. Increasing the efficiency and effectiveness of these systems will require better governance, strategic directions, and incentive systems that increase the autonomy and accountability of providers; a focus on outcomes rather than inputs; substantial investments in teacher training and curriculum reform; and partnerships between the private sector and education systems to ensure relevance of skill development. Digital technologies can also help build skills.⁵⁰ Teachers are an excellent example of a category of workers whose skills cannot be replaced by technology but who can be made more effective through various digital tools.

The Western Balkans must also better include disadvantaged groups from early childhood interventions to tertiary education. Inclusion of disadvantaged groups is not only essential for equity, but also for long term productivity growth – especially given the high rate at which the Western Balkans are aging.

Education systems, especially TVET and higher education institutions, need to improve their teaching of "new economy" skills. A skill-driven education agenda includes both foundational and generic skills that foster further skill development and adaptability to changing tasks, as well as specific "new economy"/"non-routine" skills that are complementary to automation and artificial intelligence (e.g., creativity, soft skills, information processing, and complex problem solving in changing environments). Unfortunately, TVET and higher education institutions are not graduating students with these much-needed skills. Teaching is often imparted with outdated technologies; institutions have little contact with and understanding of private sector needs; internships are rare; and the lack of on-the-job training fails to impart students with both the technical and the socioemotional skills required for success in the job market.

Workers must also be given the opportunity to continue developing their skills throughout their working life. With changing technologies and aging populations lifelong learning is essential. Those already out of school, whether employed or unemployed, must be given the opportunity to continually equip themselves with new skills. Skill upgrading must be a joint effort of both the public and private sectors. Incentives should be provided to firms to develop the firm-specific or sector-specific technical skills of their workforce more effectively and on a larger scale. At the same time, the public sector must focus on building strong foundational skills, which will ensure workers' ability and willingness to learn technical skills on the job and quickly adapt to changes. For those already out of the education system, it must also ensure that those out of employment have the opportunity to maintain (and potentially upgrade) their skills. A few promising private sector-led initiatives are emerging, but given the huge skill gaps there is ample space for the public sector to help bring them

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⁵⁰ World Bank 2016.
to scale.⁵¹ While more difficult, it is also possible to upgrade the skills of older workers that may be affected by the technological transformation. In Austria, for instance, a private-public collaborative effort to smooth the transition out of a rapidly transforming (and shrinking) industrial steel sector in the 1980s helped workers with training and entrepreneurships grants, and is widely credited with having improved employability of laid-off workers.⁵²

Strengthening labor market information systems, career support and school-to-work transition policies will be necessary to optimize career choices and skill-related decisions. Many people make uninformed career choices, which worsens the existing skill challenges. Providing individuals with information about skills and occupations that are associated with better labor market outcomes would help them make informed choices. Yet, information alone may not be sufficient. Career support services should be strengthened and accessible in middle and high schools, TVET institutions and universities to help students make informed career choices early on, acquire skills that support them in job search (e.g., CV and interviewing skills), and explore opportunities for internships. Employment agencies should also develop similar programs for those already out of school, as well as remedial, demand driven skill training programs.

In the short run, migration is likely to remain high and its negative impacts must be mitigated. Ultimately, high skill outmigration is a symptom of challenges in the economic, social and political systems and poor prospects offered to workers. Reversing the trend will take time and require improving people's labor market prospects and quality of living at home. Reducing support of tertiary education for fear of losing educational investments is, however, not an option. On the contrary, a revision of the type of skills that are provided in the education system might require additional resources. Countries like Romania are now investing more in their tertiary education system to entice youth to stay at home. There is also significant scope for scaling up initiatives to foster skill transfers, connecting the diaspora with local entrepreneurs or benefiting from the experience and training gained abroad by return migrants. Additionally, the financing of higher education could be revisited. For instance, to address critical skill gaps, scholarships could be granted to study abroad with the condition that people return or reimburse the investment.

Social protection systems need to help vulnerable workers adapt to technological transformations. Technological progress will affect unskilled and vulnerable workers most, not all of whom will adapt successfully and could fall into a spiral of lower wages and worsening labor market conditions. While retraining opportunities may work for some workers, social protection systems will need to support those who will be significantly affected by changing technologies.⁵³

⁵³ Bussolo et al. 2019.





⁵¹ In Kosovo, for instance, CACTTUS (an ICT firm) has established a TVET school specializing in ICT skills to respond to the poor level and quality of ICT skills of potential workers.

⁵² Winter-Ebmer 2001, quoted in Bussolo et al. 2019.

References

Acemoglu, Daron, and David Autor. 2011. *Skills, Tasks and Technologies: Implications for Employment and Earnings. Handbook of Labor Economics.* doi.org/10.1016/S0169-7218(11)02410-5.

Acemoglu, Daron, and Pascual Restrepo. 2017. "Artificial Intelligence, Automation and Work." *NBER Working Paper No. 24196*, 41. doi.org/10.3386/w24196.

Arntz, M., T. Gregory, and U. Zierahn. 2016. "The Risk of Automation." *OECD Social, Employment and Migration Working Paper*, no. 189. <u>doi.org/10.1787/5jlz9h56dvq7-en</u>.

Autor, David H., and David Dorn. 2013. "How Technology Wrecks the Middle Class." New York Times.

Autor, David H., Frank Levy, and Richard J. Murnane. 2003. "The Skill Content of Recent Technological Change: An Empirical Exploration." *Quarterly Journal of Economics*. doi.org/10.1162/003355303322552801.

Bloom, Nicholas, and John Van Reenen. 2007. "Measuring and Explaining Management Practices across Firms and Countries." Quarterly Journal of Economics. doi:10.1162/qjec.2007.122.4.1351.

Bloom, Nicholas, and John Van Reenen. 2010. "Why Do Management Practices Differ across Firms and Countries?" *Journal of Economic Perspectives*. <u>doi:10.1257/jep.24.1.203</u>.

Brancatelli, Calogero, Alicia Marguerie, and Stefanie Brodmann. 2020. "What Can We Learn from the Analysis of Online Job Portal Data? Evidence on Job Creation and Demand for Skills in Kosovo." Mimeo. Washington, DC.

Bussolo, Maurizio, Maria E. Dávalos, Vito Peragine, and Ramya Sundaram. 2019. *Toward a New Social Contract: Taking on Distributional Tensions in Europe and Central Asia*. Europe and. Washington, DC: World Bank.

Clemens, Michael A. 2015. "Global Skill Partnerships: A Proposal for Technical Training in a Mobile World." IZA Journal of Labor Policy 4 (1). <u>doi:10.1186/s40173-014-0028-z</u>.

Clemens, Michael, Helen Dempster, and Katelyn Gough. 2019. "Maximizing the Shared Benefits of Legal Migration Pathways: Lessons from Germany's Skills Partnerships." 150. CGD Policy Paper. Washington, DC.

Cojocaru, Alexandru. 2017. *Kosovo Jobs Diagnostic*. doi:10.1596/27173.

Davies, Elwyn. 2019a. "Serbia: Boosting Productivity for Faster Growth." Mimeo. Washington, DC.

———. 2019b. "Unlocking Jobs and Growth Through Productivity: A Firm-Level Diagnostic of Albania." Mimeo. Washington, DC.

EBRD. 2018. "Transition Report 2018-2019", 120.





Estrin, Saul, and Milica Uvalic. 2016. "Foreign Direct Investment in the Western Balkans: What Role Has It Played during Transition?" *Comparative Economic Studies* 58 (3): 455–83. doi:10.1057/ces.2016.10.

Fah Jirasavetakul, La-Bhus, and Jesmin Rahman. 2018. "Foreign Direct Investment in New Member State of the EU and Western Balkans: Taking Stock and Assessing Prospects." *IMF Working Papers* 18 (187): 1. <u>doi:10.5089/9781484373323.001</u>.

Falck, Oliver, Alexandra Heimisch, and Simon Wiederhold. 2016. "Returns to ICT Skills." *SSRN Electronic Journal*, no. 290683. doi:10.2139/ssrn.2744714.

Frey, Carl Benedikt, and Michael Osborne. 2013. "The Furute of Employment." Oxford Martin Programme on Technology and Employment.

GIZ. 2018. "Seizing a Brighter Future for All." *Seizing a Brighter Future for All.* doi:10.1596/30975.

Górka, Szymon, Wojciech Hardy, Roma Keister, and Piotr Lewandowski. 2017. "Tasks and Skills in European Labor Markets," no. May.

Heckman, James J., and Tim D. Kautz. 2012. "Hard Evidence on Soft Skills." NBER Working Paper Series, no. 18121: 54.

Herbert, Brücker, Stella Capuano, and Abdeslam Marfouk. 2013. "Education, Gender and International Migration: Insights from a Panel-Dataset 1980-2010."

Honorati, Maddalena, Sara Johansson de Silva, and Olga Kupets. 2018. "Demand for Skills in Albania: An Analysis of the Skills Towards Employment and Productivity Survey." Washington, DC.

Ilahi, N., Khachatryan, A., Lindquist, W., Nguyen, N., Raei, F., & Rahman, J. 2019. "Lifting Growth in the Western Balkans". In Lifting Growth in the Western Balkans: The Role of Global Value Chains and Services Exports. USA: INTERNATIONAL MONETARY FUND. <u>doi:10.5089/9781498314916.087</u>

Kattan, Raja Bentaouet, Kevin Macdonald, and Harry Patrinos, A. 2018. "Automation and Labor Market Outcomes: The Pivotal Role of High-Quality Education." *Policy Research Working Paper - World Bank*, no. June. <u>doi:10.1596/1813-9450-8474</u>.

Koettl-Brodmann, Johannes, Sara Johansson De Silva, Olga Kupets, and Bojana Naceva. 2017. "Looking for Skills in the Former Yugoslav Republic Macedonia." *Looking for Skills in the Former Yugoslav Republic Macedonia*. <u>doi:10.1596/27745</u>.

Lindahl, Claes, Julie Lindahl, Mikael Söderbäck, and Tamara Ivankovic. 2018. Nation Building in a Fractured Country: An Evaluation of Swedish Cooperation in Economic Development with Bosnia and Herzegovina 1995-2018. Expertgruppen för biståndsanalys.

Lo Bello, S., Sanchez Puerta, M. L., & Winkler, H. J. 2019. From Ghana to America: The Skill Content of Jobs and Economic Development, World Bank Policy Research Working Paper No. 8758. Washington, DC.



Manyika, James, Michael Chui, Mehdi Miremadi, Jacques Bughin, Katy George, Paul Willmott, and Martin Dewhurst. 2017. "A Future That Works: Automation, Employment, and Productivity." *Mckinsey Global Institute*, no. January: 148.

McKenzie, David, and Christopher Woodruff. 2017. "Business Practices in Small Firms in Developing Countries." *Management Science* 63 (9): 2967–81. doi:10.1287/mnsc.2016.2492.

Nedelkoska, Ljubica, and Glenda Quintini. 2018. "Automation, Skills Use and Training." OECD Social, Employment, and Migration Working Papers. <u>doi:10.1787/864161231261</u>.

OECD. 2016a. "Policy Brief on the Future of Work-Skills for a Digital World," no. December: 1–4. doi:10.1787/5jlwz83z3wnw-en.

———. 2016b. Skills Matter: Further Results from the Survey of Adult Skills. Acta Ginecologica. Vol. 25. Paris. doi:10.1787/9789264258051-en.

Oxford Economics. 2019. "How Robots Change the World - What Automation Really Means for Jobs and Productivity," no. June.

Pierre, Gaëlle, Maria Laura Sanchez Puerta, Alexandria Valerio, and Tania Rajadel. 2014. "STEP Skills Measurement Surveys: Innovative Tools for Assessing Skills." *STEP Skills Measurement*, no. 1421: 104.

Pouliakas, Konstantinos. 2018. "Determinants of Automation Risk in the EU Labour Market: A Skills-Needs Approach," no. 11829: 28.

Winter-Ebmer, Rudolf. 2001. "Evaluating an Innovative Redundancy-Retraining Project: The Austrian Steel Foundation." *Discussion Paper Series- Centre for Economic Policy Research London*, no. 2776: ALL.

World Bank. 2016. World Development Report 2016: Digital Dividends. Washington, DC: World Bank.

———. 2018a. "Kosovo Country Report: Findings from the Skills Towards Employment and Productivity Survey." Washington, DC.

———. 2018b. "Seizing a Brighter Future for All: Former Yugoslav Republic of Macedonia Systematic Country Diagnostic." Washington, DC.

———. 2019. World Development Report 2019: *The Changing Nature of Work*. Washington, DC: World Bank.

World Economic Forum. 2018. "Towards a Reskilling Revolution," no. January: 42.



Appendix 1: Using the STEP surveys to estimate the risk of automation in Western Balkans: Methodology

Approach 1: Index on automation proximity based on STEP survey

The empirical literature on risk of automation draws on data sources that provide descriptions of tasks for different occupations. These data sources include the US O-net (Frey and Osborne, 2017), the OECD based Survey of Adult Skills (Arntz et al., 2016; Nedelkoska and Quntini, 2018), and the EU-focused European Skills and Jobs Survey (ESJS) (Pouliakas, 2018). These studies used the task descriptions to approximate the three engineering bottlenecks to automation identified by Frey and Osborne (2013), i.e. perception manipulation, creative intelligence, and social intelligence. Occupations intensive in these tasks are less likely to be automated at present time. Lo Bello, Sanchez Puerta, and Winkler (2019) instead used the STEP surveys to cluster tasks into a routine versus non-routine framework drawing from the work of Autor, Levy, and Murnane (2003). This approach, however, does not consider the advances made by AI on the automation of non-routine tasks.

The approach adopted by Pouliakas (2018) was to (a) map variables in the ESJS that correspond best to the variables identifying engineering bottlenecks and (b) following Frey and Osborne (2013), use the mapping to estimate coefficients on 70 hand labeled occupations and (c) use these to predict the out-of-sample automation probabilities of other occupations. The sample size for the employed population in the STEP survey was not sufficiently large to apply steps (b) and (c) across occupations.

Instead, we used the STEP survey to map variables corresponding to engineering bottlenecks and used the mapping to construct an index of automation proximity at the individual-level rather than the occupational-level (Table A1).

The STEP Automation Index is scaled 0-10, such that 10 indicates a high share of non-automatable tasks, i.e. a low risk of automation. (This is reversed for presentation, see below.) The Automation Index is a relative measure, rating different occupations/categories against each other. The STEP index provides no estimate of the <u>absolute share</u> of jobs at risk of automation.

The index is constructed as a weighted sum of bottleneck variables j for every individual i in the dataset,

Index_i =
$$\sum_{j=1}^{J} \theta_j x_{i,j}, \quad i = 1, ..., N,$$

where $x_{i,j}$ is the bottleneck variable j of individual i, and θ_j is the variable's weight that gets a value of either 1 or 0.5.

We assigned a weight of θ = 0.5 to variables that were potentially less suitable than others to serve as proxies according to how well they reflected an engineering bottleneck or not. Examples of such





variables include: Driving a car, truck or three-wheeler; Repairing electronic equipment; Nonrepetitive tasks; and Using mobile phone as a communication device at work (see Table A1). Remaining variables received a weight of 1.

Before calculating the index, all categorical variables with values from 0 to a maximum value (5, 8 or 10) were normalized by rescaling the values into a range between 0 to 1. In order to facilitate presentation and comparison with Approach 2 (below), the final version of the index presented in the report is reversed so that a lower value of index corresponds to a lower level of automation.

After calculation of the index for each employed individual in Kosovo, North Macedonia and Serbia, we estimated the mean value of the index for each country and at the level of subgroups defined by gender, age, education, ethnicity, tenure at current job, economic sector, occupation, and employer-provided training.

This approach provides a measure of skill variability across countries and across subgroups of employed individuals for skills that are relevant for automation. As such, we are unable to make statements concerning the absolute point at which an occupation is automated. However, the index allows for comparison of individuals depending on how they were affected by automation.

This approach allows for automation risk comparisons without too many assumptions (while Frey and Osborne (2017), for example, rely on AI expert judgement of 70 occupations to assess what would be the threshold of automation). Instead, in the absence of knowing the true functional relationship between AI-bottleneck variables and automation risk, we assumed at most that automation risk was increasing linearly in the respective variables.

The STEP survey is not perfectly suited to estimate automation à la Frey and Osborne, mostly because of the lack of detail on tasks (and the lack of details on occupations). A more specific constraint is the lack of information on social intelligence in task descriptions, i.e. the ability to negotiate, persuade, communicate, understand and react to others' moods and read personalities, for example. Tasks that are intense in these skills are less likely to be automated. This in turn leads to an overestimation of the automation proximity of typically female dominated occupations such as care for children and elderly. Nonetheless, our estimates constitute a first attempt to use information on the content of jobs in the Western Balkans to look at the potential impact of technological advances on jobs and individuals.

Approach 2: Application of Pouliakas (2018) probabilities to LFS occupational data

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Unlike the STEP surveys, Labor Force Surveys have significantly more detailed information on occupations. Exploring this information, we applied the estimation results by Pouliakas (2018) for EU countries to identify estimates of automation risk in three Western Balkan countries, namely Albania, Bosnia and Herzegovina and Kosovo. For this purpose, we first mapped the estimated mean probabilities of automation for each 2-digit ISCO occupation from Pouliakas (2018) (see Table 2) to the LFS data in three Western Balkan countries. Given the availability of standard errors, we also created a range measure to account for possible imprecision in the estimates.

Using this approach, we can identify which subgroups of employed individuals might be most affected by automation in terms of probabilities. This method rests on strong structural assumptions as we apply parameters from regressions based on EU countries to structurally different countries in





Western Balkans. As such, these estimates serve at best as an upper bound and a preliminary indicator for the analysis based on the first approach.

	Frey	and Osborne (2017) ariable selection	Pou	ıliakas (2018) mapping	STEP mapping				
Engineering Bottleneck	FO O*NET Variable	O*NET definition	ESJS ⁵⁴ variable	ESJS definition	STEP variable	STEP definition, measure (before normalization)	Normalizati	Weight 0	
Perception manipulation	Finger dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects	nical skills	Specialist knowledge needed to perform job duties; Knowledge of particular products or services; Ability of operating specialized technical equipment	Driving a car, truck or three- wheeler	As part of this work, do you drive a car, truck or three-wheeler? Index: 0=No, 1=Yes	No	0.5	
	Manual dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate or assemble objects	Tech		Repairing electronic equipment	As part of this work, do you (did you) repair/maintain electronic equipment? Index: 0=No, 1=Yes	No	0.5	
Creative intelligence	Originality	The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem	Problem solving skills	Thinking of solutions to problems; Spotting and working out the cause of problems	Thinking	As part of this work, how often do you have to undertake tasks that require at least 30 minutes of thinking (examples: mechanic figuring out a car problem, budgeting for a business, teacher making a lesson plan, restaurant owner creating a new menu/dish for restaurant, dress maker designing a new dress) Index: from 1=Never to 5=Every day	Yes	1	
					Advanced computer skills	 Does (did) your work require the use of other [other than Excel, Word, Access, Internet, Email] software packages, OR designing websites, OR doing programming or managing networks? Does (did) your work require the use of: advanced functions in spreadsheets such as macros and complex equations book-keeping, accounting or financial software presentation, graphics software (such as PowerPoint) designing websites CAD software (computer aided design) statistical analysis or other analysis software programming managing computer networks Index: 0=Did not use a computer at work OR, if used computer, did not use other software packages, etc. Used computer and performed at least 1 of 8 tasks listed above. 	Yes	1	

Table A1 / Skills classification mapping Frey & Osborne (2017) – Pouliakas (2018) -STEP

⁵⁴ ESJS = <u>European skills and jobs survey</u>.



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Table A1 / ctd.

	Frey	and Osborne (2017) variable selection	Poul	iakas (2018) mapping	ng STEP mapping				
Engineering Bottleneck	FO O*NET Variable	O*NET definition	ESJS ⁵⁵ variable	ESJS definition	STEP variable	STEP definition, measure (before normalization)	Normalizati	Weight 0	
			Learning tasks	How often, if at all, does your job involve 'learning new things'?	Learning new things	How often does (did) this work involve learning new things? Index: from 1=Rarely or never to 5=Every day (reversed categories compared to the original variable)	Yes	1	
			Non-routine tasks	How often, if at all, does your job involve 'responding to non- routine situations during the course of your daily work'?	Non-repetitive tasks (a reverse of repetitive tasks)	How often does (did) this work involve carrying out short, repetitive tasks? Index: from 1=Almost all the time to 4= Almost never	Yes	0.5	
			Autonomous tasks	How often, if at all, does your job involve 'choosing yourself the way in which you do your work'?	Autonomy at work	How much freedom do you (did you) have to decide how to do your work in your own way, rather than following a fixed procedure or a supervisor's instructions? Use any number from 1 to 10 where 1 is no freedom and 10 is complete freedom Index: from 1= No freedom to 10=Complete freedom	Yes	1	
Social intelligence	Sacial perceptiveness	Being aware of others' reaction and understanding why they react as they do.	Team working skills	Cooperating and interacting with co- workers; dealing and negotiating with people	Time spent cooperating with co-workers Contact with non-coworkers	As part of this work, how frequently do you spend your time co-operating or collaborating with co-workers? Index: from 1=Never to 5=Every day As part of this work, do you (did you) have any contact with people other than co- workers, for example with customers, clients, students, or the public? Using any number from 1 to 10, where 1 is little involvement or short routine involvements, and 10 means much of the work involves meeting or interacting for at least 10-15 minutes at a time with a customer, client, student or the public, what number would you use to rate this work? Index: From 1=Little interaction with non- coworkers to 10=Significant interaction with non-coworkers	Yes	1	
	Negotiation	Bringing others together and trying to reconcile differences	Planning and organization skills	Setting up plans and managing duties according to plans; Planning the activities of others; Delegating tasks; Organizing own or other's work time	Supervising others	As a normal part of this work do you direct and check the work of other workers (supervise)? Index: 0=No, 1=Yes	No	1	
			Communicatio n skills	Sharing information with co-workers/clients; Teaching and instructing people; Making speeches or presentations	Making formal presentations	As part of this work, do you (did you) have to make formal presentations to clients or colleagues to provide information or persuade them of your point of view? Index: 0=No, 1=Yes	No	1	
					Using mobile phone as a communication device at work	As part of this work do you (did you) regularly use a mobile phone? Index: 0=No, 1=Yes	No	0.5	

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⁵⁵ ESJS = <u>European skills and jobs survey</u>.





Occupation (ISCO 2-digit)	ISCO code	Mean probability of
		automation
Chief executives, senior officials and legislators	11	0.44
Administrative and commercial managers	12	0.45
Production and specialised services managers	13	0.48
Hospitality, retail and other services managers	14	0.47
Science and engineering professionals	21	0.51
Health professionals	22	0.47
Teaching professionals	23	0.47
Business and administration professionals	24	0.51
Information and communications technology professionals	25	0.48
Legal, social and cultural professionals	26	0.47
Science and engineering associate professionals	31	0.5
Health associate professionals	32	0.48
Business and administration associate professionals	33	0.5
Legal, social, cultural and related associate professionals	34	0.46
Information and communications technicians	35	0.5
General and keyboard clerks	41	0.49
Customer services clerks	42	0.47
Numerical and material recording clerks	43	0.49
Other clerical support workers	44	0.48
Personal service workers	51	0.49
Sales workers	52	0.52
Personal care workers	53	0.42
Protective services workers	54	0.52
Market-oriented skilled agricultural workers	61	0.55
Market-oriented skilled forestry, fishery and hunting workers	62	0.51
Building and related trades workers, excluding electricians	71	0.55
Metal, machinery and related trades workers	72	0.55
Handicraft and printing workers	73	0.54
Electrical and electronic trades workers	74	0.54
Food processing, wood working, garment and other craft and related trades workers	75	0.56
Stationary plant and machine operators	81	0.56
Assemblers	82	0.57
Drivers and mobile plant operators	83	0.55
Cleaners and helpers	91	0.54
Agricultural, forestry and fishery labourers	92	0.55
Labourers in mining, construction, manufacturing and transport	93	0.55
Food preparation assistants	94	0.51
Street and related sales and service workers	95	0.5
Refuse workers and other elementary workers	96	0.54

Table A2 / Mean probability of automation by 2-digit occupation according to Pouliakas (2018)

Source: Pouliakas (2018), Figure 2.





Statistical Annex

- SEE Jobs Gateway
- Sources and definitions
- Key economic indicators

Tables per country:

- Labor market data
- Earnings and unit labor costs







The tables in the statistical annex provide data on key economic indicators as well as labor market indicators, according to the labor force survey (LFS) methodology and data on earnings and unit labor costs for the six Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Kosovo) and for four EU peer countries (Austria, Bulgaria, Croatia and Hungary).

Disclaimer

All data presented in this report and online have been collected directly from national statistical offices of the six Western Balkan countries and Eurostat, with the objective of harmonizing data as much as possible across countries. The data have been collected in the framework of the SEE Jobs Gateway and, as such, are not official World Bank estimates.

SEE Jobs Gateway Database

All time series presented in the Statistical Annex are available in the SEE Jobs Gateway Database at <u>https://data.wiiw.ac.at/seejobsgateway.html</u>.

This database covers a unique and detailed set of labor market indicators based on LFS data for the Western Balkan countries. The dataset is harmonized across indicators, age groups and educational attainment. Overall, the database covers four parts: (i) Key economic indicators, (ii) Labor market indicators, (iii) Labor market data on a sub-national level and (iv) Data on earnings and unit labor costs.

The database contains both raw and derived statistics. The underlying basic employment data (in thousand persons) are provided by the statistical offices on an annual and quarterly basis (raw data, 3 decimal places). All corresponding rates and shares on an annual and quarterly basis have been calculated based on these raw data. Flags in the database are used to alert and symbolize if the data are less accurate or inaccurate and should allow for a careful interpretation of the data.

Major breaks in series:

The LFS in the Western Balkans have steadily improved and are being harmonized with EU and ILO definitions, implying that breaks in the time series are unavoidable. Most of the breaks in the series occur for any of the following reasons: change in survey design, change in survey questionnaire, change in survey frequency, revisions of the data series based on updated population census results for 2011, and reclassification of educational attainment. Specifically, the following changes affect the comparability over time and across countries for the data series:

Introduction of a continuous quarterly survey producing quarterly results: Albania from 2012 (before, the survey was carried out once a year – 2010: Sept-Oct, 2011: July-Sept), Serbia from 2015 (in 2010-2013 the survey was carried out twice a year in April and October, in 2014 a quarterly survey with a fixed reference week was introduced).
 Amendment: In Bosnia and Herzegovina the survey is still carried out once a year in April. In Kosovo the survey is already based on a continuous quarterly survey; so far the data are only available on an annual basis between 2012 and 2015 and starting from 2016 on a quarterly basis.





- Updated population census results 2011: Albania and Montenegro from 2011 (data for 2010 are not fully comparable), Serbia from 2013 (low impact on growth rates in comparison to the previous year). Amendment: In Bosnia and Herzegovina the 2013 census is not yet applied; in North Macedonia the 2002 census is applied.
- Educational attainment: Indicators showing the educational attainment are based on the International Standard Classification of Education (ISCED 1997 or ISCED 2011). In the following tables as well as in the SEE Jobs Gateway Database the definition of low-educated (level 0-2), medium-educated (level 3-4) and high-educated (level 5-8) refers to ISCED 2011. Any deviations are described in the metadata.

Regarding average monthly gross wages, breaks may occur when the survey behind has changed or the data are taken from a new or different survey. This is the case in Albania (data from General Directorate of Taxation from 2014, Structural Business Statistics data before), in Croatia (from 2016 data are based on tax records; prior to that data are based on a monthly survey covering 70 percent of persons in employment) and in Serbia (from 2018 tax administration data, before wage survey data supplemented by tax administration data). The SEE Jobs Gateway database provides comparable growth rates. The comparability between annual and quarterly data may also be impaired by the survey coverage (this is the case for Albania).

In the SEE Jobs Gateway Database, all methodological breaks in time series and definitions are defined in the metadata.

Western Balkans-6 aggregate:

This country grouping is the sum of the six countries only when data for all these countries are available. Time series therefore start from 2012 (because data for Kosovo are not available prior to this).

Conventional signs:

- . Data not available
- () less accurate estimate
- (()) inaccurate estimate

Sources and definitions

Macro-economic indicators:

Sources: SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. The unit labor costs are calculations done by wiiw.

Definitions:

GDP real: Gross domestic product at 2010 reference prices, real growth in %. Labor productivity: GDP at 2010 reference prices per person employed (LFS), growth in %. Inflation: Consumer prices index (harmonized CPI for EU peer countries), growth in %.





Labor market indicators

Sources: Data for the Western Balkans are provided by the statistical offices of the respective country, data for the EU peer countries are taken from Eurostat (partly supplemented by data from national statistical offices).

Definitions:

Indicators like **population**, **employment**, **unemployment** etc. are presented in 1,000 persons and refer to averages.

Working-age population: For the Western Balkans population 15+ (ILO), for the EU peer countries population aged 15-74.

Labor force: employed and unemployed persons.

Employment rate: employed persons in % of working-age population of the respective gender, age and education group.

Share of self-employed: self-employed in % of total employment of the respective gender, age and education group.

Share of part-time employment: part-time employed in % of total employment of the respective gender, age and education group.

Share of temporary employment: temporary employees in % of total employees of the respective gender, age and education group.

Activity rate: labor force in % of working-age population of the respective gender, age and education group.

Unemployment rate: unemployed persons in % of labor force of the respective gender, age and education group.

NEET rate: Young people neither in employment nor education and training (NEET) in % of young population of the respective gender and age group.

Long-term unemployment: persons unemployed for 12 months or more.

Long-term unemployment rate: long-term unemployed in % of labor force.

Share of long-term unemployment: long-term unemployed in % of total unemployed.

Data on earnings and unit labor costs

Sources: Data on average monthly gross wages and monthly gross minimum wages are provided by the statistical offices of the respective country. Unit labor costs are own calculations from existing time series.





Definitions:

Average monthly gross wages: wages per employee per month on a gross basis (before deduction of income tax and social security contributions). Gross wages comprise the basic wage and all kinds of additional payments (bonuses, over-time hours, night work, payments for statutory contractual or voluntarily granted leave etc.).

Data are taken from administrative sources except for Austria where they refer to the National Accounts concept (gross wages per employee, domestic concept, divided by 12 months).

Wages are presented in national currency, in euro (converted with the average exchange rate) and in Purchasing Power Parities – PPPs (using PPPs in EUR for total GDP).

Monthly gross minimum wages: data refer to national minimum wages as of January 1 of the respective year. The metadata indicate since when these minimum wages are in effect.

The basic national minimum wage is fixed at an hourly, weekly or monthly rate in net or gross terms; this minimum wage is enforced by law (the government), often after consultation with the social partners, or directly by national intersectoral agreement. Minimum wages are gross amounts, that is, before deduction of income tax and social security contributions.

In the database monthly gross minimum wages are reported.

Minimum wages are provided in national currency, they are then converted into euro by applying the exchange rate of the end of the previous month. To remove the effect of differences in price levels between the countries, the minimum wages are converted with Purchasing Power Parities (PPPs) for household final consumption expenditure in each country.

Unit labor costs (ULC): average annual gross wages per employee relative to labor productivity (real GDP per employed person, LFS).

Unit labor costs (ULC) exchange rate adjusted: average annual gross wages per employee in EUR relative to labor productivity (real GDP per employed person, LFS).







Key economic indicators

annual growth in %

Albania	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
GDP, real	1.4	1.0	1.8	2.2	3.3	3.8	4.1	2.6	2.5
Employment aged 15+	-1.8	-10.2	1.3	4.8	6.5	3.3	3.0	1.4	3.4
Labor productivity	3.2	12.5	0.5	-2.4	-3.0	0.5	1.1	1.1	-0.9
Inflation	2.0	1.9	1.6	1.9	1.3	2.0	2.0	1.6	1.4
Monthly gross wages per employee, nominal	2.9	-3.2	0.9	5.2	-0.8	3.0	3.3	4.9	4.5
Monthly gross wages per employee, real	0.8	-5.0	-0.7	3.2	-2.0	1.0	1.3	3.2	3.0
Unit labor costs	-0.3	-13.9	0.4	7.8	2.3	2.5	2.2	•	•
Bosnia and Herzegovina	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
GDP, real	-0.8	2.4	1.1	3.1	3.1	3.2	3.7	2.9	2.7
Employment aged 15+	-0.3	1.0	-1.2	1.2	-2.5	1.8	0.8	•	-2.4
Labor productivity	-0.5	1.4	2.3	1.9	5.8	1.3	2.8		5.2
Inflation	2.1	-0.1	-0.9	-1.0	-1.6	0.8	1.4	1.0	0.7
Monthly gross wages per employee, nominal	1.5	0.1	-0.1	0.0	0.9	1.6	3.1	4.0	4.4
Monthly gross wages per employee, real	-0.5	0.2	0.8	1.0	2.5	0.8	1.7	3.0	3.7
Unit labor costs	2.1	-1.3	-2.4	-1.9	-4.6	0.3	0.2	•	•
Kosovo	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
GDP, real	2.8	3.4	1.2	4.1	4.1	4.2	3.8	4.2	4.1
Employment aged 15+	•	12.3	-4.6	-8.0	11.7	7.7	-3.3	-0.3	4.8
Labor productivity		-7.9	6.1	13.2	-6.8	-3.3	7.4	4.5	-0.7
Inflation	2.5	1.8	0.4	-0.5	0.3	1.5	1.1	3.2	3.3
Monthly gross wages per employee, nominal	•	3.0	8.6	5.8	1.8	1./	5.7		•
Monthly gross wages per employee, real	•	1.2	8.1	6.3 C F	1.5	0.2	3.0	•	•
	•	11.0	2.5	-0.5	9.2	5.2	-1.0	•	•
Montenegro	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
Montenegro GDP, real	2012 -2.7	2013 3.5	2014 1.8	2015 3.4	2016 2.9	2017 4.7	2018 5.1	1Q 2019 3.0	2Q 2019 3.2
Montenegro GDP, real Employment aged 15+	2012 -2.7 2.6	2013 3.5 0.4	2014 1.8 7.1	2015 3.4 2.5	2016 2.9 1.1	2017 4.7 2.3	2018 5.1 3.5	1Q 2019 3.0 4.5	2Q 2019 3.2 3.1
Montenegro GDP, real Employment aged 15+ Labor productivity	2012 -2.7 2.6 -5.2	2013 3.5 0.4 3.1	2014 1.8 7.1 -5.0	2015 3.4 2.5 0.9	2016 2.9 1.1 1.8	2017 4.7 2.3 2.4	2018 5.1 3.5 1.5	1Q 2019 3.0 4.5 -1.5	2Q 2019 3.2 3.1 0.0
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation	2012 -2.7 2.6 -5.2 4.2	2013 3.5 0.4 3.1 2.2	2014 1.8 7.1 -5.0 -0.7	2015 3.4 2.5 0.9 1.6	2016 2.9 1.1 1.8 -0.3	2017 4.7 2.3 2.4 2.4	2018 5.1 3.5 1.5 2.6	1Q 2019 3.0 4.5 -1.5 0.5	2Q 2019 3.2 3.1 0.0 0.5
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal	2012 -2.7 2.6 -5.2 4.2 0.7	2013 3.5 0.4 3.1 2.2 -0.1	2014 1.8 7.1 -5.0 -0.7 -0.4	2015 3.4 2.5 0.9 1.6 0.3	2016 2.9 1.1 1.8 -0.3 3.6 2.5	2017 4.7 2.3 2.4 2.4 1.9	2018 5.1 3.5 1.5 2.6 0.1	1Q 2019 3.0 4.5 -1.5 0.5 0.6	2Q 2019 3.2 3.1 0.0 0.5 0.5
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 2.1	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1	2015 3.4 2.5 0.9 1.6 0.3 -1.1	2016 2.9 1.1 1.8 -0.3 3.6 3.5	2017 4.7 2.3 2.4 2.4 1.9 -1.1	2018 5.1 3.5 1.5 2.6 0.1 -2.6	1Q 2019 3.0 4.5 -1.5 0.5 0.6 0.1	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3	1Q 2019 3.0 4.5 -1.5 0.5 0.6 0.1	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018	1Q 2019 3.0 4.5 -1.5 0.5 0.6 0.1 1Q 2019	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2 Q 2019
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017 1.1	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017 1.1 2.4	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4 5.2
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.9	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 0.2	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 2.5	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity Inflation	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.5 -2.5	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.0 2.2	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 (12)	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2	1Q 2019 3.0 4.5 -1.5 0.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0 1.5	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6 2.6	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3 -0.9	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0 1.2	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.0 2.2 1.7	2017 4.7 2.3 2.4 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 1.2 3.9	2018 5.1 3.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2 5.5	1Q 2019 3.0 4.5 -1.5 0.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0 1.5 2012	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6 2.6 2013	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3 -0.9 2014	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0 1.2 2015	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.2 1.7 2016	2017 4.7 2.3 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 1.2 3.9 2017	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2 5.5 2018	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4 10 2019	2Q 2019 3.2 3.1 0.0 0.5 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6 20 2019
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs Serbia GDP, real	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0 1.5 2012	2013 3.5 0.4 3.1 2.2 -0.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6 2.6 2013 2.9	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3 -0.9 2014 -1.6	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0 1.2 2015 1.8	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.2 1.7 2016 3.3	2017 4.7 2.3 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 1.2 3.9 2017 2.0	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2 5.5 2018 4.4	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4 1Q 2019 2 7	2Q 2019 3.2 3.1 0.0 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6 2Q 2019 2 9
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs Morth Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs Serbia GDP, real Employment aged 15+	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0 1.5 2012 -0.7 -1.2	2013 3.5 0.4 3.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6 2.6 2013 2.9 3.5	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3 -0.9 2014 -1.6 4.7	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0 1.2 2015 1.8 0.6	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.2 1.7 2016 3.3 5.6	2017 4.7 2.3 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 1.2 3.9 2017 2.0 2.8	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2 5.5 2018 4.4 1.4	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4 1Q 2019 2.7 4.5	2Q 2019 3.2 3.1 0.0 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6 2Q 2019 2.9 0.7
Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs Morth Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs Serbia GDP, real Employment aged 15+ Labor productivity	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0 1.5 2012 -0.7 -1.2 0.5	2013 3.5 0.4 3.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6 2.6 2013 2.9 3.5 -0.6	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3 -0.9 2014 -1.6 4.7 -6.0	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0 1.2 2015 1.8 0.6 1.2	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.2 1.7 2016 3.3 5.6 -2 2	2017 4.7 2.3 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 1.2 3.9 2017 2.0 2.8 -0.7	2018 5.1 3.5 1.5 2.6 0.1 -2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2 5.5 2018 4.4 1.4 3.0	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4 1Q 2019 2.7 4.5 -1.8	2Q 2019 3.2 3.1 0.0 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6 2Q 2019 2.9 0.7 2.9 0.7 2.2
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Montenegro GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs North Macedonia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real Unit labor costs Serbia GDP, real Employment aged 15+ Labor productivity Inflation Monthly gross wages per employee, nominal Monthly gross wages per employee, real	2012 -2.7 2.6 -5.2 4.2 0.7 -3.2 6.2 2012 -0.5 0.8 -1.3 3.3 0.2 -3.0 1.5 2012 -0.7 -1.2 0.5 7.3 8.9 1.0	2013 3.5 0.4 3.1 -1.9 -3.1 2013 2.9 4.3 -1.4 2.8 1.2 -1.6 2.6 2013 2.9 3.5 -0.6 7.7 5.7 -1.9	2014 1.8 7.1 -5.0 -0.7 -0.4 0.1 4.8 2014 3.6 1.7 1.9 -0.3 1.0 1.3 -0.9 2014 -1.6 4.7 -6.0 2.1 1.2 -1.7	2015 3.4 2.5 0.9 1.6 0.3 -1.1 -0.6 2015 3.9 2.3 1.5 -0.3 2.7 3.0 1.2 2015 1.8 0.6 1.2 1.4 -0.5 -2.4	2016 2.9 1.1 1.8 -0.3 3.6 3.5 1.8 2016 2.8 2.5 0.4 -0.2 2.0 2.2 1.7 2016 3.3 5.6 -2.2 1.1 3.8 2.6	2017 4.7 2.3 2.4 1.9 -1.1 -0.5 2017 1.1 2.4 -1.3 1.4 2.6 1.2 3.9 2017 2.0 2.8 -0.7 3.0 3.9 0.9	2018 5.1 3.5 1.5 2.6 -1.3 2018 2.7 2.5 0.2 1.5 5.8 4.2 5.5 2018 4.4 1.4 3.0 2.0 6.0 3.9	1Q 2019 3.0 4.5 -1.5 0.6 0.1 1Q 2019 3.9 5.3 -1.3 1.2 4.6 3.4 1Q 2019 2.7 4.5 -1.8 2.4 9.3 6.7	2Q 2019 3.2 3.1 0.0 0.5 0.0 2Q 2019 3.4 5.2 -1.7 1.2 4.8 3.6 2Q 2019 2.9 0.7 2.2 2.9 9.9 7.5

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EU peer countries

Austria	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
GDP. real	0.7	0.0	0.7	1.0	2.1	2.5	2.4	1.9	1.8
Employment aged 15-74	0.8	0.5	0.1	0.9	1.7	1.0	1.4	1.1	0.6
Labor productivity	-0.1	-0.5	0.5	0.1	0.4	1.5	1.0	0.8	1.2
Inflation (harmonized CPI)	2.6	2.1	1.5	0.8	1.0	2.2	2.1	1.6	1.7
Monthly gross wages per employee, nominal	2.7	2.1	1.8	2.1	2.3	1.6	2.8	2.8	2.9
Monthly gross wages per employee, real	0.3	0.1	0.1	1.1	1.5	-0.6	0.5	1.2	1.2
Unit labor costs	2.8	2.6	1.2	1.9	2.0	0.2	1.8		
Bulgaria	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
GDP, real	0.4	0.3	1.9	4.0	3.8	3.5	3.1	4.5	3.8
Employment aged 15-74	-1.1	0.0	1.6	1.7	-0.5	4.4	0.1	1.6	3.3
Labor productivity	1.4	0.3	0.3	2.2	4.3	-0.8	3.0	2.9	0.4
Inflation (harmonized CPI)	2.4	0.4	-1.6	-1.1	-1.3	1.2	2.6	2.5	2.8
Monthly gross wages per employee, nominal	6.6	6.0	6.0	6.8	8.0	9.4	10.5	12.1	12.0
Monthly gross wages per employee, real	4.1	5.6	7.7	8.0	9.4	8.1	7.7	9.4	9.0
Unit labor costs	5.1	5.7	5.7	4.5	3.6	10.3	7.3		
Croatia	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
GDP, real	-2.2	-0.5	-0.1	2.4	3.5	3.1	2.7	4.1	2.4
Employment aged 15-74	-3.6	-2.6	2.9	1.3	0.3	2.2	1.7	2.8	0.4
Labor productivity	1.4	2.1	-2.9	1.1	3.1	0.9	1.0	1.3	2.0
Inflation (harmonized CPI)	3.4	2.3	0.2	-0.3	-0.6	1.3	1.6	0.8	0.8
Monthly gross wages per employee, nominal	1.0	0.8	0.2	1.3	1.9	3.9	4.9	3.9	3.1
Monthly gross wages per employee, real	-2.3	-1.5	0.0	1.6	2.5	2.6	3.2	3.1	2.3
Unit labor costs	-0.4	-1.2	3.2	0.2	-1.2	3.0	3.9		
Hungary	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
GDP, real	-1.5	2.0	4.2	3.8	2.2	4.3	5.1	5.3	4.9
Employment aged 15-74	1.8	1.7	5.3	2.7	3.4	1.6	1.1	1.4	0.8
Labor productivity	-3.2	0.2	-1.1	1.1	-1.1	2.7	4.0	3.8	4.1
Inflation (harmonized CPI)	5.7	1.7	0.0	0.1	0.4	2.4	2.9	3.2	3.8
Monthly gross wages per employee, nominal	4.7	3.4	3.0	4.3	6.1	12.9	11.3	11.0	10.3
Monthly gross wages per employee, real	-1.0	1.7	3.0	4.2	5.7	10.2	8.2	7.5	6.3
Unit labor costs	8.2	3 2	12	31	73	9 9	71		

Notes: For country-specific methodological notes on employment and wages see footnotes to the following tables.

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Western Balkans-6: Labor market data reflect the sum of the six countries only when data for all countries are available. Growth rates for GDP, inflation and wages are weighted averages.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.





Albania: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	2,913	2,900	2,895	2,889	2,881	2,876	2,873	2,866		
Working-age population aged 15+ (1,000)	2,459	2,297	2,322	2,340	2,354	2,374	2,376	2,363	2,369	2,369
Employment aged 15+ (1,000)	1,167	1,140	1,024	1,037	1,087	1,157	1,195	1,231	1,244	1,270
Employment rate (% population aged 15+)	47.5	49.6	44.1	44.3	46.2	48.7	50.3	52.1	52.5	53.6
Employment rate (% population aged 15-64)	53.5	55.9	49.9	50.5	52.9	55.9	57.4	59.5	60.3	61.4
Employment rate (% population aged 20-64)	60.3	62.4	56.7	56.6	59.3	62.1	63.9	65.6	66.1	67.3
Employment rate (% population aged 15-24)	23.4	25.8	19.0	17.7	18.9	20.2	21.6	25.7	27.6	27.2
Employment rate (% population aged 25-29)	59.4	61.7	54.8	53.2	55.5	59.0	59.4	63.9	66.1	69.5
Employment rate (% population aged 25-54)	68.7	68.9	63.9	64.6	67.5	69.7	71.1	73.7	73.9	75.3
Employment rate (% population aged 55-64)	48.3	56.3	51.1	51.2	53.6	54.8	55.5	58.2	58.0	60.1
Employment rate for low skilled 15-64 (ISCED 0-2)	50.9	52.7	45.3	46.7	50.2	52.5	53.0	56.9	57.0	58.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	52.7	57.3	50.6	49.9	51.8	55.8	57.9	58.6	58.8	58.7
Employment rate for high skilled 15-64 (ISCED 5-8)	71.7	67.1	67.1	66.5	64.4	66.6	69.1	68.0	71.6	73.4
Self-employed (% of total employment)	30.3	26.9	25.8	26.0	29.2	34.9	35.8	34.0	32.6	32.3
Part-time employment (% of total employment)	22.5	22.2	24.3	27.5	26.6	24.3	20.7	18.3	17.5	17.2
Activity rate (% population aged 15)	16.9	10.9	12.0	13.7		12.4	12.3	9.6	6.9 E0.7	7.4
Activity rate (% population aged 15+)	55.Z	57.5	52.4	55.7 61 E	55.7	57.5	50.5	59.4 60 0	59.7	60.0 60.9
Activity rate (% population aged 15-64)	22.5	26.7	27.6	20.0	21.2	21.0	21.0	25.9	29.0	27.1
Activity rate (% population aged 15-24)	55.7 77.8	50.7 78 /	27.0	29.0	51.5 70 7	S1.0 80.7	51.0 81.3	55.0 83.0	20.1 83.2	57.1 84.2
Activity rate (% population aged 55-64)	52.6	60.7	56.6	58.1	60.2	61 A	61.3	63.7	62.9	65.1
Linemployment aged 15+ (1 000)	191	176	194	220	224	208	190	173	171	165
Unemployment rate (% labor force 15+)	14.0	13.4	15.9	17.5	17.1	15.2	13.7	12.3	12.1	11.5
Youth unemployment rate (% labor force 15-24)	30.5	29.8	31.4	39.0	39.8	36.5	31.9	28.3	27.4	26.7
NEET rate (% population aged 15-24)	29.4	27.4	30.8	30.9	29.6	27.0	25.9	26.5	_///	
Long-term unemployment rate (% labor force 15+)	10.5	10.3	11.5	11.2	11.3	10.1	8.9	8.3	7.8	7.4
Share of long-term unemployed (% of total)	74.9	77.1	72.4	64.3	66.0	66.2	64.8	67.4	64.6	64.3
Unemployment rate, low educated 15+ (ISCED 0-2)	12.9	11.7	14.1	14.5	13.5	12.7	12.3	9.9	9.1	8.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	15.7	14.8	18.9	21.3	20.4	17.5	15.5	14.3	15.3	14.7
Unemployment rate, high educated 15+ (ISCED 5-8)	13.7	16.0	14.9	17.2	19.1	16.9	13.7	14.0	12.4	12.3
Male										
Total population (1,000)	1,458	1,460	1,461	1,461	1,460	1,456	1,446	1,434		
Working-age population aged 15+ (1,000)	1,198	1,139	1,110	1,140	1,164	1,189	1,190	1,170	1,176	1,169
Employment aged 15+ (1,000)	670	637	563	586	621	650	679	691	697	705
Employment rate (% population aged 15+)	55.9	55.9	50.7	51.4	53.3	54.7	57.1	59.0	59.2	60.3
Employment rate (% population aged 15-64)	63.1	62.2	57.3	58.0	60.5	61.9	64.3	66.7	67.4	68.4
Employment rate (% population aged 20-64)	71.5	70.1	64.8	65.2	68.1	69.4	72.1	73.9	74.1	74.9
Employment rate (% population aged 15-24)	28.1	29.9	24.2	21.4	23.8	23.1	24.9	30.6	32.3	32.0
Employment rate (% population aged 25-29)	69.1	67.0	59.7	59.6	63.7	65.4	69.6	73.4	73.8	75.1
Employment rate (% population aged 25-54)	79.9	76.5	71.6	72.7	75.5	76.3	79.0	80.7	80.0	81.4
Employment rate (% population aged 55-64)	66.6	68.3	62.2	64.7	66.9	67.1	69.1	/1.4	/2.1	/3.0
Employment rate for low skilled 15-64 (ISCED 0-2)	60.2	57.2	51.8	53.0	55.5	57.2	58.7	62.7	62.7	64.4
Employment rate for high skilled 15-64 (ISCED 5-4)	04.4 74.0	00.Z	00.3 70.6	50.0 70.6	02.4 71 /	64.9 60.4	07.0	08.3	76.0	08.7 70 C
Solf amployed (% of total amployment)	74.9 20 C	24.2	22.4	22.0	71.4	42.0	13.2	15.0	10.9	70.0
Part-time employment (% of total employment)	50.0 15 1	54.Z	52.4 10.2	52.0 21.3	37.0 22.0	42.0	42.0	41.0	40.4	59.7 13.1
Temporary employment (% of total employment)	13.1 21.4	13.2	16.1	18.0	14.8	15 5	15.8	17.8	9.0	13.1 8 9
Activity rate (% nonulation aged 15+)	64.0	65.5	61 7	63.5	64.3	65.0	66.8	67.6	67.5	68.2
Activity rate (% population aged 15-64)	72.3	73.4	70.2	72.2	73.4	74.1	75.8	76.9	77.2	77.8
Activity rate (% population aged 15-24)	40.0	44.3	36.6	37.2	39.2	36.9	37.8	43.4	45.9	43.9
Activity rate (% population aged 25-54)	88.8	87.7	86.4	87.4	88.6	88.7	90.9	90.7	89.7	91.0
Activity rate (% population aged 55-64)	71.7	74.5	70.2	74.9	76.0	76.3	77.4	78.5	78.2	79.3
Unemployment aged 15+ (1,000)	97	109	122	139	128	123	116	100	97	92
Unemployment rate (% labor force 15+)	12.6	14.6	17.8	19.2	17.1	15.9	14.6	12.7	12.2	11.6
Youth unemployment rate (% labor force 15-24)	29.6	32.6	33.8	42.5	39.2	37.4	34.1	29.6	29.7	27.1
NEET rate (% population aged 15-24)	25.5	25.8	29.7	29.6	28.2	26.8	24.7	25.4		
Long-term unemployment rate (% labor force 15+)	9.3	10.9	12.4	11.7	11.2	10.3	9.2	8.3	7.6	7.4
Share of long-term unemployed (% of total)	73.9	74.8	69.7	61.0	65.8	64.9	63.3	65.6	62.4	64.0
Unemployment rate, low educated 15+ (ISCED 0-2)	12.0	14.3	17.3	17.8	15.4	14.6	14.3	10.9	10.1	9.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	13.3	15.6	19.8	21.6	19.0	17.1	15.3	14.6	14.5	14.1
Unemployment rate, high educated 15+ (ISCED 5-8)	13.1	12.4	13.5	16.0	16.4	16.2	13.5	11.9	11.5	10.3



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	1,455	1,441	1,434	1,428	1,421	1,420	1,427	1,432		
Working-age population aged 15+ (1,000)	1,261	1,157	1,212	1,199	1,190	1,186	1,187	1,193	1,193	1,200
Employment aged 15+ (1,000)	497	503	461	451	466	507	516	540	547	565
Employment rate (% population aged 15+)	39.5	43.5	38.0	37.6	39.2	42.8	43.5	45.3	45.9	47.1
Employment rate (% population aged 15-64)	44.5	49.6	43.1	43.4	45.5	49.7	50.3	52.4	53.3	54.6
Employment rate (% population aged 20-64)	49.8	54.9	49.3	48.5	50.7	55.0	55.6	57.4	58.2	59.8
Employment rate (% population aged 15-24)	18.6	20.9	14.1	13.9	13.4	16.8	17.7	20.4	22.7	22.3
Employment rate (% population aged 25-29)	52.0	55.7	49.8	46.3	46.3	51.8	48.8	54.1	58.1	63.4
Employment rate (% population aged 25-54)	58.6	62.2	57.3	57.2	60.1	63.4	63.4	67.0	68.0	69.4
Employment rate (% population aged 55-64)	30.7	42.9	40.0	37.3	39.2	42.0	41.7	45.2	44.0	46.9
Employment rate for low skilled 15-64 (ISCED 0-2)	42.8	48.7	40.1	41.3	45.3	48.3	47.8	51.7	51.7	53.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	39.9	46.5	39.4	37.9	38.8	44.3	45.4	46.0	46.0	45.7
Employment rate for high skilled 15-64 (ISCED 5-8)	69.1	62.9	64.2	63.1	58.9	64.4	65.8	63.9	67.9	69.8
Self-employed (% of total employment)	19.1	17.7	17.6	17.2	17.6	25.7	26.8	24.3	22.6	23.1
Part-time employment (% of total employment)	32.5	27.4	30.5	35.4	32.6	28.5	25.5	22.8	22.0	22.4
Temporary employment (% of total employees)	9.0	3.9	7.8	7.9	8.1	8.8	8.0	5.9	4.5	5.7
Activity rate (% population aged 15+)	46.9	49.2	44.0	44.4	47.2	49.9	49.8	51.4	52.1	53.1
Activity rate (% population aged 15-64)	52.9	56.4	50.1	51.3	55.1	58.3	57.7	59.7	60.8	61.9
Activity rate (% population aged 15-24)	27.2	27.6	19.4	20.5	22.7	25.8	24.5	27.6	29.8	30.1
Activity rate (% population aged 25-54)	67.9	70.2	66.1	66.9	71.6	73.1	72.2	75.6	76.9	77.6
Activity rate (% population aged 55-64)	34.2	45.5	42.9	40.8	43.1	45.8	45.2	49.1	47.8	50.5
Unemployment aged 15+ (1,000)	94	67	72	81	96	85	74	73	74	72
Unemployment rate (% labor force 15+)	15.9	11.7	13.5	15.2	17.1	14.4	12.6	11.9	11.9	11.4
Youth unemployment rate (% labor force 15-24)	31.7	24.3	27.3	32.6	40.8	34.9	27.7	26.0	23.7	26.1
NEET rate (% population aged 15-24)	33.4	29.4	31.9	32.2	31.1	27.1	27.3	27.6		
Long-term unemployment rate (% labor force 15+)	12.1	9.5	10.4	10.7	11.3	9.8	8.4	8.3	8.0	7.4
Share of long-term unemployed (% of total)	76.0	80.9	76.9	70.1	66.2	68.2	67.1	69.8	67.3	64.8
Unemployment rate, low educated 15+ (ISCED 0-2)	14.1	8.6	10.5	10.4	11.2	10.5	9.9	8.8	8.0	7.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	19.7	13.3	17.2	20.7	23.0	18.3	16.0	13.7	16.8	15.9
Unemployment rate, high educated 15+ (ISCED 5-8)	14.2	19.5	16.2	18.2	21.5	17.6	13.8	15.7	13.2	13.8

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	34,767	37,534	36,332	45,539	47,900	47,522	48,967	50,589	51,531	52,645
nominal annual growth in %	-3.6	2.9	-3.2	0.9	5.2	-0.8	3.0	3.3	4.9	4.5
real annual growth in % (CPI deflated)	-7.0	0.8	-5.0	-0.7	3.2	-2.0	1.0	1.3	3.2	3.0
Average monthly gross wages, EUR	252	270	259	325	343	346	365	397	413	428
Average monthly gross wages, EUR (PPP)	602	650	605	783	843	801	827	853		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	18,000	20,000	21,000	22,000	22,000	22,000	22,000	24,000		
Monthly gross minimum wages, EUR (ER)	130	144	150	157	157	160	163	181		
Monthly gross minimum wages, EUR (PPP)	260	304	311	327	347	327	329	358		
Unit labor costs (ULC)										
ULC, NCU in %		-0.3	-13.9	0.4	7.8	2.3	2.5	2.2		
ULC, EUR in %		0.6	-14.7	0.6	8.0	4.0	4.9	7.4		

Notes: In 2010 and 2011 the labor force survey was carried out once a year (2010: Sept-Oct, 2011: July-Sept), continuous quarterly survey thereafter. For LFS data census 2011 is applied from 2011, data 2010 are therefore not fully comparable. The education groups refer to ISCED 1997.

Annual average monthly gross wages refer to General Directorate of Taxation from 2014, Structural Business Statistics (SBS) before. Growth rate in 2014 refers to SBS data. Quarterly data refer to the public sector only. Minimum wages are in effect since July 1 of the respective previous year.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.





Bosnia and Herzegovina: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	3,843	3,836	3,832	3,827	3,819	3,816	3,809	3,801		
Working-age population aged 15+ (1,000)	2,597	2,566	2,598	2,565	2,579	2,489	2,407	2,396		2,262
Employment aged 15+ (1,000)	843	814	822	812	822	801	816	822		803
Employment rate (% population aged 15+)	32.5	31.7	31.6	31.7	31.9	32.2	33.9	34.3		35.5
Employment rate (% population aged 15-64)	39.0	38.5	38.5	39.0	39.2	40.2	43.0	44.0		46.4
Employment rate (% population aged 20-64)	42.8	42.5	42.8	43.2	43.2	44.2	46.6	47.7	•	49.7
Employment rate (% population aged 15-24)	14.0	10.8	11.6	10.9	12.1	13.8	17.6	19.7	•	23.4
Employment rate (% population aged 25-29)	40.5	44.5 E1 0	44.5 E1 /	45.1	45.5	45.0	50.9	54.8	•	52.5
Employment rate (% population aged 25-54)	26.8	27.2	27.7	28.5	52.4 28.2	29.0	30.4	37.6		36.2
Employment rate for low skilled 15-64 (ISCED 0-2)	20.0	20.8	20.3	18.4	20.2	20.2	22.5	20.7		23.1
Employment rate for medium skilled 15-64 (ISCED 3-4)	45.6	44.4	43.8	45.5	44.4	45.3	48.0	49.9		51.9
Employment rate for high skilled 15-64 (ISCED 5-8)	70.5	69.2	69.8	68.0	68.6	66.7	70.5	71.4		72.5
Self-employed (% of total employment)	20.8	22.7	20.7	19.1	20.7	21.1	20.6	17.6		21.9
Part-time employment (% of total employment)	10.4	15.7	9.6	7.8	7.2	6.8	9.1	7.0		8.7
Temporary employment (% of total employees)	13.6	13.5	14.5	14.9	16.1	16.8	18.4	17.5		16.1
Activity rate (% population aged 15+)	44.6	44.0	43.6	43.7	44.1	43.1	42.6	42.1		42.1
Activity rate (% population aged 15-64)	54.0	53.9	53.5	54.2	54.6	54.2	54.5	54.2		55.5
Activity rate (% population aged 15-24)	33.0	29.4	28.3	29.3	32.2	30.2	32.5	32.3		35.4
Activity rate (% population aged 25-54)	67.8	68.9	69.1	70.8	70.3	70.4	70.3	70.4		70.7
Activity rate (% population aged 55-64)	31.3	32.1	33.1	32.8	33.1	35.2	36.6	36.5	•	39.7
Unemployment aged 15+ (1,000)	315	317	311	308	315	273	211	185		149
Unemployment rate (% labor force 15+)	27.2	28.0	27.5	27.5	27.7	25.4	20.5	18.4	•	15.7
Youth unemployment rate (% labor force 15-24)	57.5	63.1	59.1	62.7	62.3	54.3	45.8	38.8	•	33.8
NEET rate (% population aged 15-24)	28.0	28.4	25.8	26.1	27.7	26.4	24.3	21.6	•	
Long-term unemployment rate (% labor force 15+)	22.3	23.0	22.8	23.3	22.6	21.6	16.9	15.2		11.9
Share of long-term unemployed (% of total)	82.0	82.0	83.1	84.8	81.7	85.0	82.1	82.3	•	/6.0
Unemployment rate, low educated 15+ (ISCED 0-2)	28.0	26.9	28.2	30.2	27.3	25.0	(18.2)	18.5	•	(14.1)
Inemployment rate, high educated 15+ (ISCED 5-4)	29.3 15.6	17.9	16.9	19.3	18.4	20.0	15.5	15.2	•	10.9
	20.0	27.05	20.0	2010	1011	20.0	20.0	1011		1210
Male										
Total population (1,000)	1,878	1,874	1,872	1,870	1,866	1,864	1,861	1,857		
Working-age population aged 15+ (1,000)	1,260	1,238	1,268	1,242	1,259	1,208	1,177	1,169		1,109
Employment aged 15+ (1,000)	531	514	515	511	515	514	509	515		495
Employment rate (% population aged 15+)	42.2	41.5	40.6	41.2	40.9	42.5	43.2	44.1		44.6
Employment rate (% population aged 15-64)	49.6	49.0	48.0	48.9	48.8	51.1	53.3	54.7		57.0
Employment rate (% population aged 20-64)	54.6	54.2	53.3	54.6	53.9	56.4	58.1	59.5		61.6
Employment rate (% population aged 15-24)	17.8	14.1	14.9	13.5	15.8	18.3	22.8	26.1		27.4
Employment rate (% population aged 25-29)	55.9	52.9	52.2	51.3	52.3	54.4	58.6	64.4	•	62.4
Employment rate (% population aged 25-54)	63.8	64.0	63.4	64.9	64.6	67.3	69.3	/0./		/2./
Employment rate (% population aged 55-64)	36.9	37.2	36.4	38.9	37.3	40.4	42.2	42.3		47.3
Employment rate for low skilled 15-64 (ISCED 0-2)	31.9	51.5	30.4	27.7	30.9	30.9	32.8	32.1	•	34.2
Employment rate for high skilled 15-64 (ISCED 5-4)	53.0 74.0	53.U	51.4 72.1	55.8 70.2	52.2 70.1	54.8 71.0	50.4 76.9	58.9 74.0	•	00.0 76 1
Solf amployed (% of total amployment)	74.0	72.0	72.1	70.2	70.1	71.0	70.8	10.6	•	70.1
Part-time employment (% of total employment)	23.2	14.8	24.0 9.0	21.8	23.9	23.0 5.7	22.0	19.0	•	22.8
Temporary employment (% of total employees)	14.9	15.6	15.5	15.9	16.3	17.9	19.7	18.6		16.5
Activity rate (% nonulation aged 15+)	56.7	56.4	55.3	55.0	55 1	54.9	53.3	53.2		51 7
Activity rate (% population aged 15-64)	67.1	67.0	65.7	65.9	66.2	66.2	66.1	66.4		66.4
Activity rate (% population aged 15-24)	39.7	37.7	36.3	34.6	38.9	38.1	40.2	40.4		39.8
Activity rate (% population aged 25-54)	82.7	83.3	83.0	84.1	83.8	83.8	83.8	84.2		83.7
Activity rate (% population aged 55-64)	44.3	44.5	44.4	45.3	44.0	48.2	47.5	47.9		51.7
Unemployment aged 15+ (1,000)	183	184	186	172	179	149	118	107		78
Unemployment rate (% labor force 15+)	25.6	26.4	26.5	25.2	25.8	22.5	18.9	17.2		13.6
Youth unemployment rate (% labor force 15-24)	55.1	62.6	59.1	61.0	59.5	52.0	43.1	35.4		31.3
NEET rate (% population aged 15-24)	28.1	30.5	27.4	27.9	29.2	28.0	24.5	22.1		
Long-term unemployment rate (% labor force 15+)	20.6	21.4	21.7	21.4	21.1	19.2	15.3	14.0		10.3
Share of long-term unemployed (% of total)	80.4	81.3	81.9	85.0	81.8	85.1	81.0	81.4		75.3
Unemployment rate, low educated 15+ (ISCED 0-2)	28.6	27.9	29.0	27.9	27.0	24.1	(16.4)	(19.1)		(13.4)
Unemployment rate, medium educated 15+ (ISCED 3-4)	26.7	27.9	28.3	26.3	27.2	23.6	20.8	17.5		14.5
Unemployment rate, high educated 15+ (ISCED 5-8)	(13.0)	14.5	(14.3)	16.2	(15.9)	(14.8)	(11.0)	(13.4)		(9.2)



	2010	2012	2013	2014	2015	2016	2017	2018	1Q 2019	2Q 2019
Female										
Total population (1,000)	1,966	1,962	1,960	1,958	1,953	1,952	1,948	1,944		
Working-age population aged 15+ (1,000)	1,337	1,328	1,330	1,324	1,320	1,281	1,230	1,227		1,153
Employment aged 15+ (1,000)	311	300	307	301	307	288	307	307		308
Employment rate (% population aged 15+)	23.3	22.6	23.0	22.7	23.2	22.4	24.9	25.0		26.7
Employment rate (% population aged 15-64)	28.6	28.1	28.9	28.9	29.5	29.1	32.5	33.0		35.6
Employment rate (% population aged 20-64)	31.2	31.1	32.2	31.9	32.4	32.0	35.1	35.8		38.0
Employment rate (% population aged 15-24)	10.0	7.5	7.9	8.1	8.0	(8.7)	(11.4)	(12.6)		18.6
Employment rate (% population aged 25-29)	35.9	34.7	35.4	38.0	37.2	35.3	41.7	41.5		39.4
Employment rate (% population aged 25-54)	38.0	38.2	39.2	39.7	40.0	39.8	43.4	44.5		46.1
Employment rate (% population aged 55-64)	17.9	18.3	19.7	19.3	19.8	19.4	23.5	23.7		26.0
Employment rate for low skilled 15-64 (ISCED 0-2)	14.1	14.4	13.7	12.6	13.3	13.6	16.2	13.5		16.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	34.9	32.9	33.7	34.3	34.0	32.8	37.0	38.2		40.7
Employment rate for high skilled 15-64 (ISCED 5-8)	67.1	66.0	67.4	65.9	67.3	62.7	64.7	69.0		69.1
Self-employed (% of total employment)	16.8	18.6	15.2	14.4	15.2	16.5	17.4	14.3		20.4
Part-time employment (% of total employment)	13.1	17.2	10.7	9.2	8.0	8.8	10.1	8.7		10.3
Temporary employment (% of total employees)	11.4	9.8	12.7	13.1	15.7	15.0	16.2	15.7		15.4
Activity rate (% population aged 15+)	33.2	32.6	32.5	33.0	33.5	32.1	32.4	31.4		32.9
Activity rate (% population aged 15-64)	41.1	41.0	41.0	42.4	42.9	41.9	42.7	41.8		44.4
Activity rate (% population aged 15-24)	25.9	20.9	19.4	23.3	24.5	21.3	23.4	23.1		29.9
Activity rate (% population aged 25-54)	52.9	54.3	54.8	57.1	56.6	56.8	56.5	56.1		57.6
Activity rate (% population aged 55-64)	19.9	21.1	22.9	21.9	22.9	22.9	26.5	25.9		28.7
Unemployment aged 15+ (1,000)	133	133	125	136	136	124	92	78		71
Unemployment rate (% labor force 15+)	29.9	30.7	29.0	31.2	30.7	30.0	23.1	20.3		18.8
Youth unemployment rate (% labor force 15-24)	61.3	64.0	59.2	65.4	67.3	58.9	51.4	(45.5)		(37.9)
NEET rate (% population aged 15-24)	28.0	26.2	24.1	24.0	26.0	24.7	24.0	21.1		
Long-term unemployment rate (% labor force 15+)	25.1	25.4	24.6	26.4	25.1	25.5	19.3	17.0		14.4
Share of long-term unemployed (% of total)	84.1	82.8	84.8	84.7	81.6	85.0	83.6	83.6		76.8
Unemployment rate, low educated 15+ (ISCED 0-2)	27.4	25.5	27.0	33.1	27.8	27.5	(20.3)	(17.5)		(15.0)
Unemployment rate, medium educated 15+ (ISCED 3-4)	34.1	35.8	33.2	33.9	35.0	32.6	25.2	22.3		21.2
Unemployment rate, high educated 15+ (ISCED 5-8)	18.3	21.2	19.6	22.2	20.9	25.5	(19.9)	(16.7)		(14.7)

	2010	2012	2013	2014	2015	2016	2017		1Q 2018	2Q 2018
Average monthly gross wages, NCU	1,217	1,290	1,291	1,290	1,289	1,301	1,321	1,363	1,394	1,416
nominal annual growth in %	1.1	1.5	0.1	-0.1	0.0	0.9	1.6	3.1	4.0	4.4
real annual growth in % (CPI deflated)	-1.0	-0.5	0.2	0.8	1.0	2.5	0.8	1.7	3.0	3.7
Average monthly gross wages, EUR	622	660	660	659	659	665	676	697	713	724
Average monthly gross wages, EUR (PPP)	1,272	1,382	1,383	1,384	1,396	1,376	1,361	1,407		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU										
Monthly gross minimum wages, EUR (ER)										
Monthly gross minimum wages, EUR (PPP)										
Unit labor costs (ULC)										
ULC, NCU in %		2.1	-1.3	-2.4	-1.9	-4.6	0.3	0.2		
ULC, EUR in %		2.1	-1.3	-2.4	-1.9	-4.6	0.3	0.2		•

Notes: The labor force survey is conducted once a year in April, data are allocated to the second quarter of each year. For LFS and population data census 2013 is not yet applied. Education groups refer to ISCED 1997 until 2014, ISCED 2011 from 2015. Numbers in brackets are less accurate. Monthly gross minimum wages are available for the three entities separately but not for the whole territory. Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.



Kosovo: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	1,775	1,807	1,818	1,813	1,788	1,778	1,791	1,797		
Working-age population aged 15+ (1,000)		1,213	1,250	1,277	1,262	1,276	1,310	1,340	1,386	1,381
Employment aged 15+ (1,000)		303	340	324	298	333	359	347	343	360
Employment rate (% population aged 15+)		25.0	27.2	25.4	23.6	26.1	27.4	25.9	24.8	26.1
Employment rate (% population aged 15-64)		26.6	29.2	27.5	25.8	28.7	30.5	29.4	28.3	29.9
Employment rate (% population aged 20-64)		31.0	34.0	32.1	29.9	33.1	35.2	34.0	32.4	34.2
Employment rate (% population aged 15-24)		10.1	10.2	9.1	8.7	10.2	11.4	10.1	11.0	12.3
Employment rate (% population aged 25-29)		29.1	32.2	30.0	27.8	31.4	32.6	32.3	30.2	34.2
Employment rate (% population aged 25-54)		34.7	38.1	36.2	33.8	37.4	39.1	37.9	36.3	37.9
Employment rate (% population aged 55-64)	•	29.1	33.5	31.9	28.9	31.6	34.7	33.3	30.5	32.4
Employment rate for low skilled 15-64 (ISCED 0-2)		9.7	12.5	11.5	9.9	13.6	13.5	10.0	9.5	11.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	•	37.2	38.5	35.4	32.0	33.8	37.0	35.9	34.2	36.7
Employment rate for high skilled 15-64 (ISCED 5-8)	•	60.6	64.9	58.9	53.3	56.3	56.3	65.8	62.1	63.0
Self-employed (% of total employment)	•	19.6	22.8	23.2	21.2	22.4	23.6	22.0	20.3	22.4
Part-time employment (% of total employment)	•	11.2	12.1	8.2	5.3	6.0	5.9	4.4	4.4	5.2
Activity rate (% population aged 15)	•	72.9	68.8	/1.5	72.0	70.6	70.1	/3.8	58.4	60.5
Activity rate (% population aged 15+)	•	35.8	38.0 41 F	39.1 42 E	35.1	36.0	39.3	36.7	33.8	34.9
Activity rate (% population aged 15-64)	•	30.2	41.5	42.5	38.4	39.0 21 F	43.8	41.0 22 F	30.7	40.1
Activity rate (% population aged 15-24)	•	22.3 17 5	23.U 51.Q	23.3	20.4 19.6	21.5 10 5	24.0 54.7	22.5 52.1	22.3 19.2	24.2 18 0
Activity rate (% population aged 55-64)	•	47.5 22.0	27.2	27.6	40.0	25 0	20.0	26.9	40.Z	40.9
Linemployment aged 15+ (1 000)	•	122	1/12	175	1/15	126	156	1//	126	121
Inemployment rate (% labor force 15+)	·	30.3	29.5	35.0	32.7	27.4	30 3	29.3	26.8	25.2
Youth unemployment rate (% labor force 15-74)	•	54.7	55.7	60.9	57.6	523	52.6	55.3	50.6	29.2 49.1
NEET rate (% nonulation aged 15-24)	•	33.7	34.9	29.6	30.9	29.5	27.2	28.5	50.0	45.1
Long-term unemployment rate (% labor force 15+)		18.0	19.7	24.7	23.6	18.0	21.7	17.1	18.3	17.4
Share of long-term unemployed (% of total)		59.4	66.9	70.5	72.1	65.5	71.6	58.3	68.0	69.1
Unemployment rate, low educated 15+ (ISCED 0-2)		43.9	39.9	45.8	46.6	32.2	34.9	39.5	39.6	34.2
Unemployment rate, medium educated 15+ (ISCED 3-4)		29.1	29.1	35.4	32.6	28.9	30.6	30.4	25.8	23.9
Unemployment rate, high educated 15+ (ISCED 5-8)		17.6	16.8	20.6	19.9	18.5	25.8	19.7	21.5	22.4
Male										
Total population (1,000)	900	910	915	912	895	885	889	885		
Population aged 15+ (1,000)		637	639	653	651	658	672	683	692	687
Employment aged 15+ (1,000)		240	263	250	231	259	284	274	263	278
Employment rate (% population aged 15+)		37.7	41.1	38.2	35.6	39.3	42.2	40.1	38.0	40.5
Employment rate (% population aged 15-64)		40.7	44.6	41.9	39.2	43.6	47.2	45.7	43.0	46.0
Employment rate (% population aged 20-64)		47.5	52.1	48.9	45.4	50.5	54.6	53.1	49.7	52.9
Employment rate (% population aged 15-24)		14.7	15.3	13.6	13.0	15.4	16.9	14.7	15.7	18.2
Employment rate (% population aged 25-29)	•	42.3	46.1	43.7	38.8	44.2	48.3	46.1	41.8	46.8
Employment rate (% population aged 25-54)	•	53.9	59.0	56.0	51.5	57.1	61.8	60.2	55.8	58.5
Employment rate (% population aged 55-64)		45.9	51.5	48.0	46.1	50.8	53.1	52.4	49.7	53.4
Employment rate for low skilled 15-64 (ISCED 0-2)	•	21.5	26.0	24.7	21.0	28.5	29.8	22.1	20.3	24.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	•	46.7	50.3	46.3	42.9	45.9	51.0	50.2	47.2	50.0
Employment rate for high skilled 15-64 (ISCED 5-8)	•	69.9	/1.8	66.0	61.3	64.5	65.1	75.1	69.5	/2.8
Self-employed (% of total employment)	•	22.5	25.9	26.2	23.3	24.6	26.3	24.2	22.7	24.7
Tomporany amployment (% of total employment)	•	72.0	11.4 68.0	7.0	4.7	4.4	5.Z	4.2	4.3	5.4 63.3
Activity rate (% population aged 15)	•	73.0	68.9 E6.0	71.0	73.9	71.0	72.1	75.9	61.U	03.3 E2.4
Activity rate (% population aged 15-64)	•	52.0	50.0 60.0	50.9 62 5	51.9	55.2	59.0 66.1	55.0 62.7	50.6	50.6
Activity rate (% population aged 15-04)	•	30.2	30.9	30.9	28.4	29.0	32.7	30.1	20 1	31.0
Activity rate (% population aged 25-54)	·	71 3	77.6	80.5	73 5	75.1	92.7 85 1	87.4	73.2	74.0
Activity rate (% population aged 55-64)	·	51.2	57.8	573	53.5	58.3	60.4	58.7	55.6	59.5
Linemployment aged 15+ (1 000)	•	91	95	122	106	91	113	107	89	82
Unemployment rate (% labor force 15+)		27.5	26.5	32.9	31.5	26.1	28.4	28.2	25.3	22.7
Youth unemployment rate (% labor force 15-24)		51.2	50.2	56.1	54.1	47.1	48.2	51.3	46.0	42.9
NEET rate (% population aged 15-24)		29.6	29.9	26.0	27.7	25.9	23.5	28.3		.2.5
Long-term unemployment rate (% labor force 15+)		16.1	18.1	22.6	22.4	17.1	20.7	17.2	16.5	15.1
Share of long-term unemployed (% of total)		58.5	68.3	68.8	70.9	65.7	72.6	61.1	65.4	66.7
Unemployment rate, low educated 15+ (ISCED 0-2)	-	39.8	37.2	44.8	48.5	34.2	37.1	41.1	42.1	36.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	-	26.8	25.5	32.4	30.6	27.1	28.2	28.0	23.4	21.1
Unemployment rate, high educated 15+ (ISCED 5-8)		12.7	14.2	16.1	14.6	12.0	19.5	17.2	17.4	15.2



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	875	897	903	901	893	892	902	912		
Working-age population aged 15+ (1,000)		576	611	624	611	617	638	658	694	695
Employment aged 15+ (1,000)		63	77	75	67	74	76	74	80	82
Employment rate (% population aged 15+)		10.9	12.7	12.0	11.0	12.0	11.8	11.2	11.5	11.9
Employment rate (% population aged 15-64)		11.4	13.4	12.9	11.9	13.1	13.1	12.6	13.3	13.8
Employment rate (% population aged 20-64)		13.4	15.6	15.0	13.7	15.1	15.1	14.5	15.1	15.7
Employment rate (% population aged 15-24)		4.9	4.6	4.2	3.8	4.5	5.3	5.0	5.7	5.8
Employment rate (% population aged 25-29)		14.6	16.5	14.6	14.8	15.7	14.2	16.5	16.7	19.4
Employment rate (% population aged 25-54)		14.9	17.6	16.8	16.0	17.7	16.7	16.1	17.0	17.9
Employment rate (% population aged 55-64)		9.8	14.1	15.0	10.6	11.0	13.5	12.7	12.7	11.7
Employment rate for low skilled 15-64 (ISCED 0-2)		2.6	4.7	4.1	3.7	5.0	4.4	3.2	3.5	4.0
Employment rate for medium skilled 15-64 (ISCED 3-4)		20.1	19.2	17.4	14.3	14.7	14.3	13.6	14.0	14.8
Employment rate for high skilled 15-64 (ISCED 5-8)		45.8	54.7	49.8	43.2	45.7	45.8	54.0	53.1	52.9
Self-employed (% of total employment)		8.2	12.4	13.1	13.7	14.7	13.7	13.5	12.5	14.6
Part-time employment (% of total employment)		10.7	14.6	10.2	7.5	11.5	8.3	5.4	4.4	4.3
Temporary employment (% of total employees)		72.5	68.6	71.3	66.5	69.3	63.7	67.2	51.0	52.2
Activity rate (% population aged 15+)		18.0	20.4	20.5	17.3	17.7	18.6	16.8	16.9	17.6
Activity rate (% population aged 15-64)		18.9	21.8	22.0	18.7	19.3	20.6	19.0	19.5	20.5
Activity rate (% population aged 15-24)		13.3	14.6	15.0	11.5	12.9	14.5	14.1	14.6	15.8
Activity rate (% population aged 25-54)		23.0	26.4	26.4	23.5	23.8	24.8	22.4	23.4	24.7
Activity rate (% population aged 55-64)		10.0	15.3	16.9	11.7	11.8	14.4	13.2	12.9	12.1
Unemployment aged 15+ (1,000)		41	48	53	38	35	43	37	37	40
Unemployment rate (% labor force 15+)		39.3	38.1	41.4	36.4	31.7	36.5	33.2	31.5	32.7
Youth unemployment rate (% labor force 15-24)		63.5	68.4	71.7	67.2	65.4	63.5	64.7	60.8	62.9
NEET rate (% population aged 15-24)		38.4	40.3	33.4	34.5	33.6	31.2	28.7		
Long-term unemployment rate (% labor force 15+)		24.2	24.5	30.8	27.4	20.6	25.2	16.7	23.4	24.2
Share of long-term unemployed (% of total)		61.5	64.2	74.5	75.3	64.9	68.9	50.2	74.4	74.0
Unemployment rate, low educated 15+ (ISCED 0-2)		57.8	47.1	49.0	39.3	24.9	24.7	32.4	29.6	26.6
Unemployment rate, medium educated 15+ (ISCED 3-4)		37.5	41.2	45.9	41.0	36.7	41.8	41.4	36.4	36.3
Unemployment rate, high educated 15+ (ISCED 5-8)		27.5	21.4	27.3	28.1	28.3	34.7	23.6	27.2	31.1

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU		431	444	482	510	519	528	558		
nominal annual growth in %			3.0	8.6	5.8	1.8	1.7	5.7		
real annual growth in % (CPI deflated)			1.2	8.1	6.3	1.5	0.2	3.0		
Average monthly gross wages, EUR		431	444	482	510	519	528	558		
Average monthly gross wages, EUR (PPP)		994	995	1,069	1,163	1,154	1,145	1,239		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU		170	170	170	170	170	170	170		
Monthly gross minimum wages, EUR (ER)		170	170	170	170	170	170	170		
Monthly gross minimum wages, EUR (PPP)		338	328	333	343	335	326	334		
Unit labor costs (ULC)										
ULC, NCU in %			11.8	2.3	-6.5	9.2	5.2	-1.6		
ULC, EUR in %			11.8	2.3	-6.5	9.2	5.2	-1.6		

Notes: Data are based on a continuous quarterly survey, but are only available on an annual basis in 2012-2015 (allocated to the fourth quarter of each year). The dataset for Kosovo excludes persons without any school education and therefore slightly deviates from the officially published data in the LFS publications. Census 2011 is applied throughout. Education groups refer to ISCED 1997.

Minimum wages presented here refer to employees aged between 35 and 65. For employees up to the age of 35 minimum wage is EUR 130. These minimum wages are in effect since January 1, 2011.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.





Montenegro: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	619	621	621	622	622	622	622	622		
Working-age population aged 15+ (1,000)	520	501	501	501	501	500	500	500	501	500
Employment aged 15+ (1,000)	209	201	202	216	222	224	229	237	235	248
Employment rate (% population aged 15+)	40.3	40.1	40.3	43.2	44.3	44.9	45.9	47.5	46.9	49.5
Employment rate (% population aged 15-64)	47.6	47.0	47.4	50.4	51.4	52.0	53.1	54.7	54.5	56.9
Employment rate (% population aged 20-64)	52.9	52.2	52.6	55.6	56.7	57.1	58.2	59.8	60.0	61.6
Employment rate (% population aged 15-24)	13.7	13.5	13.5	18.8	18.8	21.0	21.3	23.2	22.7	31.2
Employment rate (% population aged 25-29)	54.0	53.1	56.0	58.4	59.8	61.5	61.1	59.7	64.4	63.9
Employment rate (% population aged 25-54)	62.7	60.9	61.2	64.6	65.6	65.4	66.3	67.4	67.8	66.5
Employment rate (% population aged 55-64)	36.2	37.6	38.7	38.7	40.0	41.2	43.7	46.6	45.0	52.8
Employment rate for low skilled 15-64 (ISCED 0-2)	19.7	14.8	14.0	16.6	19.4	22.2	24.4	25.4	21.7	25.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	50.4	50.0	49.4	52.6	53.0	52.9	54.0	55.7	56.5	57.9
Employment rate for high skilled 15-64 (ISCED 5-8)	/5.8	/5.8	/8.9	//.6	/8.2	//.1	//./	/8.6	/8.8	/9.8
Self-employed (% of total employment)	15.3	16.1	14.8	16.8	18.4	19.2	19.1	19.2	17.9	17.2
Tomporary omployment (% of total employment)	5.U 10 2	4.5	3.3	0.3	20.2	4.9	20.2	5.4 22.6	2.0 22 E	4.8
Activity rate (% population aged 15+)	10.5	21.2 50.0	20.0	27.4 52.7	50.Z	53.8	50.5	56.0	52.5	50.0
Activity rate (% population aged 15-64)	59.1	58.7	58.9	52.7 61.6	62.6	63.4	63.5	64.7	64.3	66.7
Activity rate (% population aged 15-24)	25.0	24.0	23.2	29.2	30.2	32.7	31.2	32.9	31.7	39.4
Activity rate (% population aged 15 24)	76.6	75.3	75.4	77.9	78.5	78.9	78.9	79.5	79.4	78.5
Activity rate (% population aged 55-64)	40.1	41.3	43.3	43.4	44.9	45.0	47.0	50.0	49.3	56.8
Unemployment aged 15+ (1.000)	51	49	49	47	47	48	44	42	42	41
Unemployment rate (% labor force 15+)	19.7	19.7	19.5	18.0	17.5	17.7	16.1	15.2	15.0	14.3
Youth unemployment rate (% labor force 15-24)	45.5	43.7	41.6	35.8	37.6	35.9	31.7	29.4	28.4	20.7
NEET rate (% population aged 15-24)	19.6	16.9	17.9	17.7	19.1	18.4	16.7	16.2		
Long-term unemployment rate (% labor force 15+)	15.5	15.6	16.0	13.9	13.5	13.4	12.4	11.4	11.5	11.4
Share of long-term unemployed (% of total)	78.8	79.1	82.3	77.5	76.8	75.6	77.5	75.1	76.9	79.3
Unemployment rate, low educated 15+ (ISCED 0-2)	25.9	35.9	41.5	31.8	28.1	24.2	21.8	19.7	27.5	24.6
Unemployment rate, medium educated 15+ (ISCED 3-4)	21.0	20.9	20.6	19.7	19.2	19.5	17.5	16.6	15.4	14.9
Unemployment rate, high educated 15+ (ISCED 5-8)	12.3	10.9	9.8	9.9	10.3	11.9	10.9	10.3	9.8	9.6
Male										
Total population (1,000)	306	307	307	307	308	308	308	308		
Working-age population aged 15+ (1,000)	253	244	244	244	244	244	244	244	245	245
Employment aged 15+ (1,000)	119	112	111	119	121	123	129	133	132	141
Employment rate (% population aged 15+)	47.1	45.9	45.4	48.9	49.4	50.5	52.6	54.5	53.9	57.7
Employment rate (% population aged 15-64)	54.3	52.4	51.9	55.5	56.0	57.3	59.4	61.0	61.0	64.5
Employment rate (% population aged 20-64)	60.7	58.4	57.8	61.4	61.9	63.0	65.2	66.7	67.3	69.2
Employment rate (% population aged 15-24)	16.2	14.1	14.8	21.5	19.9	22.6	23.9	25.6	25.8	36.3
Employment rate (% population aged 25-29)	58.5	56.0	57.1	60.0	61.9	64.5	62.6	64.4	71.4	76.2
Employment rate (% population aged 25-54)	69.9	66.6	65.7	69.5	70.5	71.3	73.5	74.5	75.5	74.9
Employment rate (% population aged 55-64)	48.3	49.2	48.5	48.3	48.2	49.6	52.8	55.8	52.4	61.5
Employment rate for low skilled 15-64 (ISCED 0-2)	27.9	19.0	18.7	22.4	24.5	29.1	33.6	34.7	28.5	38.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	56.9	55.2	54.4 70.0	58.5	5/./	58.6	61.2 70.0	63.U	64.9 77.0	66.6 70.9
Employment rate for high skilled 15-64 (ISCED 5-8)	76.7	77.5	78.8 10.2	77.5	/8./ 22 F	77.8	78.8	78.0	77.9	79.8
Part time employment (% of total employment)	20.2	20.8	19.2	21.3	23.5	24.0 5 /	25.U 5 0	20.3	24.3 5 1	23.7
Temporary employment (% of total employees)	18.3	20.6	25 Q	28.6	28.0	35.4	31.6	34.5	35.0	38.0
Activity rate (% population aged 15+)	58.1	56.9	56.8	59.5	20.J	61 8	62.2	64.3	62.4	66.3
Activity rate (% population aged 15-64)	67.1	65.1	65.0	67.7	68.3	70.2	70 5	72.3	70.8	74.4
Activity rate (% population aged 15-24)	29.1	26.1	26.3	33.7	33.2	35.7	34.4	38.3	36.0	46.4
Activity rate (% population aged 25-54)	84.2	81.6	81.4	83.4	84.2	86.4	86.5	87.3	86.8	86.4
Activity rate (% population aged 55-64)	54.6	54.4	54.6	54.6	54.4	54.6	57.2	60.0	56.0	65.6
Unemployment aged 15+ (1,000)	28	27	28	26	26	28	23	24	21	21
Unemployment rate (% labor force 15+)	18.9	19.3	20.1	17.8	17.7	18.2	15.4	15.2	13.6	13.0
Youth unemployment rate (% labor force 15-24)	44.4	46.1	43.8	36.0	39.9	36.9	30.7	33.3	28.4	21.7
NEET rate (% population aged 15-24)	19.7	17.2	19.3	18.9	19.9	18.7	16.3	18.6		
Long-term unemployment rate (% labor force 15+)	14.9	15.2	16.8	13.8	13.6	13.8	12.2	11.3	10.3	10.4
Share of long-term unemployed (% of total)	78.5	79.1	84.0	77.7	76.7	75.8	79.1	74.1	75.3	80.0
Unemployment rate, low educated 15+ (ISCED 0-2)	23.7	33.6	39.8	31.0	26.3	24.9	19.1	15.9	21.0	16.1
Unemployment rate, medium educated 15+ (ISCED 3-4)	20.3	20.4	20.8	18.8	19.4	19.4	16.4	16.5	13.6	13.7
Unemployment rate, high educated 15+ (ISCED 5-8)	10.8	10.6	10.3	10.0	9.8	12.4	10.5	11.0	10.7	9.6



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	314	314	314	314	315	315	315	315		
Working-age population aged 15+ (1,000)	267	257	257	256	256	256	256	255	256	255
Employment aged 15+ (1,000)	90	89	91	97	101	101	101	104	103	106
Employment rate (% population aged 15+)	33.8	34.6	35.4	37.8	39.4	39.4	39.4	40.8	40.3	41.7
Employment rate (% population aged 15-64)	41.0	41.6	42.8	45.3	46.9	46.8	46.8	48.4	48.0	49.3
Employment rate (% population aged 20-64)	45.4	46.0	47.5	49.7	51.5	51.3	51.4	52.9	52.8	54.1
Employment rate (% population aged 15-24)	11.0	12.9	12.2	15.8	17.7	19.3	18.6	20.6	19.4	25.7
Employment rate (% population aged 25-29)	49.6	50.1	54.9	56.8	57.7	58.3	59.4	54.7	57.2	49.7
Employment rate (% population aged 25-54)	55.6	55.3	56.8	59.6	60.6	59.5	59.2	60.3	60.1	58.1
Employment rate (% population aged 55-64)	25.2	26.7	29.4	29.7	32.3	33.2	35.1	37.9	38.1	44.6
Employment rate for low skilled 15-64 (ISCED 0-2)	13.2	11.5	10.1	11.8	15.4	16.9	16.7	17.4	16.2	14.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	43.3	44.4	44.0	46.1	47.5	46.2	45.6	47.2	46.8	48.1
Employment rate for high skilled 15-64 (ISCED 5-8)	74.9	74.1	79.0	77.7	77.8	76.5	76.9	78.6	79.6	79.8
Self-employed (% of total employment)	8.8	10.1	9.3	11.3	12.3	12.6	11.4	10.2	9.7	8.6
Part-time employment (% of total employment)	4.5	4.5	2.6	5.7	6.4	4.4	5.9	4.9	6.3	4.7
Temporary employment (% of total employees)	18.2	21.7	26.1	26.1	31.5	32.1	28.8	30.5	29.6	32.8
Activity rate (% population aged 15+)	42.6	43.4	43.6	46.2	47.6	47.6	47.5	48.1	48.4	49.6
Activity rate (% population aged 15-64)	51.7	52.3	52.8	55.4	56.9	56.6	56.5	57.2	57.8	58.9
Activity rate (% population aged 15-24)	20.8	21.7	19.8	24.4	27.0	29.5	27.8	27.0	27.2	31.8
Activity rate (% population aged 25-54)	69.0	69.1	69.5	72.4	72.8	71.4	71.3	71.7	72.0	70.5
Activity rate (% population aged 55-64)	27.0	29.1	32.8	32.9	35.9	35.9	37.5	40.6	43.0	48.7
Unemployment aged 15+ (1,000)	23	23	21	22	21	21	21	19	21	20
Unemployment rate (% labor force 15+)	20.6	20.3	18.8	18.2	17.3	17.1	16.9	15.1	16.7	16.1
Youth unemployment rate (% labor force 15-24)	47.1	40.7	38.5	35.4	34.5	34.6	33.1	23.6	28.4	19.1
NEET rate (% population aged 15-24)	19.4	16.6	16.3	16.4	18.3	18.0	17.1	13.6		
Long-term unemployment rate (% labor force 15+)	16.3	16.1	15.1	14.1	13.3	12.8	12.8	11.5	13.1	12.7
Share of long-term unemployed (% of total)	79.1	79.1	79.9	77.3	76.9	75.2	75.5	76.5	78.6	78.6
Unemployment rate, low educated 15+ (ISCED 0-2)	29.5	38.8	43.8	33.0	30.0	23.3	25.7	24.9	35.0	38.3
Unemployment rate, medium educated 15+ (ISCED 3-4)	22.1	21.6	20.4	21.1	19.0	19.6	19.1	16.8	18.2	16.8
Unemployment rate, high educated 15+ (ISCED 5-8)	13.6	11.3	9.4	9.9	10.6	11.4	11.3	9.7	9.1	9.6

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	715	727	726	723	725	751	765	766	769	771
nominal annual growth in %	11.2	0.7	-0.1	-0.4	0.3	3.6	1.9	0.1	0.6	0.5
real annual growth in % (CPI deflated)	10.6	-3.2	-1.9	0.1	-1.1	3.5	-1.1	-2.6	0.1	0.0
Average monthly gross wages, EUR	715	727	726	723	725	751	765	766	769	771
Average monthly gross wages, EUR (PPP)	1,479	1,486	1,466	1,474	1,516	1,537	1,520	1,510		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU				288	288	288	288	288		
Monthly gross minimum wages, EUR (ER)				288	288	288	288	288		
Monthly gross minimum wages, EUR (PPP)				528	546	536	520	514		
Unit labor costs (ULC)										
ULC, NCU in %		6.2	-3.1	4.8	-0.6	1.8	-0.5	-1.3		
ULC, EUR in %		6.2	-3.1	4.8	-0.6	1.8	-0.5	-1.3		

Notes: Data are based on a continuous quarterly survey. For LFS data census 2011 is applied from 2011, data 2010 are therefore not fully comparable. Education groups refer to ISCED 1997 until 2012, ISCED 2011 from 2013. Minimum wages are in effect since March 21, 2013.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.



North Macedonia: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	2,055	2,061	2,064	2,067	2,070	2,072	2,075	2,076		
Working-age population aged 15+ (1,000)	1,649	1,670	1,672	1,673	1,677	1,679	1,680	1,683	1,683	1,685
Employment aged 15+ (1,000)	638	651	679	690	706	724	741	759	789	794
Employment rate (% population aged 15+)	38.7	39.0	40.6	41.2	42.1	43.1	44.1	45.1	46.9	47.1
Employment rate (% population aged 15-64)	43.5	44.0	46.0	46.9	47.8	49.1	50.5	51.7	53.9	54.4
Employment rate (% population aged 20-64)	48.1	48.2	50.3	51.3	51.9	53.3	54.8	56.1	58.4	59.0
Employment rate (% population aged 15-24)	15.4	15.5	16.2	15.2	17.3	16.2	17.5	17.4	19.8	21.2
Employment rate (% population aged 25-29)	47.8	45.7	45.9	48.2	47.3	49.6	51.5	53.4	54.9	59.2
Employment rate (% population aged 25-54)	55.8	55.8	57.9	59.3	59.4	61.2	62.7	63.9	66.0	66.6
Employment rate (% population aged 55-64)	34.2	35.4	37.9	38.6	40.1	40.7	41.4	42.7	44.5	44.0
Employment rate for low skilled 15-64 (ISCED 0-2)	26.6	25.7	28.4	29.9	28.9	27.3	28.4	29.2	30.5	31.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	49.9	50.1	52.4	52.5	53.6	55.4	56.4	57.7	60.0	59.9
Employment rate for high skilled 15-64 (ISCED 5-8)	70.7	68.1	67.5	69.1	72.0	72.4	73.7	74.8	76.3	78.1
Self-employed (% of total employment)	13.1	13.6	14.5	14.0	13.9	13.2	12.9	13.3	11.8	12.4
Part-time employment (% of total employment)	5.9	6.4	4.6	5.9	4.4	5.0	4.2	3.6	4.0	4.6
Activity rate (% population aged 15)	16.5	13.7	14.0	15.4	12.6	13.6	14.0	15.0	13.7	16.7
Activity rate (% population aged 15+)	50.9	50.5	57.2	57.5	57.0	50.5 64 E	20.8 65.2	50.9 65 A	57.1	57.1
Activity rate (% population aged 15-64)	22.2	22.6	22.6	22 /	22 0	21.2	22 0	21 0	21 /	22.6
Activity rate (% population aged 15-24)	55.5 70 /	55.0 78.5	55.0 70.2	52.4 80.0	52.0 78.8	51.5 78.7	52.0 70 1	78 9	51.4 79.6	52.0 70 0
Activity rate (% population aged 55-64)	Δ7 Δ	47.2	19.2 19.9	20.0 29 9	50.6	70.7 49.4	49.7	51 4	50.8	50.1
Linemployment aged 15+ (1 000)	300	293	277	269	249	225	214	199	171	168
Unemployment rate (% labor force 15+)	32.0	31.0	29.0	28.0	245	23.7	214	20.7	17.8	17.5
Youth unemployment rate (% labor force 15-24)	53.7	53.9	51.9	53.1	47.3	48.2	46.7	45.4	37.0	34.9
NEET rate (% population aged 15-24)	25.5	24.8	24.2	25.2	24.7	24.3	24.9	24.1		
Long-term unemployment rate (% labor force 15+)	26.7	25.5	23.9	23.4	21.3	19.2	17.4	15.5	14.4	11.8
Share of long-term unemployed (% of total)	83.3	82.1	82.5	83.4	81.6	80.9	77.9	74.7	80.7	67.7
Unemployment rate, low educated 15+ (ISCED 0-2)	38.9	37.7	34.2	32.1	29.7	29.1	26.5	23.7	20.4	23.8
Unemployment rate, medium educated 15+ (ISCED 3-4)	32.1	31.4	28.7	28.3	26.6	23.7	22.6	21.0	17.9	17.0
Unemployment rate, high educated 15+ (ISCED 5-8)	21.8	22.4	23.5	22.5	21.1	19.4	18.7	17.8	15.7	13.5
Male										
Total population (1,000)	1,030	1,033	1,034	1,036	1,037	1,038	1,039	1,040		
Working-age population aged 15+ (1,000)	824	835	837	837	839	840	841	842	843	844
Employment aged 15+ (1,000)	392	393	408	420	424	440	450	459	469	481
Employment rate (% population aged 15+)	47.5	47.1	48.7	50.1	50.5	52.3	53.6	54.4	55.7	57.0
Employment rate (% population aged 15-64)	52.8	52.4	54.5	56.1	56.6	58.6	60.5	61.4	63.2	64.9
Employment rate (% population aged 20-64)	58.4	57.5	59.7	61.6	61.5	63.7	65.6	66.6	68.2	70.4
Employment rate (% population aged 15-24)	19.5	18.1	18.9	18.9	20.2	20.4	22.6	21.7	24.8	25.9
Employment rate (% population aged 25-29)	56.0	50.9	52.3	57.1	53.8	56.7	61.1	61.9	62.0	68.7
Employment rate (% population aged 25-54)	66.1	65.4	67.4	69.8	69.1	71.2	73.2	74.0	74.8	77.1
Employment rate (% population aged 55-64)	46.7	46.6	49.4	50.3	52.2	55.0	54.5	56.8	59.9	60.3
Employment rate for low skilled 15-64 (ISCED 0-2)	39.6	37.8	41.9	44.3	42.2	42.6	43.3	44.7	45.7	50.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	55.6	55.4	57.3	58.6	59.7	61.9	63.5	64.4	66.4	66.6
Employment rate for high skilled 15-64 (ISCED 5-8)	74.0	/2.1	/1.4	/2.8	74.8	/5./	/8.3	/8.6	/9.9	81.6
Self-employed (% of total employment)	18.2	18.2	19.2	19.4	18.9	17.2	17.3	17.6	15.6	15.9
Tomporany amployment (% of total employment)	5.0 19.6	5.9 14 0	4.4	0.5	4.5	4.0	4.1	3.5 16 E	3.9 14 0	4.1
Activity rate (% population aged 15+)	60.8	14.0 69.7	14.0 69.5	10.9 60.2	13.8 68.0	14.0 60.2	60.2	60.2	14.0 69.4	10.J 67 5
Activity rate (% population aged 15-64)	09.8	76.6	76.8	09.3	77 5	77.8	78.4	78.3	08.4 77 7	07.5 77 0
Activity rate (% population aged 15-04)	42.2	40.5	39.9	39.3	40.1	39.2	70. 4 41 7	40.6	39.0	37.4
Activity rate (% population aged 25-54)	93.3	92.2	91.9	93.2	91.8	92.1	92.4	91.5	91.0	90.8
Activity rate (% population aged 55-64)	65.6	63.9	65.7	66.8	67.4	68.1	67.0	69.3	68.9	66.9
Unemployment aged 15+ (1.000)	183	180	166	160	155	142	133	124	107	88
Unemployment rate (% labor force 15+)	31.9	31.5	29.0	27.6	26.7	24.4	22.7	21.3	18.5	15.5
Youth unemployment rate (% labor force 15-24)	53.9	55.2	52.5	52.0	49.7	47.9	45.7	46.6	36.4	30.7
NEET rate (% population aged 15-24)	25.1	25.3	23.3	23.6	24.5	23.6	23.9	23.3		
Long-term unemployment rate (% labor force 15+)	26.7	26.1	24.0	23.1	22.1	20.1	17.6	15.7	14.8	11.4
Share of long-term unemployed (% of total)	83.7	83.0	82.7	83.6	82.5	82.5	77.5	73.7	79.6	73.5
Unemployment rate, low educated 15+ (ISCED 0-2)	40.0	40.6	35.3	32.8	31.2	30.3	29.3	26.2	23.3	17.7
Unemployment rate, medium educated 15+ (ISCED 3-4)	31.3	31.0	28.6	27.4	27.0	24.2	22.7	21.5	18.3	16.2
Unemployment rate, high educated 15+ (ISCED 5-8)	18.9	18.7	19.8	20.0	19.3	17.6	15.4	15.2	14.2	11.2



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	1,025	1,029	1,030	1,032	1,033	1,034	1,036	1,036		
Working-age population aged 15+ (1,000)	824	835	835	836	838	839	839	840	841	842
Employment aged 15+ (1,000)	246	257	271	271	282	284	290	301	320	313
Employment rate (% population aged 15+)	29.8	30.8	32.5	32.4	33.7	33.8	34.6	35.8	38.1	37.2
Employment rate (% population aged 15-64)	34.0	35.3	37.3	37.4	38.8	39.2	40.3	41.7	44.4	43.6
Employment rate (% population aged 20-64)	37.5	38.7	40.7	40.8	42.1	42.5	43.7	45.2	48.3	47.1
Employment rate (% population aged 15-24)	11.2	12.6	13.3	11.3	14.2	11.8	12.0	12.8	14.3	16.2
Employment rate (% population aged 25-29)	39.2	40.2	39.2	38.9	40.6	42.2	41.3	44.4	47.5	49.4
Employment rate (% population aged 25-54)	45.1	45.8	48.0	48.5	49.3	50.9	51.8	53.5	57.0	55.6
Employment rate (% population aged 55-64)	22.4	24.5	26.6	27.1	28.3	26.6	28.5	28.8	29.3	27.9
Employment rate for low skilled 15-64 (ISCED 0-2)	16.8	16.6	18.0	18.5	18.4	15.5	17.3	17.8	19.0	17.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	42.4	43.1	45.8	44.4	45.3	46.6	46.6	48.5	51.4	50.9
Employment rate for high skilled 15-64 (ISCED 5-8)	67.2	64.2	64.1	66.0	69.6	69.6	69.9	71.7	73.4	74.9
Self-employed (% of total employment)	4.9	6.5	7.4	5.6	6.4	6.9	6.0	6.8	6.2	7.1
Part-time employment (% of total employment)	7.4	7.2	5.0	5.0	4.7	5.7	4.5	3.6	4.1	5.3
Temporary employment (% of total employees)	13.4	12.2	13.2	13.3	11.0	11.8	12.3	12.9	12.0	14.5
Activity rate (% population aged 15+)	44.0	44.3	45.8	45.3	44.9	43.8	44.3	44.6	45.7	46.7
Activity rate (% population aged 15-64)	50.4	50.8	52.7	52.5	52.0	50.8	51.7	52.2	53.5	54.8
Activity rate (% population aged 15-24)	24.0	26.2	27.1	25.1	25.1	23.0	23.4	22.5	23.2	27.5
Activity rate (% population aged 25-54)	65.0	64.4	66.0	66.4	65.3	64.8	65.3	65.8	67.8	68.5
Activity rate (% population aged 55-64)	30.2	31.2	34.5	33.5	34.2	31.0	32.6	33.8	32.9	33.6
Unemployment aged 15+ (1,000)	117	112	111	108	94	83	81	75	65	80
Unemployment rate (% labor force 15+)	32.2	30.3	29.0	28.6	25.1	22.7	21.8	19.9	16.8	20.3
Youth unemployment rate (% labor force 15-24)	53.3	51.8	51.0	55.0	43.3	48.8	48.6	43.2	38.1	41.1
NEET rate (% population aged 15-24)	25.9	24.2	25.2	26.8	24.9	25.1	25.9	25.1		
Long-term unemployment rate (% labor force 15+)	26.7	24.5	23.8	23.8	20.1	17.8	17.2	15.2	13.9	12.5
Share of long-term unemployed (% of total)	82.7	80.7	82.2	83.1	80.2	78.2	78.6	76.4	82.5	61.3
Unemployment rate, low educated 15+ (ISCED 0-2)	36.7	32.2	32.1	30.9	26.8	26.3	20.7	18.7	14.5	33.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	33.4	31.9	28.9	29.8	25.9	22.7	22.3	20.1	17.3	18.3
Unemployment rate, high educated 15+ (ISCED 5-8)	24.8	26.0	26.7	24.6	22.5	21.0	21.7	20.1	17.1	15.6

-	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU 30),226	30,670	31,025	31,325	32,171	32,821	33,688	35,626	36,254	37,252
nominal annual growth in %	1.0	0.2	1.2	1.0	2.7	2.0	2.6	5.8	4.6	4.8
real annual growth in % (CPI deflated)	-0.6	-3.0	-1.6	1.3	3.0	2.2	1.2	4.2	3.4	3.6
Average monthly gross wages, EUR	491	498	504	508	522	533	547	579	589	606
Average monthly gross wages, EUR (PPP)	1,235	1,220	1,193	1,216	1,244	1,237	1,232	1,296		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU		12,266	12,268	13,140	13,482	14,739	14,739	17,130		
Monthly gross minimum wages, EUR (ER)		199	199	214	219	239	240	279		
Monthly gross minimum wages, EUR (PPP)		419	419	460	484	520	501	576		
Unit labor costs (ULC)										
ULC, NCU in %		1.5	2.6	-0.9	1.2	1.7	3.9	5.5		
ULC, EUR in %		1.5	2.5	-1.0	1.2	1.7	4.0	5.6		

Notes: Data are based on a continuous quarterly survey. Census 2002 is applied throughout. Education groups refer to ISCED 2011. Minimum wages are in effect since January 1 of each year.

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Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.



Serbia: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	7,291	7,201	7,167	7,132	7,095	7,058	7,021	6,983		
Working-age population aged 15+ (1,000)	6,335	6,268	6,121	6,099	6,060	6,018	5,985	5,955	5,935	5,928
Employment aged 15+ (1,000)	2,538	2,362	2,444	2,559	2,574	2,719	2,795	2,833	2,811	2,917
Employment rate (% population aged 15+)	40.1	37.7	39.9	42.0	42.5	45.2	46.7	47.6	47.4	49.2
Employment rate (% population aged 15-64)	48.2	46.4	48.5	50.7	52.0	55.2	57.3	58.8	58.7	60.9
Employment rate (% population aged 20-64)	52.4	50.0	52.3	54.7	55.9	59.1	61.4	63.1	63.0	65.3
Employment rate (% population aged 15-24)	15.4	14.7	14.7	14.9	16.6	19.7	20.9	21.1	19.0	22.0
Employment rate (% population aged 25-29)	48.8	50.7	49.2	52.4	53.5	56.2	58.9	62.5	61.5	64.5
Employment rate (% population aged 25-54)	63.7	61.7	63.3	65.9	67.1	69.2	71.3	73.1	72.8	75.1
Employment rate (% population aged 55-64)	33.6	32.3	35.1	36.7	37.3	42.7	45.5	46.5	47.9	49.2
Employment rate for low skilled 15-64 (ISCED 0-2)	32.0	30.4	32.3	32.9	33.9	37.3	38.2	37.6	35.9	39.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	50.7	47.9	50.5	52.3	53.3	56.5	58.7	60.4	59.6	62.3
Employment rate for high skilled 15-64 (ISCED 5-8)	70.3	67.5	66.9	70.1	70.9	72.5	75.7	77.8	80.2	80.2
Self-employed (% of total employment)	23.8	22.4	24.1	23.4	22.0	23.7	24.8	22.7	22.4	23.0
Part-time employment (% of total employment)	8.6	7.8	10.5	12.2	11.8	13.0	12.5	11.3	12.6	12.3
Temporary employment (% of total employees)	11.9	14.6	16.1	18.8	21.8	23.7	22.8	23.0	21.4	23.0
Activity rate (% population aged 15+)	49.8	49.7	51.5	51.9	51.6	53.3	54.0	54.5	53.9	54.8
Activity rate (% population aged 15-64)	60.4	61.6	63.2	63.3	63.6	65.6	66.7	67.8	67.2	68.2
Activity rate (% population aged 15-24)	28.7	30.2	29.3	28.5	29.2	30.3	30.6	30.0	27.4	29.0
Activity rate (% population aged 25-54)	78.3	80.2	81.1	81.1	81.0	82.0	82.5	83.8	82.9	83.9
Activity rate (% population aged 55-64)	38.3	39.3	41.7	41.9	42.1	46.9	49.5	51.0	52.1	52.7
Unemployment aged 15+ (1,000)	615	755	708	608	552	489	435	412	387	334
Unemployment rate (% labor force 15+)	19.5	24.2	22.5	19.2	17.7	15.3	13.5	12.7	12.1	10.3
Youth unemployment rate (% labor force 15-24)	46.5	51.4	49.9	47.5	43.2	34.9	31.9	29.7	30.7	24.4
NEET rate (% population aged 15-24)	21.4	21.9	20.0	20.4	19.9	17.7	17.2	16.5	•	•
Long-term unemployment rate (% labor force 15+)	13.3	18.7	16.9	12.8	11.3	9.9	8.2	7.5	7.1	6.1
Share of long-term unemployed (% of total)	68.4	77.1	75.1	66.9	64.0	65.1	60.5	59.4	58.7	59.7
Unemployment rate, low educated 15+ (ISCED 0-2)	16.2	23.4	20.6	17.3	15.0	12.4	11.0	12.1	14.2	9.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	22.5	26.8	24.5	21.2	19.4	16.7	14.8	13.7	13.5	11.4
Unemployment rate, high educated 15+ (ISCED 5-8)	13.4	17.3	18.6	15.4	15.3	13.9	12.2	10.8	8.0	8.5
Male										
Total population (1,000)	3,546	3,507	3,490	3,473	3,455	3,438	3,420	3,402		
Working-age population aged 15+ (1,000)	3,046	3,028	2,956	2,941	2,922	2,902	2,886	2,873	2,863	2,860
Employment aged 15+ (1,000)	1,457	1,373	1,413	1,457	1,466	1,532	1,565	1,590	1,546	1,625
Employment rate (% population aged 15+)	47.8	45.3	47.8	49.5	50.2	52.8	54.2	55.4	54.0	56.8
Employment rate (% population aged 15-64)	55.6	53.6	56.2	57.7	59.1	61.9	63.9	65.6	64.0	67.4
Employment rate (% population aged 20-64)	60.3	57.8	60.6	62.3	63.6	66.3	68.5	70.5	68.8	72.3
Employment rate (% population aged 15-24)	19.0	19.6	19.3	19.0	21.2	24.9	26.1	26.0	23.6	27.9
Employment rate (% population aged 25-29)	55.4	56.3	57.1	58.4	59.3	61.7	64.8	69.3	67.1	69.9
Employment rate (% population aged 25-54)	71.0	68.3	70.9	72.4	73.3	74.8	76.8	79.0	77.0	80.4
Employment rate (% population aged 55-64)	44.7	43.1	45.8	47.7	48.9	53.8	55.9	57.2	56.9	59.8
Employment rate for low skilled 15-64 (ISCED 0-2)	42.2	39.8	41.3	41.7	42.3	44.3	45.9	45.3	41.5	47.1
Employment rate for medium skilled 15-64 (ISCED 3-4)	58.2	55.1	58.5	59.5	61.0	64.2	65.8	68.0	66.5	70.0
Employment rate for high skilled 15-64 (ISCED 5-8)	69.2	69.8	69.9	73.6	74.3	75.8	79.0	81.4	82.1	83.1
Self-employed (% of total employment)	30.0	28.7	30.9	30.8	29.9	31.0	30.9	28.8	28.8	28.5
Part-time employment (% of total employment)	8.1	7.2	10.0	11.6	11.2	12.0	11.6	10.5	11.5	11.7
Temporary employment (% of total employees)	12.9	16.2	17.3	20.0	23.2	25.8	23.9	24.5	22.1	24.1
Activity rate (% population aged 15+)	58.6	59.0	60.4	60.7	60.3	61.8	62.2	62.9	61.4	62.9
Activity rate (% population aged 15-64)	68.8	70.3	71.6	71.3	71.6	73.1	73.8	75.1	73.3	75.1
Activity rate (% population aged 15-24)	35.2	37.9	35.3	35.3	35.4	36.8	36.8	36.3	34.3	36.4
Activity rate (% population aged 25-54)	85.4	87.1	88.3	87.4	87.3	87.7	88.1	89.5	87.4	89.0
Activity rate (% population aged 55-64)	51.7	53.1	55.4	55.2	55.9	59.6	61.4	63.0	62.2	64.0
Unemployment aged 15+ (1,000)	329	414	372	327	296	262	230	215	213	174
Unemployment rate (% labor force 15+)	18.4	23.2	20.8	18.3	16.8	14.6	12.8	11.9	12.1	9.7
Youth unemployment rate (% labor force 15-24)	45.9	48.3	45.2	46.1	40.1	32.2	29.2	28.3	31.4	23.2
NEEI rate (% population aged 15-24)	23.4	22.3	20.0	21.0	20.2	17.2	17.1	16.0		
Long-term unemployment rate (% labor force 15+)	12.3	17.6	15.4	12.0	10.6	9.5	7.9	7.2	7.2	5.7
Share of long-term unemployed (% of total)	66.9	76.0	74.2	65.7	63.0	65.1	61.4	60.4	59.9	59.0
Unemployment rate, low educated 15+ (ISCED 0-2)	15.2	22.9	19.5	16.9	15.8	13.6	11.1	12.3	15.5	9.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	20.7	25.3	22.2	20.1	17.9	15.4	13.9	12.8	12.7	10.5
Unemployment rate, high educated 15+ (ISCED 5-8)	13.4	15.8	17.5	13.7	14.1	12.8	11.0	9.1	7.7	7.6



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	3,745	3,695	3,677	3,659	3,640	3,621	3,601	3,581		
Working-age population aged 15+ (1,000)	3,289	3,240	3,166	3,158	3,138	3,115	3,098	3,083	3,072	3,068
Employment aged 15+ (1,000)	1,081	989	1,031	1,102	1,108	1,188	1,230	1,243	1,264	1,291
Employment rate (% population aged 15+)	32.9	30.5	32.6	34.9	35.3	38.1	39.7	40.3	41.2	42.1
Employment rate (% population aged 15-64)	40.9	39.0	40.9	43.7	44.9	48.4	50.8	52.0	53.4	54.3
Employment rate (% population aged 20-64)	44.6	42.2	44.1	47.1	48.2	51.9	54.4	55.8	57.3	58.4
Employment rate (% population aged 15-24)	11.6	9.5	9.7	10.6	11.7	14.2	15.3	15.9	14.1	15.6
Employment rate (% population aged 25-29)	41.3	44.1	41.3	46.1	47.5	50.4	52.7	55.3	55.7	58.9
Employment rate (% population aged 25-54)	56.5	54.9	55.8	59.5	60.9	63.6	65.7	67.1	68.4	69.7
Employment rate (% population aged 55-64)	22.9	22.0	25.1	26.6	26.6	32.5	36.0	36.7	39.6	39.5
Employment rate for low skilled 15-64 (ISCED 0-2)	23.9	22.7	24.9	25.8	26.7	31.4	31.7	31.0	31.0	32.9
Employment rate for medium skilled 15-64 (ISCED 3-4)	42.0	39.6	41.4	44.0	44.4	47.5	50.4	51.6	51.6	53.6
Employment rate for high skilled 15-64 (ISCED 5-8)	71.1	65.6	64.3	67.4	68.3	70.0	73.2	75.0	78.7	78.0
Self-employed (% of total employment)	15.3	13.6	14.9	13.7	11.6	14.1	17.0	14.9	14.7	16.1
Part-time employment (% of total employment)	9.3	8.5	11.1	13.0	12.7	14.2	13.6	12.2	13.9	13.0
Temporary employment (% of total employees)	10.6	12.6	14.7	17.4	20.2	21.4	21.6	21.3	20.6	21.8
Activity rate (% population aged 15+)	41.6	41.1	43.2	43.8	43.5	45.4	46.3	46.7	46.8	47.3
Activity rate (% population aged 15-64)	52.2	52.9	54.8	55.3	55.6	58.1	59.6	60.6	61.0	61.4
Activity rate (% population aged 15-24)	22.0	22.0	22.9	21.3	22.6	23.4	24.1	23.3	20.0	21.2
Activity rate (% population aged 25-54)	71.3	73.2	73.9	74.8	74.6	76.1	76.9	78.0	78.3	78.7
Activity rate (% population aged 55-64)	25.5	26.0	28.8	29.6	29.5	35.2	38.5	40.0	42.9	42.5
Unemployment aged 15+ (1,000)	285	341	336	281	256	228	205	197	175	160
Unemployment rate (% labor force 15+)	20.9	25.6	24.6	20.3	18.8	16.1	14.3	13.7	12.1	11.0
Youth unemployment rate (% labor force 15-24)	47.5	57.0	57.5	50.0	48.2	39.5	36.3	32.0	29.3	26.4
NEET rate (% population aged 15-24)	19.3	21.5	19.9	19.9	19.6	18.3	17.3	17.0		
Long-term unemployment rate (% labor force 15+)	14.6	20.1	18.7	13.9	12.2	10.5	8.5	8.0	6.9	6.7
Share of long-term unemployed (% of total)	70.1	78.4	76.2	68.2	65.2	65.1	59.5	58.4	57.2	60.5
Unemployment rate, low educated 15+ (ISCED 0-2)	17.6	24.3	22.0	17.9	13.9	11.1	10.9	11.8	12.5	9.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	25.4	29.3	28.0	23.0	21.6	18.6	16.0	15.1	14.6	12.7
Unemployment rate, high educated 15+ (ISCED 5-8)	13.5	18.6	19.5	16.8	16.4	14.8	13.3	12.3	8.2	9.3

-										
	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	47,450	57,430	60,708	61,426	61,145	63,474	65,976	68,629	74,134	75,320
nominal annual growth in %	7.5	8.9	5.7	1.2	-0.5	3.8	3.9	6.0	9.3	9.9
real annual growth in % (CPI deflated)	0.7	1.0	-1.9	-1.7	-2.4	2.6	0.9	3.9	6.7	7.5
Average monthly gross wages, EUR	460	508	537	524	506	516	544	580	627	638
Average monthly gross wages, EUR (PPP)	1,042	1,143	1,134	1,138	1,129	1,121	1,126	1,155		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	21,323	24,067	27,206	26,976	28,431	28,403	30,613	33,813		
Monthly gross minimum wages, EUR (ER)	222	230	239	235	235	234	248	285		
Monthly gross minimum wages, EUR (PPP)	411	430	458	455	488	467	481	530		
Unit labor costs (ULC)										
ULC, NCU in %		8.4	6.3	7.7	-1.6	6.1	4.7	2.9		
ULC, EUR in %		-2.3	6.3	3.8	-4.4	4.1	6.2	5.6		

Notes: Between 2010 and 2013 the labor force survey was carried out twice a year in April and October; in 2014 quarterly in a fixed reference week; from 2015 data based on a continuous quarterly survey. From 2014 onwards, further adjustments according to EU guidelines. For better comparability, the data were recalculated by applying double entries for 2014. For LFS data census 2011 is applied from 2013 with low impact on growth rates in comparison to previous year. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014.

From 2018 average monthly gross wages based on tax administration data, before on wage survey data supplemented by tax administration data. The minimum wage in 2010 was in effect from January 2010, in 2011 from November 2010, in 2012 from June 2011, and in 2013 from April 2012; since 2014 it is in effect as of January of the respective year.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.





Western Balkans-6: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	18,497	18,427	18,397	18,350	18,276	18,223	18,191	18,146		•
Working-age population aged 15+ (1,000)		14,515	14,465	14,455	14,432	14,335	14,258	14,237		14,125
Employment aged 15+ (1,000)		5,471	5,510	5,639	5,708	5,959	6,134	6,230		6,392
Employment rate (% population aged 15+)	•	37.7	38.1	39.0	39.6	41.6	43.0	43.8	•	45.3
Employment rate (% population aged 15-64)		44.4	44.8	45.9	46.9	49.3	51.3	52.5	•	54.6
Employment rate (% population aged 20-64)	•	48.8	49.5	50.6	151.4	53.9	10 7	57.2	•	59.2
Employment rate (% population aged 15-24)	•	12.0	14.0	14.2	10.3	17.1 E1 6	10.7	19.8	•	22.0
Employment rate (% population aged 25-23)	•	40.0 57.6	58.2	40.0 50 7	49.1 60.4	62.6	53.5 64.6	66.0	•	55.5 67.7
Employment rate (% population aged 55-64)	•	35.3	36.4	37.3	38.1	41.1	43.2	44.3	•	46.7
Employment rate for low skilled 15-64 (ISCED 0-2)		30.9	30.2	30.5	31.8	34.1	35.2	35.0		37.1
Employment rate for medium skilled 15-64 (ISCED 3-4)		47.8	48.4	49.3	49.5	51.9	54.1	55.4		57.0
Employment rate for high skilled 15-64 (ISCED 5-8)		67.7	67.8	68.8	68.8	70.0	72.4	74.2		76.7
Self-employed (% of total employment)		21.9	22.3	21.8	22.0	24.0	24.7	22.9		23.1
Part-time employment (% of total employment)		11.9	12.0	13.2	12.5	12.7	12.0	10.6		11.2
Temporary employment (% of total employees)		17.9	19.0	20.6	21.6	23.1	22.8	22.8		21.9
Activity rate (% population aged 15+)		49.5	49.7	50.3	50.2	51.1	51.8	51.9		52.2
Activity rate (% population aged 15-64)		58.8	58.9	59.6	59.8	61.0	62.2	62.6		63.3
Activity rate (% population aged 15-24)	•	30.4	28.2	28.5	29.4	29.5	30.4	30.7		31.7
Activity rate (% population aged 25-54)		74.5	74.9	75.7	75.5	76.3	77.2	77.7		77.8
Activity rate (% population aged 55-64)	•	41.8	43.0	43.2	43.8	46.4	48.0	49.2	•	50.7
Unemployment aged 15+ (1,000)		1,721	1,682	1,628	1,532	1,369	1,250	1,156	•	979
Vouth unemployment rate (% labor force 15+)	•	23.9 10 C	23.4	22.4 E0.2	21.2	18.7	16.9 20 C	15.0	•	13.3
NEET rate (% population aged 15-24)	•	48.0 25.0	48.5	20.2 25.2	47.7	42.1	38.0 22 5	35.0 22.1	•	30.4
long-term unemployment rate (% labor force 15+)	•	18.6	18.0	25.5 16.4	25.5	25.5	11.8	10.5	•	8.8
Share of long-term unemployed (% of total)		77.5	77.0	73.4	72.0	72.2	69.8	67.4	•	66.3
Unemployment rate, low educated 15+ (ISCED 0-2)		22.6	22.6	21.9	19.8	17.1	(15.5)	14.6		(12.6)
Unemployment rate, medium educated 15+ (ISCED 3-4)		26.6	25.6	24.5	23.3	20.4	18.5	17.0		14.5
Unemployment rate, high educated 15+ (ISCED 5-8)		17.7	18.0	17.1	17.1	16.0	14.6	13.3		11.2
Male										
Total population (1,000)	9,118	9,090	9,079	9,059	9,020	8,989	8,962	8,925		
Working-age population aged 15+ (1,000)		7,122	7,055	7,058	7,079	7,042	7,010	6,981		6,913
Employment aged 15+ (1,000)		3,269	3,273	3,342	3,378	3,517	3,615	3,661		3,726
Employment rate (% population aged 15+)	•	45.9	46.4	47.4	47.7	49.9	51.6	52.4		53.9
Employment rate (% population aged 15-64)		52.8	53.4	54.4	55.2	57.7	60.0	61.3		63.3
Employment rate (% population aged 20-64)	•	58.1	59.0	60.1	60.6	63.2	65.6	67.0	•	68.8
Employment rate (% population aged 15-24)		19.8	18.7	17.8	19.5	21.4	23.4	24.7	•	27.2
Employment rate (% population aged 25-29)	•	54.8	54.8	55.7	55.8	58.6	62.2	65.5 75.2	•	67.4 76.7
Employment rate (% population aged 25-54)	•	00.9 46.8	07.9 47.4	10 0	50 0	/1.0 52.2	74.0 54.9	75.5 56.1	•	70.7 50.2
Employment rate (% population aged 55-64)	•	40.8	47.4	49.0	30.0 /11 7	55.Z	54.0 15.7	15 5	•	39.Z
Employment rate for medium skilled 15-64 (ISCED 3-4)	•	55.2	56.2	57.0	57.3	60.1	62.2	63.8	•	40.5 65.4
Employment rate for high skilled 15-64 (ISCED 5-8)		71.1	71.1	72.2	72.5	73.3	76.4	78.3		80.4
Self-employed (% of total employment)		27.2	27.8	27.7	28.4	29.6	29.7	28.1		27.8
Part-time employment (% of total employment)		10.6	10.6	11.5	11.0	11.1	10.5	9.2		9.7
Temporary employment (% of total employees)		20.5	21.1	22.9	23.7	25.6	25.2	25.5		23.9
Activity rate (% population aged 15+)		60.0	60.1	60.8	60.3	61.2	62.0	62.2		61.6
Activity rate (% population aged 15-64)		69.5	69.7	70.3	70.2	71.2	72.6	73.1		72.9
Activity rate (% population aged 15-24)		38.0	35.3	35.3	36.3	36.1	37.4	38.1		38.2
Activity rate (% population aged 25-54)		85.5	86.3	86.8	86.1	86.6	88.2	88.4		87.3
Activity rate (% population aged 55-64)		56.2	56.9	57.8	58.2	60.8	61.6	62.8		64.2
Unemployment aged 15+ (1,000)	•	1,006	969	946	890	794	734	678	•	535
Unemployment rate (% labor force 15+)		23.5	22.8	22.1	20.9	18.4	16.9	15.6		12.6
Youth unemployment rate (% labor force 15-24)	•	48.0	46.9	49.5	46.3	40.7	37.3	35.1		28.7
NEET rate (% population aged 15-24)		25.5	25.0	24.9	25.0	23.0	21.6	21.7	•	
Long-term unemployment rate (% labor force 15+)		18.0	17.4	15.9	15.0	13.3	11.8	10.5		8.4
Sildre of long-term unemployed (% of total)	•	/b.b	/b.3	/2.3	/1.9	10.0	/U.U (17 2)	6/.5 (16 3)		bb.b (12 7)
Unemployment rate, medium adjusted 15+ (ISCED U-2)		24.4 25 2	24.U 21 2	∠3.3 72 /	21./ 22.1	10 F	(17.3) 17.0	(10.5) 16.6	•	(12.7) 12 E
Unemployment rate, high educated 15+ (ISCED 5-8)		20.5 15 1	24.2 (16 2)	23.4 15.2	(15.2)	(14 7)	(12 7)	(11 6)	•	тэ.э (9 <u>4</u>)



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	9,379	9,337	9,318	9,291	9,255	9,234	9,229	9,220		
Working-age population aged 15+ (1,000)		7,393	7,410	7,397	7,353	7,294	7,248	7,256		7,213
Employment aged 15+ (1,000)		2,201	2,238	2,297	2,331	2,442	2,519	2,569		2,666
Employment rate (% population aged 15+)		29.8	30.2	31.1	31.7	33.5	34.8	35.4		37.0
Employment rate (% population aged 15-64)		36.0	36.3	37.5	38.5	40.8	42.6	43.7		45.8
Employment rate (% population aged 20-64)		39.5	40.1	41.2	42.2	44.6	46.4	47.5		49.7
Employment rate (% population aged 15-24)		11.1	10.2	10.2	10.9	(12.3)	(13.4)	(14.5)		16.4
Employment rate (% population aged 25-29)		40.2	39.4	40.9	41.6	43.9	44.9	47.7		51.8
Employment rate (% population aged 25-54)		48.4	48.6	50.3	51.5	53.6	55.1	56.6		58.8
Employment rate (% population aged 55-64)		24.1	26.0	26.2	26.7	29.5	32.2	33.1		34.8
Employment rate for low skilled 15-64 (ISCED 0-2)		23.5	22.7	22.7	24.1	26.4	27.0	26.9		28.4
Employment rate for medium skilled 15-64 (ISCED 3-4)		38.5	38.7	39.6	39.7	41.5	43.8	44.7		46.6
Employment rate for high skilled 15-64 (ISCED 5-8)		64.5	64.9	65.9	65.8	67.2	69.1	70.9		73.7
Self-employed (% of total employment)		14.1	14.3	13.4	12.7	15.9	17.5	15.6		16.7
Part-time employment (% of total employment)		13.8	14.1	15.6	14.7	15.1	14.1	12.5		13.2
Temporary employment (% of total employees)		13.3	16.2	17.6	18.9	19.8	19.6	19.3		19.4
Activity rate (% population aged 15+)		39.5	39.8	40.3	40.4	41.4	41.9	42.0		43.1
Activity rate (% population aged 15-64)		48.0	48.1	48.9	49.4	50.7	51.6	52.1		53.7
Activity rate (% population aged 15-24)		22.2	20.8	21.1	21.8	22.2	22.6	22.9		24.6
Activity rate (% population aged 25-54)		63.5	63.7	64.7	65.0	65.9	66.2	66.9		68.4
Activity rate (% population aged 55-64)		27.8	29.7	29.5	30.0	32.6	35.0	36.3		38.0
Unemployment aged 15+ (1,000)		715	713	681	642	575	516	478		444
Unemployment rate (% labor force 15+)		24.5	24.2	22.9	21.6	19.1	17.0	15.7		14.3
Youth unemployment rate (% labor force 15-24)		49.8	50.9	51.5	50.3	44.6	40.9	(36.5)		(33.3)
NEET rate (% population aged 15-24)		26.2	26.6	25.8	25.7	24.1	23.4	22.4		
Long-term unemployment rate (% labor force 15+)		19.3	18.8	17.1	15.5	13.7	11.8	10.5		9.4
Share of long-term unemployed (% of total)		78.9	78.0	74.9	72.0	72.1	69.3	67.1		66.0
Unemployment rate, low educated 15+ (ISCED 0-2)		20.0	20.8	19.9	16.9	14.5	(13.0)	(12.3)		(12.4)
Unemployment rate, medium educated 15+ (ISCED 3-4)		28.8	28.1	26.4	25.3	22.1	19.4	17.8		16.2
Unemployment rate, high educated 15+ (ISCED 5-8)		20.2	19.6	18.8	18.8	17.7	(16.3)	(14.8)		(12.7)

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU										
nominal annual growth in %										
real annual growth in % (CPI deflated)										
Average monthly gross wages, EUR		483	501	510	508	514	534	565		
Average monthly gross wages, EUR (PPP)		1,088	1,083	1,126	1,144	1,124	1,127	1,162		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU										
Monthly gross minimum wages, EUR (ER)										
Monthly gross minimum wages, EUR (PPP)										
Unit labor costs (ULC)										
ULC, NCU in %										
ULC, EUR in %			1.7	1.6	-1.7	2.3	4.3	2.9		

Notes: Labor market data for the Western Balkans are the sum of six countries only when data for all these countries are available. Annual time series therefore start from 2012 (because data for Kosovo are not available prior to this), quarterly data are available for the second quarter only (because Bosnia and Herzegovina reports only once a year in April, allocated to the second quarter). Numbers in brackets are less accurate.

Average monthly gross wage data for the Western Balkans are weighted averages with employment data from LFS.

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Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.





Austria: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	8,363	8,430	8,480	8,546	8,643	8,737	8797.6	8840.5		
Working-age population aged 15+ (1,000)	6,369	6,440	6,486	6,527	6,555	6,612	6,615	6,630	6,636	6,646
Employment aged 15+ (1,000)	4,004	4,071	4,092	4,098	4,133	4,204	4,245	4,304	4,285	4,327
Employment rate (% population aged 15+)	62.9	63.2	63.1	62.8	63.1	63.6	64.2	64.9	64.6	65.1
Employment rate (% population aged 15-64)	70.8	71.4	71.4	71.1	71.1	71.5	72.2	73.0	72.7	73.4
Employment rate (% population aged 20-64)	73.9	74.4	74.6	74.2	74.3	74.8	75.4	76.2	75.9	76.9
Employment rate (% population aged 15-24)	52.8	53.7	53.1	52.1	51.4	51.0	50.6	51.3	51.5	49.8
Employment rate (% population aged 25-29)	79.4	81.4	80.4	79.2	80.2	80.9	80.4	80.7	79.3	82.5
Employment rate (% population aged 25-54)	83.3	84.3	84.0	83.4	83.5	83.6	84.1	84.5	83.9	85.6
Employment rate (% population aged 55-64)	41.2	41.6	43.8	45.1	46.3	49.2	51.3	54.0	54.8	54.2
Employment rate for low skilled 15-64 (ISCED 0-2)	48.3	48.3	47.3	47.5	47.2	47.3	46.9	48.2	47.3	47.5
Employment rate for medium skilled 15-64 (ISCED 3-4)	75.7	75.8	76.2	73.8	73.5	73.8	74.5	75.4	74.8	76.1
Employment rate for high skilled 15-64 (ISCED 5-8)	84.6	86.2	85.3	83.3	83.3	84.0	84.6	84.5	84.4	84.8
Self-employed (% of total employment)	11.6	11.1	11.3	11.2	11.3	11.1	10.9	10.7	11.1	11.0
Part-time employment (% of total employment)	25.1	25.8	26.7	27.7	28.0	28.5	28.6	28.0	28.1	27.7
Temporary employment (% of total employees)	9.4	9.3	9.2	9.1	9.1	9.0	9.2	9.1	9.0	8.6
Activity rate (% population aged 15+)	66.1	66.5	66.7	66.5	66.9	67.7	67.9	68.2	67.9	68.1
Activity rate (% population aged 15-64)	74.4	75.1	/5.5	75.4	/5.5	/6.2	76.4	76.8	/6.5	/6.9
Activity rate (% population aged 15-24)	58.3	59.2	58.8	58.0	57.4	57.5	56.1	56.6	55.8	54.4
Activity rate (% population aged 25-54)	87.1	88.1	88.3	88.0	88.0	88.4	88.7	88.5	88.2	89.3
Activity rate (% population aged 55-64)	42.2	43.1	45.5	46.9	48.0	51.7	53.0	56.2	50.7	56.0
Unemployment aged 15+ (1,000)	203	209	231	245	252	270	248	220	222	202
Vouth uncomployment rate (% labor force $15-24$)	4.0	4.9	0.4 0.7	10.2	5.7 10.6	11.2	5.5	4.9	4.9	4.5 Q /
NEET rate (% population aged 15-24)	9.J 7 /	5.4	9.7 7 2	10.3	10.0	11.2	5.0	5.4 6.9	7.7	0.4
long-term upemployment rate (% labor force 15+)	1.4	0.8	13	1.5	1.5	1.9	1.8	0.8	12	12
Share of long-term unemployed (% of total)	25.4	24.9	24.6	27.2	29.2	323	33.4	28 Q	23.9	26.4
Inemployment rate low educated 15+ (ISCED 0-2)	9.2	9.8	10.3	11 4	11 2	12.5	13.0	11 4	11.0	10.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	4.4	4.4	4.7	5.0	5.4	5.8	5.1	4.2	4.5	4.0
Unemployment rate, high educated 15+ (ISCED 5-8)	2.5	2.4	3.5	4.0	3.9	3.6	3.2	3.2	3.4	2.7
Male										
Total population (1.000)	4.073	4.111	4.139	4.178	4.236	4.292	4.325	4.348		
Working-age population aged 15+ (1.000)	3.139	, 3.174	3.198	3.221	3.242	3.282	3.279	3.285	3.286	3.295
Employment aged 15+ (1,000)	2,139	2,163	2,171	2,164	2,183	2,223	2,244	2,286	2,257	2,305
Employment rate (% population aged 15+)	68.1	68.2	67.9	67.2	67.3	67.7	68.4	69.6	68.7	69.9
Employment rate (% population aged 15-64)	76.0	76.2	76.0	75.3	75.1	75.4	76.2	77.4	76.5	78.0
Employment rate (% population aged 20-64)	79.0	79.3	79.1	78.3	78.4	78.7	79.4	80.7	79.8	81.5
Employment rate (% population aged 15-24)	56.6	57.1	56.4	54.3	54.0	52.9	52.1	53.9	53.5	53.4
Employment rate (% population aged 25-29)	82.9	84.1	82.2	81.3	81.6	82.1	81.5	84.0	81.9	86.3
Employment rate (% population aged 25-54)	87.7	88.3	87.5	86.6	86.6	86.6	87.2	87.8	86.3	89.0
Employment rate (% population aged 55-64)	49.9	50.2	52.8	54.3	54.1	57.6	60.1	63.5	63.9	63.0
Employment rate for low skilled 15-64 (ISCED 0-2)	53.9	53.5	52.0	51.7	51.5	51.7	51.2	52.9	51.5	53.0
Employment rate for medium skilled 15-64 (ISCED 3-4)	79.3	79.2	79.7	77.5	76.7	77.1	78.0	79.4	78.0	80.3
Employment rate for high skilled 15-64 (ISCED 5-8)	88.4	89.4	88.1	85.4	85.8	86.2	87.3	87.4	87.3	87.8
Self-employed (% of total employment)	14.1	13.5	13.7	13.7	13.7	13.6	13.3	13.0	13.5	13.3
Part-time employment (% of total employment)	8.9	8.9	10.0	10.6	10.8	11.5	11.6	10.9	10.4	10.4
Temporary employment (% of total employees)	9.8	9.3	9.4	9.2	9.1	8.9	9.2	8.8	8.4	8.5
Activity rate (% population aged 15+)	71.7	71.7	71.7	71.4	71.7	72.4	72.7	73.3	72.5	73.2
Activity rate (% population aged 15-64)	80.0	80.2	80.4	80.0	80.1	80.7	81.0	81.6	80.8	81.7
Activity rate (% population aged 15-24)	62.6	63.1	62.3	60.7	60.7	60.2	58.4	59.5	58.8	58.3
Activity rate (% population aged 25-54)	91.9	92.3	92.1	91.5	91.6	91.8	92.3	92.1	91.0	92.8
Activity rate (% population aged 55-64)	51.4	52.3	55.1	56.8	57.4	61.2	63.0	66.0	66.2	65.4
Unemployment aged 15+ (1,000)	113	113	124	135	142	153	142	121	125	109
Vouth uncomployment rate (% labor force 15+)	5.0	5.0	5.4	5.9	b.1	0.5	10.0	5.0	5.2	4.5
NEET rate (% population aged 15, 24)	9.0 7.7	9.5 E E	9.4	0.0 TU'P	11.1 77	12.1	10.8 0 C	9.4	9.0	8.5
I and torm unamployment rate (% labor force 15 ·)	1.2	0.0	1.2	0.U 1 7	1./	0.0 2.2	7.U 2.0	0.0	1 0	1
Share of long-term unemployed (% of total)	1.4 27 0	26.0	1.4 25 0	1.7 22.2	1.9 21 0	2.2	2.U 7 22	20.1	24.0	1.Z 27 E
Inemployment rate low educated 15+ (ISCED 0-2)	27.9 10 6	20.0 11 0	20.9 11 A	20.2 12 0	٥1.0 17 ۵	54.5 14 7	33.7 15 0	29.1 12.2	24.9 12.7	∠7.0 12.7
Unemployment rate, medium educated 15+ (ISCED 0-2)	10.0 4 6	4.6	1.0 2 Q		5 R	<u>-</u> / 6.1	55	13.2 4 3	13.7 4 R	30
Unemployment rate, high educated 15+ (ISCED 5-8)	2.3	2.0	2.9	3.8	4.0	3.8	3.1	3.1	2.9	2.4



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	4,291	4,319	4,340	4,368	4,406	4,444	4,472	4,492		
Working-age population aged 15+ (1,000)	3,230	3,266	3,288	3,306	3,313	3,330	3,336	3,345	3,349	3,351
Employment aged 15+ (1,000)	1,865	1,909	1,921	1,934	1,950	1,981	2,001	2,018	2,027	2,022
Employment rate (% population aged 15+)	57.7	58.4	58.4	58.5	58.9	59.5	60.0	60.3	60.5	60.3
Employment rate (% population aged 15-64)	65.7	66.7	66.9	66.9	67.1	67.7	68.2	68.6	68.9	68.8
Employment rate (% population aged 20-64)	68.8	69.6	70.0	70.1	70.2	70.9	71.4	71.7	72.1	72.3
Employment rate (% population aged 15-24)	48.9	50.3	49.7	49.9	48.7	49.0	49.0	48.7	49.4	46.3
Employment rate (% population aged 25-29)	75.9	78.6	78.8	77.2	78.7	79.8	79.2	77.3	76.6	78.7
Employment rate (% population aged 25-54)	78.9	80.4	80.5	80.3	80.3	80.6	81.0	81.3	81.4	82.2
Employment rate (% population aged 55-64)	33.0	33.5	35.2	36.4	38.8	41.1	42.8	44.8	45.9	45.7
Employment rate for low skilled 15-64 (ISCED 0-2)	44.3	44.5	43.9	44.3	44.1	43.8	43.4	44.5	43.9	43.1
Employment rate for medium skilled 15-64 (ISCED 3-4)	71.9	72.2	72.6	69.8	69.9	70.1	70.6	71.1	71.5	71.5
Employment rate for high skilled 15-64 (ISCED 5-8)	80.1	82.5	82.1	81.3	80.7	81.8	82.0	81.6	81.5	81.9
Self-employed (% of total employment)	8.8	8.4	8.6	8.5	8.6	8.4	8.2	8.1	8.3	8.3
Part-time employment (% of total employment)	43.7	45.0	45.5	46.8	47.3	47.6	47.6	47.4	47.9	47.4
Temporary employment (% of total employees)	8.9	9.3	9.0	9.1	9.0	9.1	9.2	9.3	9.6	8.7
Activity rate (% population aged 15+)	60.5	61.4	61.7	61.8	62.2	63.0	63.2	63.3	63.4	63.1
Activity rate (% population aged 15-64)	68.9	70.1	70.7	70.8	70.9	71.7	71.8	72.0	72.3	72.0
Activity rate (% population aged 15-24)	54.0	55.4	55.3	55.4	54.1	54.6	53.7	53.8	52.8	50.4
Activity rate (% population aged 25-54)	82.4	84.0	84.5	84.5	84.4	84.9	85.0	84.8	85.4	85.8
Activity rate (% population aged 55-64)	33.6	34.5	36.4	37.5	40.2	42.7	44.5	46.6	47.5	46.9
Unemployment aged 15+ (1,000)	91	96	108	110	110	117	106	99	98	93
Unemployment rate (% labor force 15+)	4.6	4.8	5.3	5.4	5.3	5.6	5.0	4.7	4.6	4.4
Youth unemployment rate (% labor force 15-24)	9.4	9.2	10.0	9.9	10.0	10.2	8.7	9.4	6.3	8.3
NEET rate (% population aged 15-24)	7.7	7.0	7.4	7.4	7.3	7.4	6.0	7.1		
Long-term unemployment rate (% labor force 15+)	1.0	1.1	1.2	1.4	1.4	1.7	1.7	1.3	1.0	1.1
Share of long-term unemployed (% of total)	22.4	23.7	23.1	25.9	25.9	29.7	33.1	28.8	22.7	25.1
Unemployment rate, low educated 15+ (ISCED 0-2)	8.0	8.8	9.3	10.0	9.6	10.9	11.1	9.6	8.3	9.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	4.1	4.2	4.6	4.7	5.0	5.4	4.5	4.1	4.0	4.1
Unemployment rate, high educated 15+ (ISCED 5-8)	2.8	2.8	4.2	4.2	3.7	3.4	3.2	3.4	3.9	3.0

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	2,709	2,839	2,899	2,950	3,010	3,081	3,131	3,220	3,223	3,394
nominal annual growth in %	1.1	2.7	2.1	1.8	2.1	2.3	1.6	2.8	2.8	2.9
real annual growth in % (HICP deflated)	-0.7	0.3	0.1	0.1	1.1	1.5	-0.6	0.5	1.2	1.2
Average monthly gross wages, EUR	2,709	2,839	2,899	2,950	3,010	3,081	3,131	3,220	3,223	3,394
Average monthly gross wages, EUR (PPP)	2,462	2,637	2,672	2,723	2,833	2,833	2,831	2,910		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU										
Monthly gross minimum wages, EUR (ER)										
Monthly gross minimum wages, EUR (PPP)										
Unit labor costs (ULC)										
ULC, NCU in %		2.8	2.6	1.2	1.9	2.0	0.2	1.8		
ULC, EUR in %		2.8	2.6	1.2	1.9	2.0	0.2	1.8		

Notes: Data are based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 (based on registration) is applied throughout. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014. Average monthly gross wages refer to National Accounts concept (gross wages per employee, domestic concept, divided by 12 months). In Austria 'minimum wages' are set by sectoral collective agreements (no national minimum wage).

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.



Bulgaria: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	7,396	7,306	7,265	7,224	7,178	7,128	7,076	7,025		
Working-age population aged 15+ (1,000)	5,827	5,698	5,649	5,609	5,563	5,510	5,455	5,398	5,356	5,350
Employment aged 15+ (1,000)	3,073	2,931	2,932	2,978	3,029	3,014	3,146	3,148	3,143	3,260
Employment rate (% population aged 15+)	52.7	51.4	51.9	53.1	54.4	54.7	57.7	58.3	58.7	60.9
Employment rate (% population aged 15-64)	59.8	58.8	59.5	61.0	62.9	63.4	66.9	67.7	68.3	70.7
Employment rate (% population aged 20-64)	64.7	63.0	63.5	65.1	67.1	67.7	71.3	72.4	73.1	75.7
Employment rate (% population aged 15-24)	24.3	21.9	21.2	20.7	20.3	19.8	22.9	20.7	19.0	21.2
Employment rate (% population aged 25-29)	66.7	63.7	61.4	64.2	66.6	64.7	69.0	69.9	71.9	75.2
Employment rate (% population aged 25-54)	75.1	73.1	73.3	74.5	76.1	76.2	79.4	80.1	80.5	83.1
Employment rate (% population aged 55-64)	44.9	45.7	47.4	50.0	53.0	54.5	58.2	60.7	63.0	65.0
Employment rate for low skilled 15-64 (ISCED 0-2)	29.7	27.4	27.8	29.7	29.6	29.6	33.4	34.8	35.2	39.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	65.3	63.4	63.6	65.2	67.2	67.8	71.7	72.4	72.7	75.1
Employment rate for high skilled 15-64 (ISCED 5-8)	82.7	81.1	80.7	81.7	84.0	84.2	85.5	86.1	87.6	89.2
Self-employed (% of total employment)	11.5	10.7	11.4	11.8	11.4	11.1	11.1	10.9	10.6	10.1
Part-time employment (% of total employment)	2.4	2.4	2.6	2.6	2.4	2.2	2.4	2.0	1.9	2.4
Temporary employment (% of total employees)	4.5	4.5	5.6	5.3	4.4	4.2	4.5	4.1	3.3	4.6
Activity rate (% population aged 15+)	58.8	58.6	59.6	59.9	59.9	59.2	61.5	61.5	61.8	63.6
Activity rate (% population aged 15-64)	66.7	67.1	68.4	69.0	69.3	68.7	71.3	71.5	71.9	73.8
Activity rate (% population aged 15-24)	31.2	30.4	29.6	27.2	26.0	23.9	26.3	23.7	21.1	23.4
Activity rate (% population aged 25-54)	82.9	82.3	83.1	83.3	83.2	82.0	84.3	84.3	84.7	86.6
Activity rate (% population aged 55-64)	49.3	51.1	54.1	56.6	58.0	58.8	61.8	63.7	65.8	67.5
Unemployment aged 15+ (1,000)	352	410	436	385	305	247	207	173	165	142
Unemployment rate (% labor force 15+)	10.3	12.3	13.0	11.4	9.2	7.6	6.2	5.2	5.0	4.2
Youth unemployment rate (% labor force 15-24)	21.9	28.1	28.4	23.8	21.7	17.2	12.9	12.7	9.8	9.4
Long term upomployment rate (% lober force 15.)	21.0	21.5	21.6	20.2	19.3	18.2	15.3	15.0		
Share of long term unemployed (% of total)	4.7	0.0	7.4	60.9	5.0 61 0	4.5 E0.1	5.4	5.U	2.0	2.5
Unemployment rate, low educated 15 (ISCED 0.2)	40.1	22.2 20 0	20.0	00.4 20 2	01.Z	59.I 22.2	55.U	28.4 1E E	52.9 1E 0	59.Z
Unemployment rate, now educated 15+ (ISCED 0-2)	22.7	20.0	122	20.5	25.1	67	10.1	15.5	15.9	12.2
Inemployment rate, high educated 15+ (ISCED 5-4)	9.7 4.6	5.8	12.3 6.4	5 1	0.3 1 0	3.4	3.0	4.5	4.0	2.4
onemployment rate, high educated 15* (ISCED 5-6)	4.0	5.8	0.4	5.1	4.0	5.4	5.0	2.5	2.4	2.0
Male										
Total population (1 000)	3 601	3 556	3 5 3 5	3 5 1 3	3 /00	3 161	3 136	3 100		
Working-age population aged 15+ (1 000)	2 869	2 808	2 785	2 766	2 7/3	2 717	2 689	2 661	2 639	2637
Employment aged $15+(1,000)$	1 638	1 540	1 545	1 575	1 606	1 606	1 680	1 683	1 679	1 731
Employment rate (% population aged 15+)	57.1	54.8	55.5	56.9	58.5	59.1	62.5	63.2	63.6	65.7
Employment rate (% population aged 15-64)	63.3	61 3	62.1	63.9	65.9	66.7	70.6	71 5	71 9	74.0
Employment rate (% population aged 20-64)	68.6	65.8	66.4	68.1	70.4	71.3	75.3	76.5	77.0	79.3
Employment rate (% population aged 15-24)	27.3	24.9	24.0	24.0	24.0	23.1	26.5	24.2	22.3	24.7
Employment rate (% population aged 25-29)	71.9	68.6	67.0	69.4	71.5	71.7	77.7	77.6	78.9	81.9
Employment rate (% population aged 25-54)	77.6	74.3	75.0	76.4	78.5	79.2	82.8	83.5	83.9	86.1
Employment rate (% population aged 55-64)	51.3	50.8	51.9	54.5	56.8	58.3	62.5	65.4	67.5	68.8
Employment rate for low skilled 15-64 (ISCED 0-2)	34.5	31.2	31.7	34.3	34.6	35.4	40.1	41.7	42.4	45.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	70.0	66.9	67.2	69.1	71.5	72.3	76.2	77.0	76.6	78.8
Employment rate for high skilled 15-64 (ISCED 5-8)	85.3	82.9	83.1	84.5	86.7	86.7	87.9	89.1	90.9	92.4
Self-employed (% of total employment)	14.0	13.5	14.4	14.9	14.4	13.7	13.8	13.7	13.3	12.7
Part-time employment (% of total employment)	2.1	2.1	2.1	2.3	2.0	1.9	2.1	1.8	1.6	1.9
Temporary employment (% of total employees)	5.0	4.9	6.2	5.7	4.8	4.5	5.0	4.4	3.7	4.8
Activity rate (% population aged 15+)	64.1	63.4	64.4	64.9	64.9	64.3	66.7	67.1	67.2	68.8
Activity rate (% population aged 15-64)	71.1	71.0	72.2	72.9	73.2	72.7	75.4	75.9	76.0	77.6
Activity rate (% population aged 15-24)	35.5	35.3	34.3	31.5	30.5	28.0	30.5	27.9	24.8	27.2
Activity rate (% population aged 25-54)	86.1	84.8	85.7	86.2	86.4	85.7	88.0	88.3	88.7	90.2
Activity rate (% population aged 55-64)	56.6	57.3	59.9	62.5	62.7	63.4	66.8	69.1	70.6	71.7
Unemployment aged 15+ (1,000)	200	241	250	222	174	142	114	102	95	83
Unemployment rate (% labor force 15+)	10.9	13.5	13.9	12.3	9.8	8.1	6.4	5.7	5.4	4.6
Youth unemployment rate (% labor force 15-24)	23.2	29.5	30.2	23.8	21.2	17.4	13.3	13.2	(9.8)	(9.4)
NEET rate (% population aged 15-24)	20.3	21.6	22.1	19.2	18.6	17.1	13.6	13.3		
Long-term unemployment rate (% labor force 15+)	5.0	7.7	8.1	7.7	6.1	4.8	3.6	3.4	2.9	2.7
Share of long-term unemployed (% of total)	46.0	56.7	58.3	62.4	62.4	59.2	56.5	59.9	54.4	59.8
Unemployment rate, low educated 15+ (ISCED 0-2)	22.4	28.2	30.3	28.5	24.3	21.4	16.4	15.0	14.8	11.7
Unemployment rate, medium educated 15+ (ISCED 3-4)	9.9	12.6	12.8	10.8	8.5	6.8	5.3	4.8	4.3	3.8
Unemployment rate, high educated 15+ (ISCED 5-8)	4.6	6.3	6.5	5.5	4.0	3.5	3.3	2.5	(2.4)	(1.9)



	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	3,794	3,750	3,730	3,710	3,688	3,664	3,640	3,616		
Working-age population aged 15+ (1,000)	2,958	2,890	2,865	2,843	2,820	2,794	2,766	2,738	2,717	2,713
Employment aged 15+ (1,000)	1,435	1,392	1,388	1,403	1,423	1,408	1,466	1,465	1,464	1,528
Employment rate (% population aged 15+)	48.5	48.2	48.4	49.4	50.5	50.4	53.0	53.5	53.9	56.3
Employment rate (% population aged 15-64)	56.2	56.3	56.8	58.2	59.8	60.0	63.1	63.9	64.5	67.3
Employment rate (% population aged 20-64)	60.8	60.2	60.7	62.0	63.8	64.0	67.3	68.3	69.2	72.1
Employment rate (% population aged 15-24)	21.2	18.7	18.4	17.3	16.5	16.3	19.1	17.0	15.5	17.5
Employment rate (% population aged 25-29)	61.1	58.5	55.4	58.8	61.4	57.2	59.9	61.7	64.6	68.1
Employment rate (% population aged 25-54)	72.5	71.8	71.5	72.5	73.6	73.0	75.8	76.5	77.0	79.9
Employment rate (% population aged 55-64)	39.2	41.3	43.4	46.0	49.5	51.0	54.3	56.4	58.8	61.5
Employment rate for low skilled 15-64 (ISCED 0-2)	24.8	23.6	23.7	24.8	24.2	23.4	26.2	27.3	27.6	32.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	59.7	59.2	59.2	60.3	61.9	62.3	66.1	66.9	67.9	70.5
Employment rate for high skilled 15-64 (ISCED 5-8)	81.2	80.0	79.1	79.9	82.3	82.6	83.9	84.1	85.3	87.1
Self-employed (% of total employment)	8.6	7.6	8.1	8.3	7.9	8.1	7.9	7.6	7.5	7.1
Part-time employment (% of total employment)	2.6	2.7	3.2	3.0	2.8	2.5	2.7	2.3	2.3	2.8
Temporary employment (% of total employees)	4.0	4.0	5.1	4.9	4.1	3.7	4.0	3.8	2.9	4.4
Activity rate (% population aged 15+)	53.7	54.0	54.9	55.1	55.1	54.2	56.4	56.1	56.5	58.5
Activity rate (% population aged 15-64)	62.2	63.2	64.5	65.0	65.4	64.6	67.1	67.0	67.7	69.9
Activity rate (% population aged 15-24)	26.6	25.3	24.7	22.6	21.2	19.6	21.8	19.3	17.2	19.3
Activity rate (% population aged 25-54)	79.6	79.8	80.3	80.2	79.8	78.2	80.5	80.2	80.6	82.9
Activity rate (% population aged 55-64)	42.9	45.5	49.0	51.4	53.8	54.6	57.3	58.7	61.3	63.8
Unemployment aged 15+ (1,000)	153	169	187	163	131	106	93	72	70	59
Unemployment rate (% labor force 15+)	9.6	10.8	11.8	10.4	8.4	7.0	6.0	4.7	4.6	3.7
Youth unemployment rate (% labor force 15-24)	20.1	26.0	25.7	23.7	22.2	17.0	12.5	11.8	(9.8)	(9.5)
NEET rate (% population aged 15-24)	21.8	21.5	21.1	21.4	20.0	19.4	17.2	16.8		
Long-term unemployment rate (% labor force 15+)	4.4	5.7	6.6	6.0	5.0	4.1	3.2	2.6	2.3	2.2
Share of long-term unemployed (% of total)	46.2	53.0	55.9	57.6	59.6	58.9	53.1	56.3	50.9	58.3
Unemployment rate, low educated 15+ (ISCED 0-2)	23.1	27.7	29.3	28.1	26.3	23.5	20.7	16.4	17.5	13.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	9.5	10.4	11.7	10.4	8.0	6.6	5.3	4.1	3.5	2.8
Unemployment rate, high educated 15+ (ISCED 5-8)	4.5	5.5	6.4	4.8	3.9	3.3	2.9	2.2	2.5	2.2
Earnings and unit labor costs										
	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	648	731	775	822	878	948	1,037	1,146	1,208	1,260
nominal annual growth in %	6.4	6.6	6.0	6.0	6.8	8.0	9.4	10.5	12.1	12.0
real annual growth in % (HICP deflated)	3.3	4.1	5.6	7.7	8.0	9.4	8.1	7.7	9.4	9.0
Average monthly gross wages, EUR	331	374	396	420	449	485	530	586	617	644
Average monthly gross wages, EUR (PPP)	733	798	838	916	973	1,016	1,072	1,154		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	240	270	310	340	360	420	460	510		
Monthly gross minimum wages, EUR (ER)	123	138	159	174	184	215	235	261		
Monthly gross minimum wages, EUR (PPP)	236	275	321	367	394	451	473	517		

Notes: Data are based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 is applied throughout. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014. Numbers in brackets are less accurate.

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Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.



Unit labor costs (ULC) ULC, NCU in %

ULC, EUR in %

Croatia: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	4,296	4,269	4,254	4,236	4,208	4,172	4,130	4,091		
Working-age population aged 15+ (1,000)	3,298	3,271	3,258	3,243	3,210	3,185	3,162	3,142	3,131	3,127
Employment aged 15+ (1,000)	1,683	1,558	1,518	1,562	1,582	1,587	1,623	1,651	1,657	1,674
Employment rate (% population aged 15+)	51.0	47.6	46.6	48.2	49.3	49.8	51.3	52.5	52.9	53.5
Employment rate (% population aged 15-64)	57.4	53.5	52.5	54.6	56.0	56.9	58.9	60.6	61.2	61.8
Employment rate (% population aged 20-64)	62.1	58.1	57.2	59.2	60.6	61.4	63.6	65.2	65.8	66.4
Employment rate (% population aged 15-24)	24.3	17.4	14.9	18.3	19.1	25.6	25.9	25.6	26.8	27.0
Employment rate (% population aged 25-29)	68.3	61.8	61.5	64.5	66.0	66.2	68.7	70.9	71.0	71.9
Employment rate (% population aged 25-54)	72.6	69.2	68.3	71.2	72.3	72.4	74.9	77.0	77.8	77.6
Employment rate (% population aged 55-64)	39.1	37.5	37.8	36.2	39.2	38.1	40.4	42.8	42.2	45.0
Employment rate for low skilled 15-64 (ISCED 0-2)	35.2	29.5	27.5	26.7	28.0	27.4	24.4	25.8	25.6	25.9
Employment rate for medium skilled 15-64 (ISCED 3-4)	60.9	56.7	55.5	57.0	58.0	59.5	62.6	63.9	65.2	65.7
Employment rate for high skilled 15-64 (ISCED 5-8)	80.2	76.5	75.7	78.4	78.7	79.7	81.5	81.5	80.1	81.1
Self-employed (% of total employment)	19.0	17.1	16.2	14.0	13.6	12.4	11.0	10.7	10.8	11.6
Part-time employment (% of total employment)	8.3	6.7	6.2	6.0	6.8	6.4	5.5	5.7	5.9	5.5
Temporary employment (% of total employees)	12.8	13.3	14.5	16.9	20.3	22.2	20.7	19.9	17.4	18.3
Activity rate (% population aged 15+)	57.8	56.7	56.3	58.2	58.8	57.4	57.8	57.4	57.3	57.0
Activity rate (% population aged 15-64)	65.1	63.9	63.7	66.1	66.9	65.6	66.4	66.3	66.3	65.8
Activity rate (% population aged 15-24)	35.8	30.1	29.9	33.6	33.2	37.2	35.7	33.5	33.7	29.9
Activity rate (% population aged 25-54)	80.8	80.9	80.8	84.1	84.5	82.0	83.3	83.4	83.7	83.0
Activity rate (% population aged 55-64)	41.8	41.8	41.9	41.0	44.3	42.2	43.6	44.8	43.6	46.3
Unemployment aged 15+ (1,000)	222	297	318	327	306	240	205	152	136	108
Unemployment rate (% labor force 15+)	11.7	16.0	17.3	17.3	16.2	13.1	11.2	8.5	7.6	6.1
Youth unemployment rate (% labor force 15-24)	32.4	42.1	50.0	45.5	42.3	31.3	27.4	23.7	(20.3)	(9.7)
NEET rate (% population aged 15-24)	15.7	16.6	19.6	19.3	18.1	16.9	15.4	13.6		. (1 0)
Long-term unemployment rate (% labor force 15+)	5.5	10.2	11.0	10.1	10.2	6.7	4.6	3.4	3.2	(1.9)
Share of long-term unemployed (% of total)	50.3	63.7	03.0 21.5	58.4	03.1 21 F	50.7	41.0	40.2	42.4	(30.6)
Unemployment rate, low educated 15+ (ISCED 0-2)	13.0	18.0	21.5	25.7 10 7	21.5	17.4	19.8	11.0	(8.2)	(9.3)
Unemployment rate, high educated 15+ (ISCED 5-4)	12.4 Q /	10.6	10.7	10.7	10.1	14.0	11.7 7 1	9.2	6.0 (6.4)	(5.4)
onemployment rate, high educated 15+ (ISCED 5-8)	0.4	10.0	11.5	9.0	9.2	7.0	7.1	0.0	(0.4)	(5.4)
Malo										
Total nonvertion (1,000)	2 0 7 2	2 050	2 052	2 0 4 4	2 0 2 1	2 01 4	1 002	1 074		
Marking aga population agad 15 L (1 000)	2,072	2,059	2,053	2,044	2,031	2,014	1,993	1,974	1 F 4 2	1 г.11
Employment aged $15\pm (1,000)$	1,010	1,007	210	1,590	1,579	1,507	1,550	201	1,542	1,541
Employment rate (% population aged 15+)	56.6	53.0	51 1	53 1	5/ 1	5/ 8	56 5	57.6	58 5	59.6
Employment rate (% population aged 15-64)	62.7	58.5	56.5	59.1	60.3	61 A	63.8	65.4	66.7	67.8
Employment rate (% population aged 10-04)	67.9	63.7	50.5 61.6	64.2	65.4	66.2	68.9	70.3	71.6	72.8
Employment rate (% population aged 15-24)	27.9	20.0	17.4	21.2	22.4	28.9	29.8	30.5	31.8	33.4
Employment rate (% population aged 25-29)	69.6	65.8	64.2	69.0	71.3	70.3	73.2	77.8	79.8	80.0
Employment rate (% population aged 25-54)	76.4	73.0	71.6	74.5	75.4	76.3	78.7	80.4	81.6	82.1
Employment rate (% population aged 55-64)	50.5	48.0	45.0	45.8	48.2	45.1	49.0	51.0	52.2	54.7
Employment rate for low skilled 15-64 (ISCED 0-2)	40.7	33.7	32.3	30.3	32.2	33.0	29.8	30.5	29.4	30.0
Employment rate for medium skilled 15-64 (ISCED 3-4)	66.4	62.1	59.5	62.5	63.1	64.2	68.1	69.8	71.6	72.6
Employment rate for high skilled 15-64 (ISCED 5-8)	80.2	77.3	76.5	78.4	79.0	81.0	82.9	82.2	83.9	83.4
Self-employed (% of total employment)	20.9	19.7	19.2	17.4	17.3	15.7	13.3	12.8	13.7	14.2
Part-time employment (% of total employment)	6.1	5.5	5.3	4.8	5.6	5.2	4.4	4.3	(3.8)	(4.0)
Temporary employment (% of total employees)	11.7	13.2	14.8	16.7	20.5	22.0	20.7	19.4	16.8	17.3
Activity rate (% population aged 15+)	63.7	63.1	62.1	63.5	64.0	62.6	63.2	62.4	62.4	62.9
Activity rate (% population aged 15-64)	70.6	69.8	68.9	70.9	71.6	70.3	71.5	70.9	71.2	71.6
Activity rate (% population aged 15-24)	40.7	34.6	34.7	38.5	38.2	41.9	40.9	37.9	38.4	36.5
Activity rate (% population aged 25-54)	84.1	85.2	84.7	86.6	86.9	85.2	86.7	86.4	86.6	87.0
Activity rate (% population aged 55-64)	54.4	53.9	51.0	52.1	54.9	50.7	52.8	53.4	53.9	55.9
Unemployment aged 15+ (1,000)	114	162	176	167	157	123	105	74	60	51
Unemployment rate (% labor force 15+)	11.1	16.0	17.7	16.5	15.6	12.5	10.6	7.7	6.3	5.3
Youth unemployment rate (% labor force 15-24)	31.5	42.1	49.9	44.9	41.4	31.3	27.1	19.6	(17.2)	(8.6)
NEET rate (% population aged 15-24)	17.1	17.9	20.6	21.9	20.5	19.0	15.4	13.2		
Long-term unemployment rate (% labor force 15+)	5.9	10.1	11.3	9.6	10.1	6.8	4.7	3.1	(2.8)	(1.5)
Share of long-term unemployed (% of total)	53.4	63.6	63.8	58.3	64.8	54.0	43.8	40.3	(44.4)	(29.1)
Unemployment rate, low educated 15+ (ISCED 0-2)	15.1	19.7	22.8	24.9	21.4	17.0	19.5	(11.8)	(7.8)	(11.3)
Unemployment rate, medium educated 15+ (ISCED 3-4)	11.0	16.9	18.9	17.3	16.6	13.7	10.5	7.9	6.8	(4.4)
Unemployment rate, high educated 15+ (ISCED 5-8)	7.8	9.9	10.5	8.9	9.2	6.8	7.3	5.4	(4.0)	(5.7)


	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	2,225	2,210	2,201	2,192	2,177	2,158	2,137	2,117		
Working-age population aged 15+ (1,000)	1,680	1,664	1,657	1,647	1,631	1,618	1,605	1,594	1,589	1,586
Employment aged 15+ (1,000)	767	706	700	715	728	729	743	759	754	756
Employment rate (% population aged 15+)	45.6	42.4	42.3	43.4	44.6	45.0	46.3	47.6	47.5	47.7
Employment rate (% population aged 15-64)	52.1	48.5	48.5	50.0	51.6	52.4	54.0	55.9	55.8	55.8
Employment rate (% population aged 20-64)	56.4	52.6	52.8	54.2	55.9	56.6	58.3	60.1	60.1	60.1
Employment rate (% population aged 15-24)	20.4	14.7	12.4	15.3	15.7	22.2	21.8	20.3	21.6	20.2
Employment rate (% population aged 25-29)	66.9	57.7	58.7	59.8	60.5	62.0	64.2	63.8	61.9	63.5
Employment rate (% population aged 25-54)	68.8	65.2	64.9	67.9	69.3	68.5	71.1	73.5	73.9	73.1
Employment rate (% population aged 55-64)	28.5	27.7	31.0	27.3	30.7	31.6	32.3	35.2	32.8	36.0
Employment rate for low skilled 15-64 (ISCED 0-2)	31.0	26.3	23.7	23.8	24.8	22.9	19.9	21.7	22.3	22.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	54.5	50.5	50.9	50.6	52.0	54.0	56.2	57.0	57.8	57.5
Employment rate for high skilled 15-64 (ISCED 5-8)	80.2	75.9	75.1	78.3	78.4	78.7	80.4	81.0	77.4	79.2
Self-employed (% of total employment)	16.7	14.0	12.8	9.9	9.3	8.4	8.3	8.2	7.3	8.5
Part-time employment (% of total employment)	10.9	8.2	7.3	7.5	8.2	7.9	6.7	7.3	8.3	7.4
Temporary employment (% of total employees)	14.1	13.4	14.1	17.2	20.1	22.5	20.8	20.6	18.0	19.3
Activity rate (% population aged 15+)	52.1	50.5	50.8	53.1	53.7	52.3	52.6	52.5	52.2	51.2
Activity rate (% population aged 15-64)	59.6	58.0	58.5	61.3	62.3	60.9	61.4	61.7	61.4	60.0
Activity rate (% population aged 15-24)	30.7	25.3	24.8	28.5	28.0	32.3	30.2	28.8	28.7	22.8
Activity rate (% population aged 25-54)	77.4	76.6	76.8	81.5	82.1	78.8	79.9	80.3	80.9	78.9
Activity rate (% population aged 55-64)	30.2	30.6	33.4	30.6	34.4	34.2	35.1	36.7	34.0	37.4
Unemployment aged 15+ (1,000)	108	135	142	160	149	117	101	78	76	57
Unemployment rate (% labor force 15+)	12.4	16.1	16.8	18.3	16.9	13.8	11.9	9.4	9.1	7.0
Youth unemployment rate (% labor force 15-24)	33.6	41.9	50.1	46.4	43.7	31.3	27.8	29.4	(24.7)	(11.6)
NEET rate (% population aged 15-24)	14.1	15.2	18.6	16.7	15.6	14.6	15.3	14.0		
Long-term unemployment rate (% labor force 15+)	7.3	10.2	10.6	10.7	10.4	6.5	4.5	3.8	(3.7)	(2.2)
Share of long-term unemployed (% of total)	59.3	63.7	63.2	58.6	61.3	47.2	38.1	40.1	(40.7)	(31.9)
Unemployment rate, low educated 15+ (ISCED 0-2)	10.8	17.4	19.9	26.5	21.7	17.9	20.3	(11.4)	(8.7)	(7.1)
Unemployment rate, medium educated 15+ (ISCED 3-4)	14.5	17.9	18.5	20.6	20.0	15.9	13.4	10.8	9.7	(8.1)
Unemployment rate, high educated 15+ (ISCED 5-8)	8.8	11.3	11.9	10.2	9.3	8.6	7.0	6.5	(8.3)	(5.2)

Earnings and unit labor costs

-	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	7,679	7,875	7,939	7,953	8,055	7,752	8,055	8,448	8,698	8,775
nominal annual growth in %	-0.4	1.0	0.8	0.2	1.3	1.9	3.9	4.9	3.9	3.1
real annual growth in % (HICP deflated)	-1.5	-2.3	-1.5	0.0	1.6	2.5	2.6	3.2	3.1	2.3
Average monthly gross wages, EUR	1,053	1,047	1,048	1,042	1,058	1,029	1,079	1,139	1,172	1,183
Average monthly gross wages, EUR (PPP)	1,517	1,625	1,632	1,655	1,724	1,638	1,686	1,759		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	2,814	2,814	2,814	3,018	3,030	3,120	3,276	3,440		
Monthly gross minimum wages, EUR (ER)	385	373	372	396	396	408	433	462		
Monthly gross minimum wages, EUR (PPP)	526	544	546	602	625	630	651	681		
Unit labor costs (ULC)										
ULC, NCU in %		-0.4	-1.2	3.2	0.2	-1.2	3.0	3.9		
ULC, EUR in %		-1.5	-2.0	2.4	0.4	-0.2	4.0	4.5		

Notes: Data are based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 is applied throughout. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014. Numbers in brackets are less accurate. From 2016 average monthly gross wages are based on tax records (survey JOPPD); prior to that data are based on a monthly survey covering 70% of persons in employment.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

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Hungary: Labor market indicators

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Total										
Total population (1,000)	10.000	9,920	9,893	9,866	9,843	9.814	9,788	9,776		
Working-age population aged 15+ (1.000)	7.663	7.636	7.610	7.573	7.538	7.508	7,460	7.432	7.420	7.421
Employment aged $15+(1.000)$	3.732	3.827	3.893	4.101	4.211	4.352	4.421	4.470	4,497	4.511
Employment rate (% population aged 15+)	48.7	50.1	51.2	54.1	, 55.9	58.0	, 59.3	60.1	60.6	60.8
Employment rate (% population aged 15-64)	54.9	56.7	58.1	61.8	63.9	66.5	68.2	69.2	69.9	70.0
Employment rate (% population aged 20-64)	59.9	61.6	63.0	66.7	68.9	71.5	73.3	74.4	75.1	75.2
Employment rate (% population aged 15-24)	18.3	18.4	20.1	23.5	25.7	28.1	29.0	29.0	28.2	28.2
Employment rate (% population aged 25-29)	65.8	67.4	69.0	73.0	73.6	75.5	77.5	77.6	77.8	77.8
Employment rate (% population aged 25-54)	72.5	74.6	75.7	79.2	80.6	82.2	83.7	84.1	84.5	84.6
Employment rate (% population aged 55-64)	33.6	36.1	37.9	41.8	45.3	49.8	51.7	54.4	56.2	56.1
Employment rate for low skilled 15-64 (ISCED 0-2)	25.4	26.0	26.9	31.5	33.9	36.6	38.5	39.4	39.0	39.5
Employment rate for medium skilled 15-64 (ISCED 3-4)	60.7	61.9	63.3	66.7	68.8	71.5	73.1	73.7	74.6	74.7
Employment rate for high skilled 15-64 (ISCED 5-8)	77.5	78.5	78.8	80.8	82.1	84.4	84.3	85.1	85.5	85.8
Self-employed (% of total employment)	12.0	11.3	10.9	10.6	10.6	10.4	10.1	10.2	10.4	10.4
Part-time employment (% of total employment)	5.9	7.1	6.8	6.4	6.0	5.2	4.8	4.8	5.1	5.2
Temporary employment (% of total employees)	9.8	9.5	10.9	10.8	11.4	9.7	8.8	7.3	6.4	6.8
Activity rate (% population aged 15+)	54.8	56.3	57.0	58.7	59.9	61.1	61.8	62.5	62.8	62.9
Activity rate (% population aged 15-64)	61.9	63.7	64.7	67.0	68.6	70.1	71.2	71.9	72.5	72.4
Activity rate (% population aged 15-24)	24.8	25.7	27.4	29.5	31.0	32.3	32.4	32.3	31.7	31.6
Activity rate (% population aged 25-54)	80.9	82.9	83.3	85.0	85.8	86.1	86.9	87.0	87.2	87.1
Activity rate (% population aged 55-64)	36.5	39.5	41.2	44.6	48.1	52.1	53.6	55.8	57.5	57.6
Unemployment aged 15+ (1,000)	469	473	441	343	308	235	192	172	166	156
Unemployment rate (% labor force 15+)	11.2	11.0	10.2	7.7	6.8	5.1	4.2	3.7	3.6	3.3
Youth unemployment rate (% labor force 15-24)	26.4	28.2	26.6	20.4	17.3	12.9	10.7	10.2	11.2	10.8
NEET rate (% population aged 15-24)	12.6	14.8	15.5	13.6	11.6	11.0	11.0	10.7		
Long-term unemployment rate (% labor force 15+)	5.5	5.0	4.9	3.7	3.1	2.4	1.7	1.4	1.2	1.1
Share of long-term unemployed (% of total)	48.9	45.3	48.6	47.5	45.6	46.5	40.4	38.5	34.9	33.5
Unemployment rate, low educated 15+ (ISCED 0-2)	25.1	24.8	23.7	18.5	17.4	13.2	11.1	10.3	10.5	9.5
Unemployment rate, medium educated 15+ (ISCED 3-4)	10.5	10.7	10.0	7.4	6.4	4.8	3.8	3.3	3.1	3.0
Unemployment rate, high educated 15+ (ISCED 5-8)	4.6	4.5	3.9	3.1	2.4	1.8	1.6	1.5	1.5	1.3
Male										
Total population (1,000)	4,750	4,720	4,710	4,700	4,692	4,683	4,671	4,674		
Working-age population aged 15+ (1,000)	3,674	3,676	3,668	3,654	3,641	3,632	3,613	3,605	3,603	3,606
Employment aged 15+ (1,000)	1,993	2,049	2,104	2,221	2,284	2,363	2,417	2,446	2,473	2,472
Employment rate (% population aged 15+)	54.2	55.7	57.4	60.8	62.7	65.0	66.9	67.9	68.6	68.5
Employment rate (% population aged 15-64)	59.9	61.6	63.7	67.8	70.3	73.0	75.2	76.3	77.2	77.1
Employment rate (% population aged 20-64)	65.5	67.3	69.3	73.5	75.8	78.6	81.0	82.1	83.1	82.8
Employment rate (% population aged 15-24)	19.9	19.8	23.0	26.4	28.1	31.5	32.9	33.4	32.2	32.7
Employment rate (% population aged 25-29)	73.6	74.7	76.4	82.3	83.2	84.4	86.8	86.9	86.6	85.9
Employment rate (% population aged 25-54)	78.0	80.2	81.4	85.3	86.8	88.2	90.1	90.4	90.9	90.8
Employment rate (% population aged 55-64)	38.6	41.4	44.8	49.6	54.4	59.7	62.5	65.5	69.2	67.9
Employment rate for low skilled 15-64 (ISCED 0-2)	28.1	30.0	30.8	36.3	39.9	42.5	44.2	45.8	44.6	45.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	66.1	66.8	69.1	73.1	75.2	78.2	80.2	81.0	82.6	81.9
Employment rate for high skilled 15-64 (ISCED 5-8)	81.8	84.4	85.3	87.1	88.6	90.5	91.6	91.9	93.0	93.5
Self-employed (% of total employment)	15.0	14.1	13.6	13.4	13.0	12.7	11.9	12.1	12.3	12.6
Part-time employment (% of total employment)	4.0	4.7	4.5	4.5	4.4	3.5	3.1	3.1	3.1	3.3
Temporary employment (% of total employees)	10.2	10.5	11.4	11.2	11.6	9.3	8.2	6.7	5.7	6.2
Activity rate (% population aged 15+)	61.4	62.9	63.9	65.7	67.2	68.6	69.6	70.3	71.1	71.0
Activity rate (% population aged 15-64)	67.8	69.6	71.0	73.4	75.3	76.9	78.2	79.1	80.1	79.8
Activity rate (% population aged 15-24)	27.5	27.9	31.0	33.0	34.4	36.1	36.5	37.1	36.5	37.1
Activity rate (% population aged 25-54)	87.3	89.4	89.5	91.2	92.0	92.4	93.3	93.3	93.7	93.3
Activity rate (% population aged 55-64)	42.2	45.4	49.0	53.2	57.8	62.4	64.5	67.1	70.8	70.1
Unemployment aged 15+ (1,000)	262	262	239	182	162	128	96	88	90	88
Unemployment rate (% labor force 15+)	11.6	11.3	10.2	7.6	6.6	5.1	3.8	3.5	3.5	3.4
Youth unemployment rate (% labor force 15-24)	27.8	29.1	25.6	20.0	18.3	12.9	9.7	9.8	11.8	11.8
NEET rate (% population aged 15-24)	11.7	13.6	13.6	12.0	10.4	8.9	7.9	7.6	•	•
Long-term unemployment rate (% labor force 15+)	5.7	5.2	5.0	3.6	3.1	2.3	1.5	1.4	1.2	1.1
Share of long-term unemployed (% of total)	49.3	45.5	48.6	48.0	47.1	45.8	40.6	40.6	34.5	33.4
Unemployment rate, low educated 15+ (ISCED 0-2)	27.2	25.3	24.5	18.4	16.8	13.7	11.0	10.1	10.9	8.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	10.5	10.9	9.8	7.0	6.0	4.5	3.2	3.0	2.9	3.2
Unemployment rate, high educated 15+ (ISCED 5-8)	4.9	4.2	3.4	2.8	2.2	1.8	1.4	1.2	1.4	1.3

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	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Female										
Total population (1,000)	5,250	5,200	5,183	5,167	5,151	5,131	5,117	5,102		
Working-age population aged 15+ (1,000)	3,989	3,960	3,942	3,919	3,897	3,876	3,848	, 3,827	3,817	3,815
Employment aged 15+ (1,000)	1,740	1,778	1,789	1,880	1,927	1,989	2,004	2,023	2,024	2,039
Employment rate (% population aged 15+)	43.6	44.9	45.4	48.0	49.5	51.3	52.1	52.9	53.0	53.4
Employment rate (% population aged 15-64)	50.2	51.9	52.6	55.9	57.8	60.2	61.3	62.3	62.6	63.0
Employment rate (% population aged 20-64)	54.6	56.2	56.9	60.2	62.1	64.6	65.7	66.8	67.1	67.7
Employment rate (% population aged 15-24)	16.5	17.0	17.0	20.5	23.1	24.6	24.8	24.3	24.0	23.3
Employment rate (% population aged 25-29)	57.8	59.9	61.4	63.3	63.5	66.1	67.6	67.7	68.4	69.2
Employment rate (% population aged 25-54)	67.0	69.0	70.0	73.2	74.4	76.2	77.2	77.7	77.9	78.3
Employment rate (% population aged 55-64)	29.4	31.7	32.1	35.2	37.7	41.5	42.4	44.9	45.0	46.0
Employment rate for low skilled 15-64 (ISCED 0-2)	23.3	22.6	23.7	27.3	28.7	31.5	33.7	33.7	33.9	34.1
Employment rate for med. skilled 15-64 (ISCED 3-4)	54.7	56.5	56.8	59.6	61.6	63.9	65.0	65.4	65.4	66.3
Employment rate for high skilled 15-64 (ISCED 5-8)	74.3	74.3	74.2	76.1	77.3	80.0	78.9	80.0	80.2	80.3
Self-employed (% of total employment)	8.5	8.2	7.8	7.4	7.7	7.8	7.8	7.8	8.0	7.9
Part-time employment (% of total employment)	8.1	9.8	9.4	8.6	8.0	7.3	6.9	6.9	7.4	7.6
Temporary employment (% of total employees)	9.3	8.5	10.4	10.3	11.1	10.2	9.5	8.0	7.3	7.5
Activity rate (% population aged 15+)	48.8	50.2	50.5	52.1	53.2	54.1	54.6	55.1	55.0	55.2
Activity rate (% population aged 15-64)	56.3	58.0	58.6	60.7	62.2	63.5	64.2	64.9	65.0	65.1
Activity rate (% population aged 15-24)	22.0	23.4	23.6	25.9	27.5	28.2	28.2	27.2	26.7	25.7
Activity rate (% population aged 25-54)	74.6	76.5	77.1	78.8	79.6	79.8	80.4	80.7	80.6	80.7
Activity rate (% population aged 55-64)	31.7	34.5	34.7	37.4	39.9	43.5	44.3	46.3	46.2	47.0
Unemployment aged 15+ (1,000)	208	211	202	162	146	107	96	84	76	68
Unemployment rate (% labor force 15+)	10.7	10.6	10.1	7.9	7.0	5.1	4.6	4.0	3.6	3.2
Youth unemployment rate (% labor force 15-24)	24.7	27.1	27.9	20.9	15.9	12.9	12.0	10.7	10.4	9.2
NEET rate (% population aged 15-24)	13.4	16.0	17.4	15.3	12.8	13.3	14.3	14.0		
Long-term unemployment rate (% labor force 15+)	5.2	4.8	4.9	3.7	3.1	2.4	1.8	1.5	1.3	1.1
Share of long-term unemployed (% of total)	48.4	45.0	48.5	46.8	44.0	47.3	40.1	36.4	35.4	33.6
Unemployment rate, low educated 15+ (ISCED 0-2)	22.8	24.4	22.7	18.7	18.1	12.7	11.3	10.6	10.0	10.1
Unemployment rate, med. educated 15+ (ISCED 3-4)	10.6	10.5	10.4	7.9	6.9	5.1	4.4	3.8	3.5	2.8
Unemployment rate, high educated 15+ (ISCED 5-8)	4.3	4.7	4.3	3.4	2.6	1.8	1.8	1.7	1.5	1.3

Earnings and unit labor costs

	2010	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2
Average monthly gross wages, NCU	202,525	223,060	230,714	237,695	247,924	263,171	297,017	329,943	352,163	366,761
nominal annual growth in %	1.3	4.7	3.4	3.0	4.3	6.1	12.9	11.3	11.0	10.3
real annual growth in % (HICP deflated)	-3.2	-1.0	1.7	3.0	4.2	5.7	10.2	8.2	7.5	6.3
Average monthly gross wages, EUR	735	771	777	770	800	845	961	1,035	1108	1136
Average monthly gross wages, EUR (PPP)	1,226	1,342	1,356	1,354	1,406	1,424	1,539	1,656		
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	73,500	93,000	98,000	101,500	105,000	111,000	127,500	138,000		
Monthly gross minimum wages, EUR (ER)	272	296	335	342	333	351	412	445		
Monthly gross minimum wages, EUR (PPP)	421	531	556	569	588	595	654	692		
Unit labor costs (ULC)										
ULC, NCU in %		8.2	3.2	4.2	3.1	7.3	9.9	7.1		
ULC, EUR in %		4.5	0.5	0.2	2.7	6.8	10.7	3.8		

Notes: Data are based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 is applied throughout. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014. Average monthly gross wages refer to enterprises with 5 and more employees.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.







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